Opportunities for Lung Cancer Screening Outreach among underserved populations

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Disclosures

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  • NCI Research Diversity Supplement
LCS eligible Hispanic patient asks: “How do you just go about asking a doctor to get a lung screen?”
LUNG CANCER STATISTICS

Estimated 2018 statistics:

- Lung and Bronchus: 154,050
- Female Breast: 41,400
- Pancreas: 44,330
- Colon and Rectum: 50,630

Estimated 2021 statistics:

- 235,760 new cases
- 131,880 deaths cancer


https://www.cancer.org/cancer/lung-cancer/about/key-statistics.html
CANCER MORTALITY RATES BY COUNTY-LEVEL POVERTY, UNITED STATES, 1970-2016

Lung Cancer Disparities

Societal Factors
- Stage at presentation
- Insurance status
- Belief systems
- Socioeconomic status
- Access to, and use of, care
- Health literacy

Environmental Factors
- BMI
- Alcohol
- Radon
- Pollution
- Geographic location

Biology
- Genetics & metabolism
- Transcriptomics
- Biomarkers

Smoking
- Dose
- Duration
- Cessation
- Menthol
- Genetics & metabolism

Early Detection
- Screening eligibility
- Screening uptake
- Biomarkers
BENEFITS OF LUNG CANCER SCREENING

• Early lung cancer detection with annual screening
• Multiple clinical trials have proven 20% or more mortality reduction\textsuperscript{1,2,3}
• Covered by Medicare and private insurance

2018 BRFSS: LUNG CANCER SCREENING
ELIGIBILITY & UTILIZATION

State Included in Survey

<table>
<thead>
<tr>
<th></th>
<th>DE</th>
<th>ME</th>
<th>MD</th>
<th>NJ</th>
<th>OK</th>
<th>SD</th>
<th>TX</th>
<th>WV</th>
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</thead>
<tbody>
<tr>
<td>ELIGIBILITY</td>
<td>10.4%</td>
<td>12.8%</td>
<td>9.0%</td>
<td>10.0%</td>
<td>15.1%</td>
<td>10.8%</td>
<td>8.2%</td>
<td>17.9%</td>
</tr>
<tr>
<td>UTILIZATION</td>
<td>18.0%</td>
<td>7.1%</td>
<td>10.6%</td>
<td>17.9%</td>
<td>10.5%</td>
<td>12.5%</td>
<td>28.5%</td>
<td>11.6%</td>
</tr>
</tbody>
</table>

LUNG CANCER SCREENING BARRIERS

Wang GX, et al. Radiology, 2019

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EVALUATION OF LCS WEBSITE READABILITY

Median reading level: 10th grade

AMA recommendation: 6th grade

Average cost = $583 ± $607
Range: $49-$2409

ANALYSIS OF OUT-OF-POCKET LCS COST

Range: $49-$2409

Little BP, et al. JAMA Netw Open, 2020
Febbo J, et al. JACR, 2020
Lung Cancer Screening
Health Literacy Challenges
- Lack of awareness & cost concerns
- Limited English Proficiency
- Scheduling Conflicts
- Social Stigma

BARRIERS TO LCS
Your ZIP Code shouldn’t predict *how long you’ll live*, but it does.
OUTREACH OPPORTUNITIES
Radiology Race, Equity, Access & Community Health ($R^2EACH$) Care Delivery Transformation Initiative
OVERCOMING LANGUAGE BARRIERS: LCS Outreach for Latinos

**English**

**LUNG CANCER SCREENING ARE YOU ELIGIBLE?**

<table>
<thead>
<tr>
<th>AGE?</th>
<th>SMOKE?</th>
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</thead>
<tbody>
<tr>
<td>YOU ARE 55-80 YEARS OLD</td>
<td>YOU CURRENTLY SMOKE OR HAVE QUIT IN THE PAST 15 YEARS</td>
</tr>
</tbody>
</table>

**CALCULATE YOUR PACK YEARS**

NUMBER OF PACKS OF CIGARETTES SMOKED PER DAY × NUMBER OF YEARS YOU SMOKED = YOU HAVE A PACK YEAR OR GREATER HISTORY OF SMOKING

**DID YOU ANSWER YES OR ARE YOU UNSURE?**

TALK TO YOUR DOCTOR ABOUT YOUR RISK FOR LUNG CANCER AND IF LUNG SCREENING IS RIGHT FOR YOU

**EARLY DETECTION SAVES LIVES**

A 15-MINUTE EXAM COULD SAVE YOUR LIFE — THE BEST WAY TO REDUCE YOUR RISK OF LUNG CANCER IS TO STOP SMOKING

**Spanish**

**EXÁMENES DE DETECCIÓN DE CÁNCER DE PULMÓN ¿ES USTED CANDIDATO?**

<table>
<thead>
<tr>
<th>¿SU EDAD?</th>
<th>¿FUMA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTÁ ENTRE LOS 55 a 80 AÑOS</td>
<td>NO FUMA ACTUALMENTE O DEJÓ DE FUMAR EN LOS ÚLTIMOS 15 AÑOS</td>
</tr>
</tbody>
</table>

**CALCULE SU ÍNDICE TABÁQUICO**

NÚMERO DE CAJETILLAS DE CIGARETAS QUE FUMÓ EN UN DÍA × NÚMERO DE AÑOS QUE FUMÓ = TIENE UN ÍNDICE TABÁQUICO DE 30 O MÁS EN SU ANTECEDENTE COMO FUMADOR

**¿RESPONDIO SÍ O NO ESTÁ SEGURO?**

CONVERSE CON SU MÉDICO SOBRE SU RIESGO DE PADECER CÁNCER DE PULMÓN Y SI LAS PRUEBAS DETECCIÓN SON APROPIADAS PARA UD.

**LA DETECCIÓN TEMPRANA SALVA VIDAS**

UN EXAMEN DE 15 MINUTOS PUEDE SALVARLE LA VIDA — LA MEJOR MÁNERA DE REDUCIR EL RIESGO DE CÁNCER DE PULMÓN ES DEJAR DE FUMAR

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OVERCOMING LACK OF AWARENESS: Digital Awareness Campaigns (DAC)

- DAC using Social media and search engine optimization
  - Providers: Twitter & LinkedIn
  - Patients: Facebook & Google

- 20-week DAC to assess:
  - Visits to institutional LCS web pages
  - LCS ordered pre & post implementation

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OVERCOMING SCHEDULING CONFLICTS

SAME-DAY LCS

CT PILOT PROGRAM FOR VULNERABLE PATIENTS

The pilot program goal is to decrease barriers to lung cancer screening in vulnerable patients seen by Boston Health Care for the Homeless Program at MGH and by the MGH Chelsea Community HealthCare Center.

Stop. Screen. Breathe.

Eligible patients will be offered the option to undergo Lung cancer screening CT on the same day as their clinic visit, without the need for a prior radiology appointment. This may help increase the likelihood that these patients undergo screening.

Details for patients to undergo same-day screening:

• Currently only available for the MGH Healthcare for Homeless Program and the MGH Chelsea Community HealthCare Center.
• 1,907 responders (89%)
• 11% currently smoking & 29% formerly smoke
• 26% requested referrals to smoking cessation
• Only 30% of eligible patients had LCS
The New York Times

The Largest Health Disparity We Don’t Talk About

Americans with serious mental illnesses die 15 to 30 years earlier than those without.
• Tailored LCS education intervention
• Intervention was feasible and acceptable
• Post-intervention survey showed significantly increased concern about developing lung cancer
ADAPTED LCS EDUCATIONAL MATERIAL

Original Video

No information about safely storing belongings

VS

Final Video

Shows that patient’s belongings will be kept secure
THE ROAD AHEAD
## LCS REVISED GUIDELINES

### U.S. Preventive Services Task Force

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Adults ages 50 to 80 years who have a 20 pack-year smoking history, currently smoke, or have quit within the past 15 years</td>
<td>The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults ages 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.</td>
<td>B</td>
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**INTENTIONAL OUTREACH FOR VULNERABLE POPULATIONS IS STILL NECESSARY**

LCS Interventions

Promoters of LCS Awareness
- Increasing accessibility of LCS information

Promoters of LCS Opportunities
- Importance of providing accurate smoking history

Promoters of LCS Participation
- Interest to participate in shared decision making for LCS

Level of Influence

Patient
- Disseminating new LCS USPSTF guidelines

Provider
- Improving updated smoking history documentation
- Increase LCS enrollment among newly eligible patients

Systems
- Tailoring LCS education for a Latino population
- Increasing EHR identification of eligible patients
- Updating population health dashboard alerts of eligible patients

Outcome

Increased LCS Opportunities

Increased LCS Awareness

Increased LCS Participation

Increased LCS uptake among Latinos
Opportunities for Lung Cancer Screening Outreach among underserved populations

Questions?
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