Perceptions and Practices of LDCT Lung Cancer Screening

JAN MARIE EBERTH, PHD
ASSOCIATE PROFESSOR OF EPIDEMIOLOGY
DIRECTOR, RURAL AND MINORITY HEALTH RESEARCH CENTER
UNIVERSITY OF SOUTH CAROLINA

DECEMBER 11, 2018
Primary care providers (PCPs) play an essential role in educating and helping patients make an informed decision about LDCT screening.

- Medicare requires a shared decision-making visit with a qualified provider before screening.

PCPs are already engaged in tobacco cessation counseling, a key element of shared decision making for LDCT screening, although the regularity and quality of such discussions is suboptimal.

Background

  - Results showed that most providers were unsure of the effectiveness of lung cancer screening and what type of test to recommend.
  - Survey conducted prior to the release of the NLST results.

How is LDCT screening perceived among primary care physicians (PCPs) post-NLST?

Knowledge of, Attitudes Toward, and Use of Low-Dose Computed Tomography for Lung Cancer Screening Among Family Physicians

Jennifer L. Ersek, MSPH12; Jan M. Eberth, PhD, MSPH1,5; Karen Kane McDonnell, PhD, RN, OCNS; Scott M. Strayer, MD, MPH2; Erica Sercy, MSPH3; Kathleen B. Cartmell, PhD, MPH5, and Daniela B. Friedman, PhD3,7

BACKGROUND: The results of the National Lung Screening Trial showed a 20% reduction in lung cancer mortality and a 6.7% reduction in all-cause mortality when high-risk patients were screened with low-dose computed tomography (LDCT) versus chest x-ray (CXR). The US Preventive Services Task Force has issued a grade B recommendation for LDCT screening, and the Centers for Medicare and Medicaid Services and private insurers now cover the screening cost under certain conditions. The purpose of this study was to assess the knowledge of, attitudes toward, and use of LDCT screening for lung cancer among family physicians. METHODS: A 32-item questionnaire was distributed to members of the South Carolina Academy of Family Physicians in 2015. Descriptive statistics were calculated. RESULTS: There were 101 respondents, and most had incorrect knowledge about which organizations recommended screening. Many physicians continued to recommend CXR for lung cancer screening. Most felt that LDCT screening increased the odds of detecting disease at earlier stages (98%) and that the benefits outweighed the harms (75%). Concerns included unnecessary procedures (88%), stress/anxiety (52%), and radiation exposure (50%). Most physicians discussed the risks/benefits of screening with their patients in some capacity (76%); however, more than 50% reported making 1 or no screening recommendations in the past year. CONCLUSIONS: Most family physicians report discussing LDCT with patients at high risk for lung cancer; however, referrals remain low. There are gaps in physician knowledge about screening guidelines and reimbursement, and this indicates a need for further educational outreach. The development of decision aids may facilitate shared decision-making discussions about screening, and targeted interventions may improve knowledge gaps. Cancer 2016;000:000-000. © 2016 American Cancer Society.

KEYWORDS: adult, early detection of cancer, lung neoplasms, mass screening, Medicare.

Survey was disseminated to family physicians affiliated with the SC chapter of the AAFP in 2015 (n = 101 completed; 8% response rate)

Survey Results

- In the past year, 47% of FPs referred 0 patients for LDCT screening.
- Most physicians (59%) never or infrequently discuss LDCT screening risks and benefits with high-risk patients.
- 36% of FPs knew that LDCT screening should be performed annually (31% = every 2 years, 31%, every 3 years).
- 41% felt they did not have the time needed to stay abreast of current screening guidelines.
South Carolina FP’s recommended screening strategies for a several patient scenarios

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Description</th>
<th>No Screening No. (%)</th>
<th>Chest X-Ray No. (%)</th>
<th>Low-Dose CT No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50 year old non-smoker with 30 years of secondhand smoke exposure from spouse</td>
<td>66 (78)</td>
<td>12 (14)</td>
<td>7 (8)</td>
</tr>
<tr>
<td>2</td>
<td>50 year old current smoker with 20 pack-year smoking history and family history of lung cancer</td>
<td>20 (24)</td>
<td>11 (13)</td>
<td>54 (64)</td>
</tr>
<tr>
<td>3</td>
<td>60 year old current smoker with 30 pack-year smoking history</td>
<td>10 (12)</td>
<td>8 (9)</td>
<td>67 (79)</td>
</tr>
<tr>
<td>4</td>
<td>70 year old former smoker with 30 pack-year smoking history and quit smoking 20 years ago</td>
<td>44 (52)</td>
<td>15 (18)</td>
<td>26 (31)</td>
</tr>
</tbody>
</table>

For vignette #2, recommendation of an LDCT screening is appropriate per National Comprehensive Cancer Network guidelines.
Perceptions of Benefits & Risks of Screening

- **Benefit: Reduces lung cancer mortality**
  - Percentage: 41

- **Benefit: Increases the chances of finding lung cancer at an earlier stage**
  - Percentage: 98

- **Risk: Positive screening results rarely result in a lung cancer diagnosis**
  - Percentage: 24

- **Risk: Psychological stress or anxiety for the patient**
  - Percentage: 52

- **Risk: May lead to unnecessary diagnostic procedures**
  - Percentage: 88
Surveys were mailed out in Fall 2016 to 2500 randomly selected PCPs from the AMA Physician Masterfile (n=293 eligible physicians returned surveys; 13% response rate)
A similar survey mailed to primary care NPs in Fall 2016 to 5,000 licensed NPs (n = 380; 8% response rate)

## Survey Results

### Providers’ recommended screening strategies for several patient scenarios

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Description</th>
<th>Physicians</th>
<th>Nurse Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Physicians</td>
<td>Nurse Practitioners</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Screening</td>
<td>Chest X-Ray</td>
</tr>
<tr>
<td>1</td>
<td>50-year-old non-smoker with 30 years of secondhand smoke exposure from spouse</td>
<td>196 (67)</td>
<td>52 (19)</td>
</tr>
<tr>
<td>2</td>
<td>50-year-old current smoker with 20 pack-year smoking history and family history of lung cancer</td>
<td>105 (37)</td>
<td>44 (17)</td>
</tr>
<tr>
<td>3</td>
<td>60-year-old current smoker with 30 pack-year smoking history</td>
<td>23 (8)</td>
<td>36 (11)</td>
</tr>
<tr>
<td>4</td>
<td>70-year-old former smoker with 30 pack-year smoking history and quit smoking 20 years ago</td>
<td>144 (52)</td>
<td>48 (16)</td>
</tr>
</tbody>
</table>

For vignette #2, recommendation of an LDCT screening is appropriate per NCCN guidelines.
Perceived barriers to LDCT screening

- Prior authorization requirements: 57 Physicians, 34 Nurse Practitioners
- Lack of insurance coverage: 53 Physicians, 11 Nurse Practitioners
- Transportation/financial challenges: 22 Physicians, 3 Nurse Practitioners
- Uncertain how to document eligibility: 15 Physicians, 2 Nurse Practitioners
Survey Results

Percent “likely or very likely” to engage in SDM for LDCT screening with patient if discussion time took....

<table>
<thead>
<tr>
<th>Time Range</th>
<th>Physicians</th>
<th>Nurse Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3 mins</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>3 to 5 mins</td>
<td>81%</td>
<td>86%</td>
</tr>
<tr>
<td>6 to 8 mins</td>
<td>46%</td>
<td>58%</td>
</tr>
<tr>
<td>&gt; 8 mins</td>
<td>31%</td>
<td>37%</td>
</tr>
</tbody>
</table>
Conclusions

- Referrals for LDCT screening remain low.
- About 80% of physicians (68% NPs) would recommend LDCT screening for USPSTF-eligible patient.
  - 10-20% of PCPs and 30-50% of NPs still would recommend chest x-ray.
- Given time constraints and competing priorities, staying abreast with screening guidelines and implementing SDM are challenging for providers.
- SDM discussions should be very brief to encourage provider participation.
Clinical practice and policy changes are needed to encourage SDM discussion and increase referrals.

- Increase the CMS SDM reimbursement rate
- Changes to EHR systems to include full eligibility criteria and flag eligible patients
- Making referral process seamless for patients
- Team based approaches to SDM implementation

https://www.aafp.org/news/opinion/20161019guidelinesed.html
Thank you!

**Contact Information**
- jmeberth@mailbox.sc.edu
- 803-576-5770
- @JMEBERTH

**Funding**
- South Carolina Cancer Alliance
- American Cancer Society
- USC College of Nursing

**Acknowledgements**
- Scott Strayer, MD, MPH
- Karen McDonnell, PhD, RN, OCN
- Amy Dievendorf, DNP, APRN
- Reginald Munden, MD
- Jennifer Ersek, PhD
- Kathleen Cartmell, PhD, MPH
- Daniela Friedman, PhD
- Robin Estrada, PhD, RN
- Sally Vernon, PhD
- James Hardin, PhD
- Student and Research Staff (Sercy, Blew, Warden, Khan)