



Readiness of primary care clinicians to implement lung cancer screening programs

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ABSTRACT

We examined the readiness of primary care clinicians to implement lung cancer screening programs in their practice settings in light of recent policy changes in the U.S.

Attendees of two large continuing medical education events in Texas held in October and November of 2014 completed surveys about their current lung cancer screening practices and implementation needs.

Surveys were completed by 350 participants (57.2% of registered attendees). Although 89.5% of participants routinely screened their patients for tobacco use, only 10.1% had a formal lung cancer screening program in their practice. More than half (56.0%) planned to refer eligible patients for lung cancer screening, 35.6% were not sure, and 8.3% did not plan to refer. Priority areas for implementing lung cancer screening programs in their settings included 1) greater clarity about coverage by private insurance and Medicare, 2) information about available screening centers offering low-dose computed tomography, 3) patient education and shared decision-making tools, 4) implementation toolkits and training for clinic staff, 5) integrating screening programs in electronic health records, and 6) more clarity about clinical guidelines.

Practical needs related to identifying eligible patients, referral to screening centers, and tools for shared decision-making must be addressed before lung cancer screening can be implemented on a national scale.

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Introduction

The United States Preventive Services Task Force (USPSTF) recently endorsed (grade B recommendation) lung cancer screening with low-dose computed tomography (LDCT) for high-risk current and former smokers aged 55–80 years with no history of lung cancer (Moyer, 2014). The Patient Protection and Affordable Care Act mandates first-dollar coverage for grades A and B USPSTF recommendations (Woolf and Campos-Outcalt, 2013). The Centers for Medicare and Medicaid Services (CMS) has issued a national coverage decision for the Medicare population, endorsing lung cancer to the age of 77 years with additional eligibility requirements for beneficiaries, radiologists, and radiology imaging centers (Centers for Medicare & Medicaid Services, 2015). The CMS decision requires a lung cancer screening counseling and shared decision-making visit, including the use of patient decision aids, and a written referral order from a qualified health care provider.

In contrast to the USPSTF recommendation, the American Academy of Family Physicians concluded that there was insufficient evidence to recommend for or against screening for lung screening with low-dose

computed tomography (grade I recommendation) (American Academy of Family Physicians, 2013). Principal concerns noted by the American Academy of Family Physicians include the ability to replicate findings from the National Lung Screening Trial (Aberle et al., 2011) in community settings, the unknown long-term harms of radiation exposure from screening and follow-up testing, the use of modeling by the USPSTF to extend the screening interval and upper age limit, and a lack of a cost-benefit analysis. Like the USPSTF and CMS, the American Academy of Family Physicians endorses a shared decision-making discussion between the clinician and patient about the benefits and potential harms of lung cancer screening.

Recent policy changes place primary care clinicians at the forefront in implementing lung cancer screening programs nationally (Mulshine and D'Amico, 2014). We surveyed primary care clinicians attending annual continuing medical education (CME) events in Texas about their current practice and readiness to implement lung cancer screening programs in their practice settings.

Methods

Attendees of 2 large primary care CME events in October and November 2014 completed anonymous surveys about their practice and priorities for establishing a lung cancer screening program and knowledge of current clinical practice guidelines. The timing of the study fell after the USPSTF updated recommendation was released and

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after CMS issued its draft decision about national coverage for lung cancer screening.

USPSTF guidance on elements of a structured lung cancer screening program was used to assess current practice, with response options of “yes,” “no,” or “unsure” (Richards et al., 2014). Survey results about current lung cancer screening activities were stratified by whether the primary care clinician’s practice was a residency training site. We felt that stratification by training site was warranted because these programs have educational activities such as journal clubs where new research evidence and guidelines might be discussed. Participants were also asked “What would be most helpful to you in implementing a lung cancer screening program in your practice (if you don’t already have one)?” Their responses to this open-ended question were reviewed by the research team and collapsed into broad priority areas. Consensus was reached for any areas that were initially coded inconsistently. From there, the frequencies of the specific priority areas were tabulated. For the participants, practice settings and years since completion of residency training were compared to the broader membership of the Texas Academy of Family Physicians. The project was approved by The University of Texas MD Anderson Cancer Center Institutional Review Board.

Results

Surveys were returned by 354 of 612 registered attendees; 3 retired physicians and 1 oncologist were excluded, leaving 350 participants (57.2% of registered attendees). Specialty was listed as family medicine by 333 participants (95.1%); 3 were physicians practicing in emergency or urgent care settings; and 2 were physician assistants. For 11 participants, their practice location was outside of Texas. Sixty-one counties within Texas were represented by the participants’ practice locations. No differences in clinician or practice characteristics were observed across the 2 CME events. The number of years since completing residency training was similar among participants as among members of the statewide Texas Academy of Family Physicians, but participants were less likely to practice in emergency departments or urgent care clinics (.9%) than members (9%).

The majority (301, 86%) reported being somewhat or very familiar with current guidelines about lung cancer screening from the USPSTF and American Academy of Family Physicians. Although 89.5% of participants routinely screened for tobacco use, only 10.1% had a formal lung cancer screening program in their practice. More than half (194, 56.0%) planned to refer eligible patients for lung cancer screening, 35.6% (124) were not sure, and 8.3% (29) did not plan to refer.

As shown in Table 1, less than half of participants were currently referring patients to high-quality screening programs, had systems to identify eligible patients for screening, or engaged patients in informed or shared decision-making about lung cancer screening. More common were activities around follow-up of patients with abnormal screening findings, management of other health problems for patients with lung cancer, and provision of smoking cessation services. Two areas were significantly less common among primary care clinicians who do not train residents compared to those who do: referring patients to

screening centers and following up with patients who have an abnormal screening finding.

Priority areas for implementing lung cancer screening programs are given in Table 2, in rank order of prevalence. Of the 335 participants who did not currently have a lung cancer screening program in their practices, 113 (33.7%) offered responses about priority areas for implementation. The three top priority areas were 1) clarity about coverage for screening, 2) information about available screening centers offering LDCT, and 3) patient decision aids and educational materials. Implementation toolkits were noted, along with strategies to integrate lung cancer screening in current electronic health records, training for staff, and clarity about current guidelines. Several clinicians mentioned ongoing concerns about the quality of the evidence supporting lung cancer screening and the potential high health care costs associated with a national program.

Discussion

Primary care clinicians will play a crucial role in lung cancer screening as it rolls out in the U.S. Although a substantial number of primary care clinicians are uncertain about referring patients for lung cancer screening, few currently reject it outright. These findings are noteworthy given the cautious position of the American Academy of Family Physicians and concerns about the validity of the available evidence about screening in persons 65 and older (Woolf et al., 2014). Logistical considerations surrounding implementation of lung cancer screening in their practice settings remain major concerns of primary care clinicians, and provider and patient education will be needed to ensure high-quality screening occurs (Hoffman et al., 2015).

There is good reason to expect that lung cancer screening will be adopted by primary care clinicians in the U.S. as the logistical concerns around implementation are addressed. A national survey of practicing primary care clinicians conducted in 2006 and 2007, a period when guidelines did not endorse lung cancer screening, showed that the majority of clinicians were screening their asymptomatic patients for lung cancer with chest radiography despite a lack of evidence supporting its benefit (Klabunde et al., 2012). These same clinicians had favorable beliefs about the efficacy of low-dose CT for reducing mortality from lung cancer. Yet, adoption of lung cancer screening will likely meet with challenges beyond logistical concerns including the potential for patients’ expectations about screening to be in conflict with clinicians’ concerns about harms and costs (Henderson et al., 2011). It seems reasonable that some primary care clinicians will not recommend lung cancer screening until the risk-to-benefit ratio and costs considerations become more favorable.

Lung cancer screening is now a covered preventive service in the U.S. through private insurance and Medicare for eligible patients. Identifying high-quality lung cancer screening centers remains a challenge given a lack of uniformity around current screening practices (Boiselle et al., 2014). The American College of Radiology and Lung Cancer Alliance have implemented certification programs for centers offering low-dose CT screening for lung cancer (American College of Radiology,

Table 1
Current lung cancer screening practices by primary care clinicians (PCCs).

Characteristic of a structured lung cancer screening program	PCCs from practices that serve as residency training sites (n = 58), No. (%)	PCCs from practices that do not train residents (n = 292), No. (%)	P value ^a
Identify patients eligible for screening	24 (43.6)	92 (32.9)	.25
Engage patients in shared or informed decision-making prior to referral	24 (44.4)	119 (42.5)	.97
Refer patients to high-quality “certified” screening programs	22 (43.1)	69 (25.0)	.03
Follow-up with patients who have abnormal findings	45 (81.8)	169 (62.1)	.02
For patients diagnosed with lung cancer, manage their other health problems during treatment	51 (91.1)	241 (85.2)	.34
Provide tobacco treatment services for smokers	53 (94.6)	253 (88.8)	.37

Characteristics of lung cancer screening programs are adapted from Richards et al. (2014). Percentages are based on valid responses excluding missing data.

^a P values are from chi-square tests.

Table 2

Priority areas for lung cancer screening implementation as reported by primary care clinicians (PCCs).

Priority area	No.
Clarity on insurance/Medicare coverage for lung cancer screening.	30
Help finding lung cancer screening centers for patient referral.	23
Patient education/patient decision aids.	19
Implementation toolkits/general guidance on implementation strategies.	13
Integration of lung cancer screening programs within electronic health records.	11
Clarity about current lung cancer screening guidelines for professional organizations.	10
Concerns about costs, harms, and quality of evidence.	7
Training for clinic staff.	6

Responses are to the question, “What would be most helpful to you in implementing a lung cancer screening program in your practice (if you don’t currently have one)?” Of 335 participants who did not currently have a lung cancer screening program, 113 offered at least 1 comment. The counts do not sum to 113 because respondents could indicate more than one priority area.

2014; Lung Cancer Alliance, 2011). Patient education and shared decision-making interventions, including patient decision aids that meet international standards for development and content, are acutely needed (Joseph-Williams et al., 2013).

This study is limited to primary care clinicians largely from Texas, and we do not know how current practice might differ for clinicians in other areas of the U.S. Similarly, we do not know how rapidly primary care clinicians in Texas adopt new practice guidelines compared to clinicians outside of Texas. Despite a participation rate approaching 60%, we cannot rule out response bias due to interest in the lung cancer screening topic. We did not include an objective assessment of knowledge of current screening guidelines. It is reassuring that most primary care clinicians currently provide tobacco treatment services for their patients, but we do not have information about the type or quality of services being used. Intentions to refer patients for lung cancer screening were assessed using responses to a single question, and more in-depth exploration of clinicians’ attitudes about screening is warranted (Hoffman et al., 2015). A related concern is that we did not directly assess clinicians’ beliefs regarding the effectiveness of lung cancer screening, and this area is worthy of additional research as lung cancer screening rolls out nationally. Finally, about one-third of the clinicians responded to our question about priority areas for implementation and we do not know if the other clinicians shared these priorities.

Conclusion

Primary care clinicians are generally receptive to referring eligible patients for screening, but they have practical needs related to establishing structured programs in their settings that must be addressed before screening is implemented on a broad scale.

Conflict of interest

The authors declare that there are no conflicts of interest.
ClinicalTrials.gov registration: NCT02292485

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