



# Focus Groups and In-depth Interviews to Guide the Development of Lung Cancer Screening Informational Materials

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## Abstract

Lung cancer is one of the most lethal cancers in the USA. In 2013, new guidelines issued by the United States Preventive Services Task Force recommended lung cancer screening using low-dose computed tomography among a selected group of high-risk individuals. Specifically, lung cancer screening is recommended for heavy smokers between the ages of 55 to 79, with at least 30 pack-year smoking exposure. Former smokers who meet these guidelines and stopped smoking  $\leq 15$  years ago are also eligible. There is a need to promote lung cancer screening to increase early diagnosis rates and treatment options, thereby decreasing disease-specific mortality. This study was conducted to refine educational materials used to inform eligible high-risk individuals about the risks and benefits of lung cancer screening. Focus groups ( $n = 16$ ) and in-depth telephone interviews ( $n = 5$ ) were conducted among screening-eligible participants recruited from western New York. Main themes that emerged from the discussions included cost of obtaining the exam, eligibility criteria/information about the exam, apprehension regarding results, and an increased desire for discussions with their physician to learn more about the screening. The information gained from this study is vital to understanding concerns held by current and former smokers regarding lung cancer screening, as well as critical to determining which information is most valuable for decreasing barriers and correcting misperceptions about the lung cancer screening exam.

**Keywords** Smoking · Tobacco · Lung cancer · Screening · Prevention

## Introduction

The lethality of lung cancer is partly attributable to the stage at diagnosis, with most lung cancers diagnosed at advanced metastatic stages when prognosis is poor. Because of this, development and adoption of effective screening tools is a priority. The National Lung Screening Trial, a multicenter trial with 53,454 participants conducted in the USA from 2002 to 2009, compared chest radiography to low-dose helical computed tomography (LDCT) for lung cancer detection and found a 20% reduction in lung cancer mortality with LDCT

screening [1]. As of 2013, the United States Preventive Services Task Force (USPSTF) recommends annual screening using LDCT among high-risk individuals. Screening is specifically recommended for individuals who are between the ages of 55 and 80 who are either current smokers with a  $\geq 30$  pack-year history of smoking (i.e., smoking one pack a day for at least 30 years) or former smokers who meet the pack-year criteria but quit in the last 15 years [2].

The lung cancer screening guidelines issued in 2013 [2] are a covered preventive service under the Patient Protection and Affordable Care Act but remain underutilized [3–5]. Jemal et al. report that in 2015, an estimated 6.8 million individuals were eligible for lung cancer screening in the USA, but only 262,700 individuals (3.9%) were screened [3]. In comparison, during the same time period, over 62.4% of those eligible completed colorectal cancer screening [6]. The underutilization of lung cancer screening is largely due to a lack of awareness of the LDCT screening guidelines among current and former smokers, a lack of access to healthcare, and low rates of referral by health care providers [3]. Primary care physicians have previously reported low rates of awareness

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regarding both the availability and eligibility criteria for lung cancer screening [7]. While efforts are currently underway to increase awareness among health care providers, it is important to increase awareness among the population that bears the greatest burden of lung cancer. Thus, there is a need to increase awareness of the lung cancer screening guidelines among current and former smokers, along with providing more education and training to health care providers.

A qualitative research study was conducted to examine effective messaging about lung cancer screening that could be provided to smokers and former smokers who are eligible. This study utilized focus groups, supplemented by in-depth structured interviews, to evaluate current and former smokers' reactions to an educational brochure developed to educate about the benefits, risks, and associated costs, of lung cancer screening. The brochure was later used as part of a larger educational intervention study to determine if awareness of lung cancer screening was increased among eligible smokers who called the New York State Smokers' Quitline (NYSSQL) (manuscript in development).

## Methods

Recruitment for the focus groups and in-depth interviews was conducted in western New York in the fall of 2015 using a combination of approaches. Advertisements for the research study were placed in a local newspaper encouraging interested participants to call in to be screened. The NYSSQL also collected the names and phone numbers of eligible callers who expressed an interest in the research study for the project. A research coordinator followed up with interested callers directly to confirm their eligibility. Participants for the focus groups were recruited from Erie and Niagara counties since the in-person focus groups were conducted at Roswell Park Comprehensive Cancer Center in Buffalo, NY. Participants for the in-depth phone interviews were recruited from eight counties in western New York: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming. Using a combination of focus groups and in-depth telephone interviews allowed for participants to be selected from a larger sampling base (participants residing outside of Erie and Niagara county could also be included in the study). The study protocol was reviewed and approved by the Institutional Review Board at Roswell Park.

Eligible participants were between 55 and 79 years of age and reported currently smoking with a smoking history of 30 or more pack years. Former smokers who were between 55 and 79 years of age and had quit within the past 15 years were also eligible to participate in the study. These criteria were similar to the eligibility requirements set forth by the USPSTF for lung cancer screening [2]. Exclusion criteria for study participation included current treatment for substance or

alcohol abuse, or a diagnosis of a severe psychiatric illness in the past year. Focus group participants were given a gift card for \$40 and in-depth interview participants were mailed a check for \$30 as compensation for their participation.

## Educational Brochure Content

The educational brochure used in this study was developed by members of the Department of Health Behavior at Roswell Park. Several of the study investigators have prior experience in developing research material used for educational purposes around topics of smoking cessation, cancer screening, and health promotion. Furthermore, several senior members of the NYSSQL were also involved with this study to provide their feedback, and ensure that the brochures were targeted to smokers and would not contribute to participant burden. The brochure contained information on the actual LDCT screening exam; a picture and quote from a cancer survivor advocating for lung cancer screening; eligibility criteria (with a pack-years calculation section); a short section on the pros and cons of screening; information on the cost and coverage of the exam; and a small section with helpful questions that participants could cut out and take with them to their physician. The NYSSQL phone number and website were also listed on the brochure. Figure 1 illustrates the brochure that was shown to participants in the focus groups and in-depth interviews.

## Focus Groups

Focus groups were conducted with a total of 16 participants and were led by a trained focus group moderator (MBT) using a semi-structured discussion guide. The first few questions were regarding general attitudes/awareness of cancer screening, including (1) "What do you think of screening?" and (2) "Why would you get/not get screened for cancer?". After a general group discussion regarding cancer screening, the questions became more targeted and focused on lung cancer screening, including (3) "Do you know there is a test to screen for lung cancer?"; (4) "What do you think about that?"; and (5) "Have you ever talked to anyone or has anyone ever talked to you about lung cancer screening?". Following a discussion on lung cancer screening, the lung cancer screening brochure was presented to the focus group participants for their review.

After a few minutes of review, participants were asked questions pertaining to the brochure, including (6) "Do you have any questions about what the brochure states?"; (7) "What do you think of the pictures in the brochure?"; (8) "Is there anything you like about the brochure?"; and (9) "Is there anything you don't like?" At the conclusion of the session, participants were given information

**Fig. 1** Educational brochure describing lung cancer screening that was shown to participants for feedback during focus groups and in-depth interviews

**STEPS TO CONSIDER**

**What's this going to cost me?**  
Lung cancer CT screening exams for eligible individuals are covered by insurance programs including Medicare / Medicaid, although insurance programs vary in the deductibles and co-pays. Contact your insurance plan for coverage details. If you are uninsured the cost can range from \$300-\$500\*  
\*In New York, the average cost of a pack of cigarettes is about \$14.00; a pack-a-day habit adds up to \$420 per month or \$5,040 per year.

**What's next?** Visit your doctor to talk about getting a low-dose CT scan to screen for lung cancer. You will discuss your complete health history and get a clear explanation about the possible benefits and risks. Ask your doctor for a referral to a screening center experienced in reviewing low dose CT scan and lung cancer early detection. Use the cut-off below to help you discuss this with your doctor.

**Cut here and take with you when you visit your doctor:**

- Because of my age and smoking history, I would like to talk about getting a low-dose CT scan for lung cancer screening.
- Can you explain the benefits and risks of this procedure?
- Please refer me to a screening center experienced in reviewing low-dose CT scan and lung cancer early detection.

For more information visit **nysmokefree.com** or call **1-866-NY-QUITS** (1-866-697-8487)

Looking to talk to other smokers trying to quit? Or talk to a Quit Coach online? Join the smoke-free community **quinity.nysmokefree.com** Or join us on...

**LUNG CANCER SCREENING**  
**Early saves lives**  
detection

New York State Smokers' Quitline / nysmokefree.com / 1-866-NY-QUITS (1-866-697-8487) / Developed by Roswell Park Cancer Institute Cessation Services at Roswell Park Cancer Institute / Buffalo, NY

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**WHY SPIRAL CT SCAN?**

**Screening for lung cancer is here and it can save your life!** The evidence is in: a low-dose CT scan is the only proven way to detect signs of lung cancer before there are any symptoms in people at high risk. Lung cancer is most treatable when it is found in the earliest stages.

**Why all the excitement?**

- because lives can be saved, especially since lung cancer kills more people each year than all major cancers combined...
- and now we know that low-dose CT scan is a proven way to detect lung cancer early when it is most treatable and curable
- this means many lives each year will be saved by early detection using low-dose CT lung cancer screening... one can be yours!

**Old News Worth Repeating...** Smoking is the number one risk factor for lung cancer and is linked to 90% of lung cancers. Quitting smoking remains the single best way to reduce your risk of lung cancer. If you smoke, quit. Call 1-866-NY-QUITS (1-866-697-8487).

**ADVICE FROM A SURVIVOR**

**Charlene, Lung Cancer Survivor**

*"If I hadn't been screened for lung cancer, I probably wouldn't be here today"*

**Should I get the low-dose CT scan lung cancer screening?** Low-dose CT scan for lung cancer is recommended if you answer yes to the following 3 statements used to identify those at high risk.

- I am 55 to 75 years old
- I am a current or former smoker who quit within 15 years
- I have 30 or more pack years of smoking\*

**\*Find my pack years:**

20 (number of years you have smoked) × 1.5 (number of packs you smoke a day) = 30 (pack years)

**INFORMATION ABOUT YOUR CT SCAN**

**What is getting a low-dose CT scan like?**  
The scan is a low dose of radiation, similar to what you might be exposed to from a chest x-ray.

- The CT scan takes a 360-degree picture of your lungs.
- You hold your breath for seconds: 10
- Non-invasive, painless and takes about 30 minutes.

**What you need to know.** Like all screening tests, there are pros and cons to consider. Talk with your doctor.

**PRO** Lung cancer screening can reduce the risk of dying from lung cancer by catching and treating it early.

**CON** There is a chance of a "false alarm." This means the results look like a dangerous cancer but is not and this leads to more tests.

regarding smoking cessation services from the NYSSQL, information about lung cancer screening, and a gift card to thank them for their time. All focus groups were audio recorded and then transcribed for review and analysis by the study team.

**In-depth Interviews**

Additionally, five participants were recruited for one-on-one structured telephone interviews with the study coordinator. Participants were mailed a packet with the lung cancer

screening brochure in a sealed envelope with strict instructions not to open the envelope prior to the interview. This was done to ensure that each participant would give their initial reactions while viewing the lung cancer screening brochure. The semi-structured discussion guide used for the in-depth interviews was identical to that which was used for the focus groups. At the end of the interview, each participant’s address was confirmed for their incentive check and they were thanked for their participation in the study. The participant responses from the in-depth interviews were recorded by the study coordinator into a word document for review and analysis by the study team.

## Results

### Demographics of Focus Groups and In-depth Interview Participants (n = 21)

In this study, 71% of the participants were female. The mean age of the men who participated in the study was 63, while for the women, it was slightly younger at 61. A greater percentage of participants self-reported their race as White/Caucasian (57%) than African American (33%) and over 70% reported having attended a few years of college/trade school or beyond. All of the study participants (100%) reported having access to health insurance in some form either through Medicaid/Medicare or private insurance (or some combination of these options). A total of eight participants (38%) reported currently smoking every day with a mean smoking history of 39.7 years (SD = 7.4 years). Four study participants (19%) reported smoking some days and nine study participants (43%) reported currently not smoking at all (including former smokers or those recently quit). Overall, most participants identified their annual household income as less than \$30,000 per year (Table 1).

### Discussion Themes

Study investigators examined the transcripts from the focus groups and the in-depth interviews and derived key themes that emerged around the topics of awareness of screening, previous screening behaviors, personal cancer risk, lung cancer screening, eligibility, cost, and interest/motivation to be screened. While the focus groups fostered greater conversation among participants and elicited more information, themes from the discussion were consistent between participants in the focus groups and participants in the in-depth interviews.

The following themes emerged:

- 1) Cost of obtaining the exam
- 2) Eligibility criteria/information about the exam/apprehension regarding the results
- 3) Discussion with a physician to learn more

**Table 1** Demographic characteristics of focus group and in-depth interview participants (n = 21)

Demographics of the study population		
	Mean (SD) N	Percent (%)
Age		
Male (mean/SD)	62.5 (4.4)	29
Female (mean/SD)	60.8 (5.2)	71
Race/ethnicity		
White or Caucasian, non-Hispanic	12	57
African American, non-Hispanic	7	33
Hispanic		
Other, non-Hispanic	2	10
Educational attainment		
Less than or equal to HS	6	29
Greater than HS	15	71
Health insurance		
Yes	21	100
Type of health insurance		
Medicaid	5	24
Medicare	2	10
Private	7	33
Combination of above	7	33
Income		
30,000 or less	15	71
30,001 to 60,000	4	19
60,001 or more	1	5
Prefer not to answer	1	5
Currently smoke cigarettes		
Everyday	8	38
Some days	4	19
Currently not smoking	9	43

### Cost of Obtaining the Exam

Cost emerged as a key point of discussion in the focus groups. The study brochure presented information regarding the coverage of the exam with Medicaid/Medicare or private health insurance. Several participants emphasized that some information on the cost should be provided in case those viewing the brochure do not have health insurance: “Yeah, in the United States there are a lot of people who don’t have any health insurance. Maybe if you could list a couple places where people without insurance can go and also get screening that would be helpful.” In previously published literature, the cost of the LDCT scan had been identified as the primary barrier to receiving lung cancer screening [8]. While 100% of study participants reported having insurance coverage, they still reported cost as a concern and potential barrier to seeking care.

### Eligibility Criteria/Information About the Exam/Apprehension Regarding the Results

Participants also wanted to learn more about the actual exam and what it entailed, including the eligibility criteria for lung cancer screening. The study brochure (Fig. 1) included a section which allowed participants to calculate their pack years of cigarette exposure. This could then be used to make a determination regarding eligibility for lung cancer screening. This concept proved to be very confusing for participants. As one study participant noted: “I have a problem with—it talks down here about the number—they talk about the number of years you smoked and they got 20 down there, the number of packs you smoke a day, which one-and-a-half packs and then it says about pack years. What does that mean when it just says 30? I smoke more”. As a result of the feedback, changes were made to the final brochure and the calculation of pack years was removed. Instead, three simple questions were added to help determine if an individual met the eligibility criteria. Participants also wanted to gain more information regarding what the actual LDCT test entailed. As one participant noted: “Oh yeah, I don’t know anything about it, just that there is a screening. No, I would actually want to know what the procedure entailed”. Some participants were concerned about the test being painful or invasive. One of the suggestions was to include more information about the actual exam (e.g., how long it would take, if it was invasive or painful). Participants suggested including a larger picture of the LDCT screening on the brochure so viewers could gain a sense of what the actual exam would be like. Based on this feedback, information was added to the final brochure which listed some basic facts about the LDCT exam. There were also changes made to the pictures used to illustrate the exam procedure.

One specific suggestion made by a focus group participant was about the images presented in the brochure. The original images presented were of older individuals who, like her, might be eligible for the screening. However, during the discussion, the participant requested the images be changed to reflect family and reasons for wanting to get the test (i.e., to save her life). She stated: “Grandkids, I don’t have any yet, but I hope that I live to see that. And I think that something with a unit with, like children on here [should be included].” Participants believed that including images of family members would be positive and more persuasive in getting people to seek out lung cancer screening. As a result of this feedback, the brochure was altered to include pictures of children and family members.

### Discussion with a Physician to Learn More

Participants overall expressed positive opinions regarding cancer screening, but the awareness of the LDCT exam for lung cancer screening was low. As one participant noted: “I

can’t wait to go home and send a message through the portal to my doctor.” Participants were eager to learn more about the exam once it was described to them, although several of them also expressed apprehension about obtaining the screening. One focus group participant said “The whole thing scares me. And I’m not afraid of the testing, but yes, I am afraid of it. I guess I really don’t want to know. I’m afraid of what the results will be. And I don’t know if it’s good that, I mean, I think it’s great that they have such a test that they’ve come so far with their screening”. Some of the apprehension associated with obtaining lung cancer screening was based on testing positive for lung cancer. One focus group participant said: “What happens if the results—well if they’re negative, they’re negative. But if they’re positive, the treatment starts right here probably, right?”. Several participants expressed a desire to discuss lung cancer screening with their physician in order to learn about the risks and benefits from the procedure.

The initial study brochure (Fig. 1) contained a cutout portion with key questions that participants could take with them to their physician’s office. This section was rated very favorably and participants thought it would be very useful. Participants expressed that having the information available on a convenient card they could carry with them would help them remember to have the conversation with their physician, as well as remind them of the key questions they wanted to ask. One study participant reviewed the cutout portion and said “The first thing I thought about, I have a doctor’s appointment next week. I’m taking this with me.” Figure 2 illustrates the educational brochure after changes were made to the format, design, and content, based on feedback from the focus groups and in-depth interviews.

## Discussion

Overall awareness regarding lung cancer screening was low among participants who met the eligibility requirements set forth by the USPSTF. However, in each focus group, at least one participant reported having had a procedure for lung cancer screening. Even among these participants, there was confusion with regard to the procedure they had undergone. For example, one focus group participant thought that a pulmonary function test (used to test for the presence of chronic obstructive pulmonary disease) was a lung cancer screening test. Another participant reported receiving a chest x-ray to test for the presence of lung cancer. Since many physicians continue to screen for lung cancer using chest radiography, despite lack of evidence for efficacy, this may well have been the case [7]. It is important to facilitate discussions between health care providers and screening-eligible patients. A section of this brochure contained specific questions to ask a health care provider regarding lung cancer screening. This type of takeaway may be especially useful for smokers of

**Fig. 2** Revised educational brochure describing lung cancer screening after feedback from focus groups and in-depth interviews

**STEPS TO CONSIDER**

**What's this going to cost me?**  
Lung cancer CT screening exams for eligible individuals are covered by insurance programs including Medicare / Medicaid, although insurance programs vary in the deductibles and co-pays. Contact your insurance plan for coverage details. If you are uninsured the cost can range from \$300-\$500\*  
\*In New York, the average cost of a pack of cigarettes is about \$14.00; a pack-a-day habit adds up to \$420 per month or \$5,040 per year.

**What's next?** visit your doctor to talk about getting a low-dose CT scan to screen for lung cancer. You will discuss your complete health history and get a clear explanation about the possible benefits and risks. Ask your doctor for a referral to a screening center experienced in reviewing low dose CT scan and lung cancer early detection. Use the cut-off below to help you discuss this with your doctor.

*Cut here and take with you when you visit your doctor:*

Looking to quit smoking? Call the New York State Quitline at 1-866-NY-QUIT (1-866-697-8487) or visit us online at nysmokefree.com

- 1 Because of my age and smoking history, I would like to talk about getting a low-dose CT scan for lung cancer screening.
- 2 Can you explain the benefits and risks of this procedure?
- 3 Please refer me to a screening center experienced in reviewing low-dose CT scan and lung cancer early detection.

For more information visit [nysmokefree.com](http://nysmokefree.com) or call **1-866-NY-QUITS** (1-866-697-8487)

Looking to talk to other smokers trying to quit? Or talk to a Quit Coach online? Join the smoke-free community [qunity.nysmokefree.com](http://qunity.nysmokefree.com)

Or join us on...

Social support can increase your chance of quitting successfully by **50%**.  
So get social!

**LUNG CANCER SCREENING**

**Early detection saves lives.**

New York State Smokers' Quitline / [nysmokefree.com](http://nysmokefree.com) / 1-866-NY-QUITS (1-866-697-8487) / Developed by Roswell Park Cancer Cessation Services at Roswell Park Cancer Institute / Buffalo, NY

**WHY SPIRAL CT SCAN?**

**Screening for lung cancer is here and it can save your life!** The evidence is in; a low-dose CT scan is the only proven way to detect signs of lung cancer before there are any symptoms in people at high risk. Lung cancer is most treatable when it is found in the earliest stages.

**Why all the excitement?**

- because lives can be saved, especially since lung cancer kills more people each year than all major cancers combined...
- and now we know that low-dose CT scan is a proven way to detect lung cancer early when it is most treatable and curable...
- this means many lives each year will be saved by early detection using low-dose CT lung cancer screening...one can be yours!

**ADVICE FROM A SURVIVOR**

*"If I hadn't been screened for lung cancer, I probably wouldn't be here today."*  
Charlene, Lung Cancer Survivor

**Should I get the low-dose CT scan lung cancer screening?** Low-dose CT scan for lung cancer is recommended if you answer yes to the following 3 statements used to identify those at high risk.

- I am 55 to 75 years old
- I am a current or former smoker who quit within 15 years
- Do you smoke or did you quit less than 15 years ago?

**Do you meet some, but not all the examples above? Talk to your doctor.**

Your doctor will answer any questions you may have concerning the low-dose CT scan, and whether it's right for you.

**INFORMATION ABOUT YOUR CT SCAN**

**What is getting a low-dose CT scan like?** The scan is a low dose of radiation, similar to what you might be exposed to from a chest x-ray.

- 1 The CT scan takes a 360-degree picture of your lungs.
- 2 You hold your breath for seconds.
- 3 Non-invasive, painless and takes about 30 minutes.

**What you need to know.** Like all screening tests, there are pros and cons to consider. Talk with your doctor.

**PRO** Lung cancer screening can reduce the risk of dying from lung cancer by catching and treating it early.

**CON** There is a chance of a "false alarm". This means the results look like a dangerous cancer but is not and this leads to more tests.

**Old News Worth Repeating...** Smoking is the number one risk factor for lung cancer and is linked to 90% of lung cancers. Quitting smoking remains the single best way to reduce your risk of lung cancer.

lower socioeconomic status as it may help to maximize their time with their health care provider. Smoking rates are higher in this population and access to medical care is more challenging [9]. Having a cutout card which can be shown to a

physician to help facilitate a discussion around lung cancer screening can make it an easier topic to approach.

Cost was a common concern, and participants liked knowing that insurance would cover the cost of exam. Since all

study participants had access to health insurance, this study could not address how someone without insurance would respond to receiving information about lung cancer screening. Participants in this study indicated that information should be presented in the brochure about the actual cost of the exam so that even individuals without health insurance could determine if they wanted to go for the screening while paying the out-of-pocket costs themselves. Apprehension regarding the study results was another concept which was discussed during the focus groups. Apprehension about learning the results has already been identified as a barrier to screening among current smokers [8]. Previous research indicates that individuals with a suspicious LDCT exam report an increase in their perceived risk of cancer and have more psychological distress [10]. Further research is needed to determine the precise impact that apprehension has on lung cancer screening.

The educational brochure tested in this study was designed by the members of the Department of Health Behavior at Roswell Park to provide information on lung cancer screening in an easy to understand format. The initial brochure included a calculation of pack years to help determine an individual's eligibility for lung cancer screening. This calculation seemed clear to researchers, but proved to be confusing to participants when discussed in the focus groups and in-depth interviews. Every focus group had a discussion around this concept, and even some of the in-depth phone interview participants had questions regarding pack year calculations. Future educational efforts should include attempts to simplify this concept to help make communication of this calculation easier for a layperson to understand.

This study had some limitations. The total number of participants was small, and by nature not representative. Smoking status was self-reported; thus, it could be that some smokers could have misclassified their smoking history. Another limitation was that in every focus group, at least one participant reported having previously been screened for lung cancer (to the best of their knowledge). This was addressed by limiting the discussion about prior experiences and encouraging that individual to wait until the end of the discussion to share their experience. Additional qualitative work may be insightful with individuals who have undergone lung cancer screening as they would likely be able to provide additional information regarding key issues and concepts that should be included in an educational brochure.

One of the advantages of this study was that several of the study participants came as referrals from the NYSSQL. Thus, the target population for the larger educational intervention study with the NYSSQL was well represented: smokers who call a quitline are more typically concerned about their health and therefore more likely to act on that concern [11, 12]. Also, similar themes emerged across the focus groups and in-depth

interviews, confirming the reliability of the findings. The information gained from this study serves a vital role in refining concerns that smokers and former smokers have about lung cancer screening and understanding what information would be valuable to them in helping decrease the perceived barriers and address their misperceptions about the test. The education brochure also provided a vehicle that eligible smokers and former smokers could take to their health care provider to help increase the conversation around lung cancer screening. There is a need to promote awareness and shared decision-making among smokers and their health care providers in an effort to decrease the mortality rate of this deadly disease [13].

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