Lung Cancer Stigma Predicts Timing of Medical Help–Seeking Behavior

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Purpose/Objectives: To examine relationships among demographic variables, healthcare system distrust, lung cancer stigma, smoking status, and timing of medical help–seeking behavior in individuals with symptoms suggestive of lung cancer after controlling for ethnicity, socioeconomic status, and social desirability.

Design: Descriptive, cross-sectional, correlational study.

Setting: Outpatient oncology clinics in Louisville, KY.

Sample: 94 patients diagnosed in the past three weeks to six years with all stages of lung cancer.

Methods: Self-report, written survey packets were administered in person followed by a semistructured interview to assess symptoms and timing characteristics of practice-identified patients with lung cancer.

Main Research Variables: Timing of medical help–seeking behavior, healthcare system distrust, lung cancer stigma, and smoking status.

Findings: Lung cancer stigma was independently associated with timing of medical help–seeking behavior in patients with lung cancer. Healthcare system distrust and smoking status were not independently associated with timing of medical help–seeking behavior.

Conclusions: Findings suggest that stigma influences medical help–seeking behavior for lung cancer symptoms, serving as a barrier to prompt medical help–seeking behavior.

Implications for Nursing: When designing interventions to promote early medical help–seeking behavior in individuals with symptoms suggestive of lung cancer, methods that consider lung cancer stigma as a barrier that can be addressed through public awareness and patient-targeted interventions should be included.

Key Words: lung cancer; decision making; healthcare system distrust; lung cancer stigma; medical help–seeking behavior

ONF, 41(3), E203–E210. doi:10.1188/14.ONF.E203-E210

Lung cancer kills more people than any other cancer worldwide, with an estimated 1.6 million new diagnoses and 1.4 million deaths annually (Bray, Ren, Masuyer, & Ferlay, 2013). In the United States, an estimated 224,210 new cases of lung cancer will be diagnosed, and 159,260 people are projected to die from the disease in 2014, representing 27% of all cancer-related deaths (American Cancer Society [ACS], 2014). Mortality from lung cancer is directly related to stage at diagnosis, with only 15% of lung cancers detected at a stage amenable to curative resection (ACS, 2014). The overall five-year relative survival rate is 17% (ACS, 2014).

Although lung cancer often is diagnosed in asymptomatic individuals who present for other health concerns, some people experience symptoms. Those who experience symptoms prior to diagnosis may be concerned about their symptoms and seek medical help from a healthcare provider, and others may choose to monitor and self-manage for varying lengths of time (Leveälahti, Tishelman, & Ohlén, 2007; Tod & Joanne, 2010). When people with cancer delay seeking help from healthcare professionals, the probability of a late-stage diagnosis increases. Lung cancer can be asymptomatic until in an advanced stage (Corner, Hopkinson, Fitzsimmons, Barclay, & Muers, 2005). However, many patients with lung cancer, even in early stages, experience symptoms prior to diagnosis but often do not link the symptoms with the possibility of lung cancer (Corner et al., 2005). Common lung cancer symptoms include cough, dyspnea, fatigue, weight loss, hoarseness, and hemoptysis (ACS, 2014). These symptoms are common to smokers; however, in the case of lung cancer, they are increased, persistent, or worsening. Early recognition of lung cancer symptoms combined with early medical help–seeking behavior has the potential to extend survival and decrease mortality from lung cancer (Goldberg, Mulshine, Hagstrom, & Pyenson, 2010; Tod, Craven, & Allmark, 2008).

Three variables (i.e., healthcare system distrust, lung cancer stigma, and smoking status) were identified from the investigator's pilot study as potential factors influencing delayed medical help–seeking behavior in individuals with lung cancer symptoms. Studies have shown lung cancer stigma is related to an internal self-blame and may adversely affect health status (Cataldo, Slaughter, Jahan, Pongquan, & Hwang, 2011; Else-Quest,

LoConte, Schiller, & Hyde, 2009; Weiss, Ramakrishna, & Somma, 2006). Lung cancer's association with smoking, perceived self-infliction, and high mortality rates have resulted in substantial stigma associated with the disease (Chapple, Ziebland, & McPherson, 2004). Patients with lung cancer are more likely to report higher self-blame, poorer self-esteem, and more mental maladjustment than patients with breast or prostate cancers (Else-Quest et al., 2009). Self-blame and stigma are influential in the timing of medical help–seeking behavior in patients with lung cancer (Bell, Salmon, Bowers, Bell, & McCullough, 2010; Else-Quest et al., 2009). Findings related to the impact of smoking status on medical help–seeking behavior with lung cancer symptoms vary. One study found that a positive smoking status served as a barrier in an individual's medical help–seeking behavior (Stuber, Galea, & Link, 2008), and another reported that individuals frequently delayed seeking medical help because they expected blame for their illness regardless of their smoking status (Tod et al., 2008). Healthcare system distrust has been identified as a barrier to timely breast and cervical cancer screening and may influence medical help–seeking behavior in people with lung cancer symptoms (Katapodi, Pierce, & Facione, 2010; Yang, Matthews, & Hillemeier, 2011). Healthcare system distrust was related to delayed medical help–seeking behavior in symptoms of breast cancer and subsequent advanced breast cancer stage at diagnosis (Friedman et al., 2006; Gould, Fitzgerald, Fergus, Clemons, & Baig, 2010; Taib, Yip, & Low, 2011).

The purpose of this study was to examine relationships between selected sociodemographic variables (e.g., ethnicity, annual income, perceived financial status), social desirability, healthcare system distrust, lung cancer stigma, smoking status, and the time from symptom onset to medical help–seeking behavior in individuals with symptoms suggestive of lung cancer. Specific hypotheses tested included the following.

- The set of variables (i.e., healthcare system distrust, lung cancer stigma, smoking status, annual income, perceived financial status, ethnicity, and social desirability) will be associated with time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms.
- After controlling for annual income, perceived financial status, ethnicity, and social desirability, the subset of variables (i.e., healthcare system distrust, lung cancer stigma, and smoking status) will be associated with time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms.

Conceptual Framework

The Factors Predicting Delayed Help-Seeking Behavior for Lung Cancer model that guided this study was adapted from the Model for Understanding Delayed Presentation in Breast Cancer (Bish, Ramirez, Burgess, & Hunter, 2005). The Bish et al. (2005) conceptual model was derived from components of the Theory of Planned Behavior (Ajzen, 1991), Theory of Implementation Intentions (Gollwitzer, 1993), and Self-Regulation Theory (Leventhal, Nerenz, & Steele, 1984), and was chosen because of its specific focus on delayed presentation. The adapted model suggests that sociodemographic variables (i.e., ethnicity, annual income, perceived financial status, gender, age, education level, and insurance status) influence smoking status. In turn, sociodemographic variables and smoking status influence healthcare system distrust and lung cancer stigma. Smoking status, healthcare system distrust, and lung cancer stigma independently influence time from symptom onset to medical help–seeking behavior in individuals with symptoms suggestive of lung cancer.

Based on the model, the authors hypothesized that greater healthcare system distrust, higher perceived lung cancer stigma levels, and positive smoking status would predict time from symptom onset to medical help–seeking behavior, after controlling for social desirability, socioeconomic status, and ethnicity. Ethnicity and socioeconomic status were identified from the literature as potential covariates (Bibb, 2001; Facione, Miaskowski, Dodd, & Paul, 2002; Friedman et al., 2006; Henderson, Evans-Lacko, Flach, & Thornicroft, 2012; Lowndes et al., 2012). Because healthcare system distrust and lung cancer stigma may be sensitive topics, social desirability was also measured in this study and included as a covariate in the analysis.

Methods

A descriptive, cross-sectional, correlational study was conducted. Participants were eligible for the study if they were aged 22 years or older, able to speak and understand English, had a primary diagnosis of lung cancer, and had knowledge of their lung cancer stage at diagnosis. Although ACS (2014) reports that more than 60% of lung cancer diagnoses are from individuals aged 65 years or older, getting data from adult patients younger than age 65 years provided a more inclusive opportunity to understand predictor variables of delayed medical help–seeking behavior in patients with lung cancer. Age 22 was chosen as the youngest acceptable age because the primary recruitment site defined adults as people aged 22 years or older.

A convenience sample of 94 patients who were diagnosed with lung cancer at any stage was recruited from two outpatient sites in Louisville, KY. The outpatient sites were James Graham Brown Cancer Center, a thoracic oncology clinic in an urban, academic medical center, and Baptist Healthcare, a radiation oncology clinic

in a private, community-based hospital. The University of Louisville institutional review board and review committees at the recruitment sites approved the study. Ninety-five patients were approached about the study. Ninety-four patients agreed to participate and completed questionnaires and the in-person interview. Written informed consent was obtained from each participant after the investigator detailed the study requirements and answered questions.

Using G*Power, version 3.1.4, a sample of 93 provided a power of 0.8 to identify a medium effect size (Cohen's $f^2 = 0.19$) using 10 numerator degrees of freedom and a 0.05 level of significance.

Data Collection

Data were collected in the clinic prior to an oncology visit by two methods: self-administered questionnaires measuring healthcare system distrust, lung cancer stigma, and social desirability; and an in-person, semistructured interview to assess demographic information, initial symptoms, and time from symptom onset to medical help–seeking behavior. Because of the retrospective nature of the data, a semistructured interview was chosen to allow the investigator to assist with participant recall using key event mapping. This technique uses a calendar to assist participant recall by asking about symptom onset in relation to personal events and common key events (Molassiotis, Wilson, Brunton, & Chandler, 2010). Participants were asked to recall, to the best of their ability, the date they experienced their initial symptoms and the date they sought medical help by calling to make an appointment with a healthcare provider for those symptoms. If the participant had difficulty recalling these events, key event mapping was used. Dates of their first symptoms, when they first sought medical help by calling to make an appointment, and when help actually was received were recorded in month/day/year format. If participants had difficulty recalling the specific day of the month, the first day of the month was used.

Measures

Time from symptom onset to medical help–seeking behavior for symptoms suggestive of lung cancer was the main outcome variable. This outcome was measured as the self-reported number of days between the date of first symptoms and the date the patient called to make a medical appointment for those symptoms.

Healthcare system distrust was measured using the nine-item **Revised Health Care System Distrust Scale** (Shea et al., 2008). Total scores ranged from 9–45, with higher scores indicating higher levels of healthcare system distrust. The Cronbach alpha for the distrust scale was 0.91 in this study, indicating excellent reliability. Validity has been supported in a previous study (Shea et al., 2008).

Self-perceived lung cancer stigma was measured using the **Cataldo Lung Cancer Stigma Scale** (Cataldo et al., 2011). The Cataldo Lung Cancer Stigma Scale is a 31-item scale with total scores ranging from 31–124; higher scores indicate higher levels of self-perceived lung cancer stigma. The Cronbach alpha for the stigma scale was 0.95 in the current study, indicating excellent reliability. A study of 190 patients with lung cancer demonstrated the validity of the stigma scale (Cataldo, Jahan, & Pongquan, 2012).

Smoking status was assessed with items taken from the Centers for Disease Control and Prevention's ([CDC], 2009) **Behavioral Risk Factor Surveillance System**. Participants were classified as a never smoker, former smoker, or current smoker at the time of diagnosis. Social desirability was measured using the 20-item **Modified Marlowe-Crowne Social Desirability Scale** (Strahan & Gerbasi, 1972). This instrument has well-established reliability and validity with reliability estimates using the Kuder-Richardson Formula 20 (KR-20), ranging from 0.74–0.76 (Reynolds, 1982). The KR-20 reliability estimate for the social desirability scale was 0.74 in this study, indicating an acceptable level of reliability.

Data Analysis

Data were analyzed using SPSS®, version 20.0, and SAS®, version 9.3. Descriptive statistics were calculated to examine participants' characteristics, scale scores on the healthcare system distrust and lung cancer stigma scales, prevalence of social desirability, time from symptom onset to medical help–seeking behavior, and associations among study variables. After preliminary analysis, one case was excluded from the final analysis because it represented an extreme outlier on the outcome variable of time from symptom onset to medical help–seeking behavior, leaving a final sample size of 93. Variables were coded, scale scores were computed as appropriate, and assumptions of normality, linearity, and homoscedasticity were examined and not violated, except for the outcome variable. The outcome variable revealed a positively skewed distribution. The decision was made to apply a log transformation, resulting in a more normally distributed outcome variable. The strength of relationships between time from symptom onset to medical help–seeking behavior and the independent variables, after controlling for covariates, were examined using general linear modeling with hierarchical regression.

Results

Sample Characteristics

The majority of participants were female, Caucasian, and married, and the mean age was 62 years

(SD = 8.7; range = 44–83 years) (see Table 1). Most participants had completed high school or a higher level of education. The median number of days from symptom onset to medical help–seeking behavior for symptoms suggestive of lung cancer was 41 days (range = 0–366 days). In particular, 39 participants sought medical help within 30 days, 27 sought medical help in 31–90 days, and 27 sought medical help after more than 90 days. Although some participants experienced more than one symptom, the most prevalent initial symptom reported by participants was cough or respiratory symptoms (n = 44). Sixteen participants reported having two symptoms and five reported having three symptoms when first seeking medical evaluation prior to diagnosis. No relationship existed between smoking status and time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms. One-way, between-groups analysis of variance was performed between never smokers, former smokers, and current smokers and time from symptom onset to medical help–seeking behavior. No significant difference was found in mean time to medical help–seeking behavior across the three groups (F [2, 90] = 1.529, p = 0.222). Scores on the Revised Healthcare System Distrust Scale ranged from 17–45 ($\bar{X}$ = 30.37, SD = 6.1). Scores on the Cataldo Lung Cancer Stigma Scale ranged from 31–98 ($\bar{X}$ = 68.6, SD = 11.49).

Table 1. Sample Characteristics (N = 93)

Characteristic	n
Gender	
Female	58
Male	35
Ethnicity	
Caucasian	77
African-American	16
Education level	
Some high school	3
High school graduate	37
Some college	20
College graduate or higher	33
Marital status	
Married	60
Not married or separated	33
Employment status	
Unemployed or retired	67
Employed	26
Insurance status	
Medicare or Medicaid	41
Private health insurance	40
Uninsured	12
Stage at diagnosis	
I	7
II	14
III	29
IV	43
Smoking status at diagnosis	
No	63
Yes	30
Current smoking status	
Never smoker	30
Former smoker	33
Current smoker	30
Smoking frequency (N = 63)	
Every day	6
Some days	4
Not at all	53
Time since regular smoking (N = 60)	
Within the past month	12
Within the past 3 months	3
Within the past 6 months	5
Within the past year	4
Within the past 5 years	5
Within the past 10 years	10
10 years or more	21
Current packs per day of smokers at diagnosis (N = 30)	
Less than 1	5
1	12
1.5	1
2	10
3	2

Variables Associated With Time From Symptom Onset to Medical Help–Seeking Behavior

General linear models were used to determine strength of the relationship for healthcare system distrust, lung cancer stigma, smoking status, annual income, perceived financial status, ethnicity, and social desirability with time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms. The null hypothesis was rejected; a linear association existed between time from symptom onset to medical help–seeking behavior and healthcare system distrust, lung cancer stigma, smoking status, annual income, perceived financial status, ethnicity, and social desirability, supporting the hypothesis. The full model explained 23% of the variance in the time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms (F [10, 82] = 2.37, p = 0.02). Of the variables in the full model, lung cancer stigma was the only statistically significant predictor (F [1, 82] = 12.44, p = 0) (see Table 2).

Controlling for Covariates and Association of Variables With Time From Symptom Onset to Medical Help–Seeking Behavior

Change in R^2 between the full and reduced general linear model was used to test if the variables of interest (i.e., healthcare system distrust, lung cancer stigma, and smoking status) were associated with time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms after controlling for annual income, perceived financial status, ethnicity, and social desirability covariates. After controlling for covariates, the variables of interest explained 15% of the variance (F [4, 82] = 3.83, p = 0.007). The hypothesis

was partially supported because each variable was not independently associated with time from symptom onset to medical help–seeking behavior in individuals with lung cancer symptoms.

Discussion

The authors hypothesized that higher levels of healthcare system distrust, perceived lung cancer stigma, and positive smoking status would predict time from symptom onset to medical help–seeking behavior after controlling for social desirability, socioeconomic status, and ethnicity. Analyses revealed that lung cancer stigma was a significant predictor of increased time from symptom onset to medical help–seeking behavior in lung cancer symptoms, and healthcare system distrust and smoking status were not. Although the authors had hoped to explain more than 23% (full model) and 15% (reduced model) of the variance in time from symptom onset to medical help–seeking behavior, this was an exploratory study, and key variables that were not examined may exist. Variables such as geographic location, access to transportation, family history of lung cancer, and knowledge of lung cancer could be important predictors of time to seek medical help in symptoms suggestive of lung cancer and should be included in future studies.

The unexpected finding that healthcare system distrust did not predict time from symptom onset to medical help–seeking behavior conflicts with results of other studies where healthcare system distrust predicted delayed breast and cervical cancer screening behaviors (Katapodi et al., 2010; Yang et al., 2011). Distrust also has been identified as a barrier to obtaining healthcare services when medical problems arise (Shea et al., 2008). However, healthcare system distrust scores were moderately high in the current sample, with a mean score of 30.37 (SD = 6.1). Although healthcare system distrust did not achieve statistical significance in this study, the p value was borderline (p = 0.06). Had the sample been larger, this relationship may have reached significance, which would have been consistent with other studies in patients with breast and cervical cancers. One alternative explanation for why healthcare system distrust may not predict timing of medical help–seeking behavior in lung cancer could be related to the salience of lung cancer symptoms, which are more noticeable compared to a breast lump or cervical discharge. Studies of other patients with cancer point to a possible inverse relationship between age at diagnosis and healthcare system distrust (Katapodi et al., 2010). Given the overall younger age of participants in the current study ($\bar{X}$ = 62 years, SD = 8.7) and borderline significance of the association between healthcare system distrust and timing of medical help–seeking behavior, future research is needed to expand the understanding of the influence of healthcare system distrust in patients with lung cancer and identify interventions that can effectively reduce levels of distrust.

Table 2. ANOVA General Linear Model for Predicting Time to Seek Help in Days for Lung Cancer

Variable	DF	$\bar{X}^2$	F	p
Perceived financial status	2	0.83	2.17	0.12
Annual income	2	0.01	0.04	0.96
Ethnicity	1	0.29	0.75	0.39
Social desirability	1	0.08	0.2	0.65
Smoking status	2	0.43	1.12	0.33
Healthcare system distrust	1	1.44	3.77	0.06
Lung cancer stigma	1	4.75	12.44	< 0.01
Residual (error)	82	0.382	–	–

ANOVA—analysis of variance; DF—degrees of freedom

The primary outcome of interest was time from symptom onset to medical help–seeking behavior for symptoms suggestive of lung cancer. Patient delay after symptom awareness has been defined as waiting to seek medical help for three months or longer in the context of breast cancer (Bish et al., 2005; Facione, 1993; Pack & Gallo, 1938). More research is needed to adequately define patient delay in the context of lung cancer. The growth of a lung tumor, once symptoms are discerned, can be exponential (Salomaa, Sällinen, Hiekkanen, & Liippo, 2005). Lung cancer is associated with a high mortality rate when diagnosed at an advanced stage (Ferlay et al., 2010; Jemal et al., 2011). Five-year relative survival rates for stage IIIB and stage IV lung cancer are 5% and 1%, respectively (ACS, 2014). Therefore, detection of lung cancer as early as possible after symptom onset presents the opportunity for earlier initiation of treatment and potentially longer survival (Salomaa et al., 2005).

The sample's younger age may have influenced the results of the study. This sample was younger than most individuals diagnosed with lung cancer; the average patient with lung cancer is 71 at diagnosis (ACS, 2014). The sample's younger age may be reflective of the relatively higher percentage of smokers in Kentucky (29%) compared to the nation (21%) (CDC, 2012). Kentucky also has a higher teen smoking rate, which may increase the risk for lung cancer at a younger age (CDC, 2012).

Smoking is the greatest risk factor for the development of lung cancer (ACS, 2014; Cataldo et al., 2012). However, the proportion of patients with lung cancer in this study who had never smoked (32%) was considerably higher than the national average (10%–15%) (Thun et al., 2006). One potential explanation for the higher proportion of never smokers may be linked to the higher smoking rates in Kentucky. As a result, never smokers in the current sample may have had higher levels of exposure to secondhand smoke compared to

other studies. Another plausible explanation for this unique and surprising sample characteristic could be higher levels of exposure to radon, the second leading cause of lung cancer (Sethi, El-Ghamry, & Kloecker, 2012). This study was conducted in an area known for relatively high radon levels. Data were not collected specifically on participants' residences or on radon exposure, so the authors were unable to estimate the influence of this environmental carcinogen. However, many participants in this study may have experienced significant radon exposure, which may account for lung cancer development in younger people and those who have never smoked cigarettes.

Another unexpected finding was that smoking status did not predict time from symptom onset to medical help–seeking behavior. Previous studies demonstrated an association between smoking and delayed medical help–seeking behavior in patients with lung cancer (Cataldo et al., 2012; Stuber et al., 2008). That delay was thought to be related to the masking of symptoms by tobacco use or people attributing symptoms they experience to tobacco smoking. Additional investigation is needed to better understand the relationship between smoking status and time from symptom onset to medical help–seeking behavior for lung cancer symptoms.

Strengths and Limitations

To the authors' knowledge, the current study is the first to identify lung cancer stigma as a predictor of time from onset of symptoms to medical help–seeking behavior in patients with lung cancer. This study expanded the understanding of the factors that contribute to delayed medical help–seeking behavior for symptoms suggestive of lung cancer. Understanding barriers to timely medical help–seeking behavior in lung cancer is a critical prerequisite to developing interventions to reduce delays. Although an oncogenic process can progress at rates that vary from person to person, promotion of early lung cancer symptom recognition and seeking medical help immediately when symptoms present offers the potential for earlier initiation of treatment and enhanced survival.

Several limitations existed in the current study. The sample size of 93 participants is relatively small for a descriptive study. In addition, participants were recruited from two outpatient clinical sites located in Louisville. Patients with lung cancer in this region of the country potentially differ from other patients with lung cancer in ways that could have influenced study results. The average participant was almost 10 years younger than most people diagnosed with lung cancer in the United States. Younger individuals may perceive symptoms differently than older people, and this may affect recognition and behavioral response to symptoms. Future studies should aim to recruit participants who reflect the national lung cancer population more closely.

Another limitation was the potential for recall bias. Data related to symptom awareness and the time from symptom onset to medical help–seeking behavior was collected retrospectively. Key event mapping was used to increase the accuracy of recall of important dates. However, most participants did not have difficulty recalling symptoms or timing of these events. For the few who did have difficulty with recall, key event mapping was successful. Several variables that may be associated with the time from symptom onset to medical help–seeking behavior among those patients were not examined in the current study. Variables that should be examined in future studies include family history of lung cancer, exposure to secondhand smoke, primary care provider access, geographic location or residence history (as a proxy for radon exposure), access to transportation, and number of people living in the household.

Knowledge Translation

Lung cancer stigma can serve as a barrier to timely diagnosis and treatment.

Nurses must address an intervention design in this population.

Lung cancer is not a disease that is exclusive to smokers, and public health efforts need to increase this knowledge.

Implications for Nursing

Lung cancer stigma is a significant predictor of the timing of medical help–seeking behavior in individuals with symptoms suggestive of lung cancer. Awareness that many patients with lung cancer worry about the stigma associated with having a diagnosis of lung cancer is important to consider when designing interventions to promote early recognition of symptoms and prompt medical help–seeking behavior. These concerns can serve as barriers to a timely diagnosis and treatment. The findings from this study support the need for a concerted public health awareness effort targeting lung cancer stigma. Because lung cancer stigma has historically grown out of the misconception that lung cancer is a self-inflicted disease that affects cigarette smokers, mass media and educational messages about other risk factors (e.g., radon, smoke, environmental exposure, genetic susceptibility) are essential to disseminate. Messages that convey the fact that people who have never smoked also develop lung cancer may be an effective approach to decrease lung cancer stigma. Educational messages also should be designed to increase

public awareness about lung cancer symptoms, risk factors, staging, and implications of early- versus late-stage diagnosis. Although current lung cancer public health efforts focus primarily on smoking cessation and prevention, raising awareness that lung cancer has causes other than smoking also is important.

Conclusion

Few people survive lung cancer, primarily because of its diagnosis at an advanced stage (ACS, 2014). When individuals experience symptoms suggestive of lung cancer but wait to seek evaluation, lung cancer advances. Lung cancer stigma is an important predictor of delayed medical help–seeking behavior. Addressing this critical barrier to medical help–seeking behavior for symptoms is essential to improving outcomes for patients with lung cancer.

The authors gratefully acknowledge the staff at the James Graham Brown Cancer Center and Baptist Healthcare System, both in Louisville, KY, for their support of the research project.

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