National Lung Cancer Roundtable
Shared Decision-Making Task Group Plenary Session
Overview of Shared Decision Making

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The statements presented in this work are solely the responsibility of the author and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute (PCORI), its Board of Governors or Methodology Committee. The author declares he has no conflicts of interest.
“…clinicians…should initiate a discussion about screening with apparently healthy patients aged 55 years to 74 years who have at least a 30-pack-year smoking history and who currently smoke or have quit within the past 15 years. A process of informed and shared decision-making with a clinician related to the potential benefits, limitations, and harms associated with screening for lung cancer with low-dose computed tomography should occur before any decision is make to initiate screening.”

(emphasis added)
Current lung cancer screening policy in the US

United States Preventive Services Task Force
The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT):
• aged 55 to 80 years
• 30+ pack-year smoking history
• currently smoke or have quit within the past 15 years.
Screening should be discontinued:
• not smoked for 15 years, or
• develops a health problem that substantially limits life expectancy, or
• not able or willing to have curative lung surgery.

Released December, 2013.

Centers for Medicare & Medicaid Services
The evidence is sufficient to add lung cancer screening counseling and shared decision making visit, and for appropriate beneficiaries, annual screening for lung cancer with low-dose computed tomography (LDCT) as an additional preventive service benefit under the Medicare program.

February 5, 2015.

First preventive service policy in US to require shared decision making and the use of patient decision aids!
Why shared decision making matters

Increasing emphasis on patients as partners in their care

Patients want to be involved in their care (information vs “final say” authority)

Better short-term outcomes (cognitive/ affective)

Potential to impact long-term patient outcomes

Solution to low value care
  • Potential to decrease practice variation
  • Potential to decrease costs

Greater legal protection when certified patient decision aids are used (“informed consent squared”)

A better process!

It’s the right thing to do!
Shared Decision Making, defined

Shared decision making (SDM) is a collaborative process that allows patients and their health care providers to make health care decisions together, taking into account the best scientific evidence available, as well as the patient’s values and preferences.

SDM honors both the provider’s expert knowledge and the patient’s right to be fully informed of all care options and the potential harms and benefits. This process provides patients with the support they need to make the best individualized care decisions, while allowing providers to feel confident in the care they prescribe.
Cochrane Database of Systematic Reviews

Decision aids for people facing health treatment or screening decisions

- Added 18 RCTs, and dropped 28 that compared simple vs complex aids.
- 31,043 subjects
- 10 countries
- Screening RCTs:
  - Prostate (14)
  - CRC (10)
  - Breast ca gen testing (4)

Cochrane Database of Systematic Reviews
Decision aids for people facing health treatment or screening decisions

Compared to usual care, decision aids...

- Greater knowledge (High)
- More accurate perception of outcome probabilities (Moderate)
- Greater congruence between choice and values (Low)
- Feeling more informed (High)
- Feeling clear about values (High)
- Greater participation in decision making (moderate)
- Increase consultation length by 2.6 minutes
- No impact on anxiety, health outcomes, or adverse events
- Variable impact on choice

Impact of cancer screening decision aids on patient choice

Cancer screening aid | Impact on screening behavior compared to usual care
---|---
Prostate cancer screening | Reduction 12%
Colorectal cancer screening | Increase 30%
Lung cancer screening | Unknown (probably increase)
Breast cancer screening ("younger" women, "older" women) | Unknown
Other cancer screening | Unknown
# Recommendations about SDM for lung cancer screening address the content of discussions

<table>
<thead>
<tr>
<th><strong>USPSTF</strong>*</th>
<th><strong>NCCN</strong></th>
<th><strong>CMS</strong></th>
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<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td><strong>Benefits</strong></td>
<td><strong>Benefits</strong></td>
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<tr>
<td>↓ lung cancer mortality</td>
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<tr>
<td><strong>Harms</strong></td>
<td><strong>Harms</strong></td>
<td><strong>Harms</strong></td>
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<tr>
<td>False positives</td>
<td>False negatives</td>
<td>False positives</td>
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<tr>
<td>Invasive procedures</td>
<td>Limited impact on mortality</td>
<td>Follow-up diagnostic testing</td>
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<tr>
<td>Overdiagnosis</td>
<td>False positives</td>
<td>Overdiagnosis</td>
</tr>
<tr>
<td>Radiation exposure (cumulative)</td>
<td></td>
<td>Total radiation exposure</td>
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</tbody>
</table>

*USPSTF: United States Preventive Services Task Force

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**Decision scientists are really good at translating knowledge.**

**Implementation of SDM is the key.**
Shouldiscreen.com

The chance of you developing lung cancer in the next 6 years is 5.5%. Talk to your doctor about the option to screen or not to screen as s/he will understand your situation best.

Incidence: tailored
Benefits: tailored
Harms: not tailored

Compared to other people like you, there will be 10 fewer deaths out of 1000 in the next 6 years if you get screened.

NOT SCREENED
- 54 deaths from lung cancer

SCREENED
- 44 deaths from lung cancer
- 10 fewer lung cancer deaths due to screening

BENEFITS
- 10 in 1000 fewer people like you will die from lung cancer among those who were screened compared to those who were not screened.

HARMS
- 365 in 1000 people who were screened found a lung nodule that was not cancer.
- 18 in 1000 had an invasive procedure, such as biopsy or surgery, due to a lung nodule that was not cancer.
- 3 in 1000 had a major complication from invasive procedures.

Of the lung cancers found by screening, about 1 in 10 would have never harmed you (overdiagnosis). This may lead to unnecessary treatment and complications.
Lung Cancer Screening: Is it right for me?

1 pack a day for 30 years
or both = 30 pack-years
2 packs a day for 15 years

1000 Smokers ARE Screened every year for 3 years:
- 35% will not have lung cancer (false alaram)
- 2% of the 100 will need a test
- 7% will have lung cancer
- 2% of the 350 people will have lung cancer

Same 1000 Smokers (55 to 74 years of age)
WERE Screened every year for 3 years

18 would die from lung cancer (within 6 1/2 years)
3 fewer smokers would die from lung cancer

Benefits
- Reducing the chance of dying from lung cancer
- Finding other health problems that might be treated earlier

Harms
- Exposure to radiation
- False alarms and extra tests
- Being treated for a cancer that might never cause harm

Sources of Radiation
- NY to LA FLIGHT
- CHEST X-RAY
- MAMMOGRAM
- LOW DOSE CT-SCANS
- LIVING IN THE US

- Radiation Level (milliSieverts)
  - 0.05
  - 0.09
  - 0.45
  - 1.50
  - 2.00
How do we promote the use of SDM for lung cancer screening?

Barriers to implementing SDM

1. Overworked physicians
2. Insufficient provider training
3. Inadequate clinical information systems

Friedberg, Health Affairs, 2013.
How do we promote the use of SDM for lung cancer screening?

Barriers to implementing SDM
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Facilitators of implementing SDM
1. Automatic triggers
2. Engaging non-physician providers

Friedberg, Health Affairs, 2013.
Implementation Tools for Clinicians

Eligibility Criteria for Lung Cancer Screening

<table>
<thead>
<tr>
<th>Criteria according to</th>
<th>USPSTF</th>
<th>CMS*</th>
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<tr>
<td>Relevant group</td>
<td>Persons with private health insurance</td>
<td>Medicare beneficiaries</td>
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<tr>
<td>Age (years)</td>
<td>55–80</td>
<td>55–77</td>
</tr>
<tr>
<td>Smoking status</td>
<td>Current or former* smoker</td>
<td></td>
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<tr>
<td>Smoking history</td>
<td>30 pack-years*</td>
<td></td>
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<tr>
<td>Lung cancer signs</td>
<td>Asymptomatic (no signs of lung cancer)</td>
<td></td>
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<tr>
<td>Screening frequency</td>
<td>Yearly</td>
<td></td>
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<tr>
<td>When to stop screening</td>
<td>The patient exceeds upper age criterion, has not smoked for more than 15 years, and/or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative surgery</td>
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*CMS = Centers for Medicare & Medicaid Services; USPSTF = U.S. Preventive Services Task Force

SUMMARY OF THE EVIDENCE FROM THE NATIONAL LUNG SCREENING TRIAL*

Benefits: How did LDCT scans compare with chest x-rays in reducing deaths from lung cancer per 1,000 people screened?

<table>
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<tr>
<th></th>
<th>LDCT</th>
<th>Chest x-ray</th>
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<tbody>
<tr>
<td>Deaths from lung cancer over 6.5-year followup period</td>
<td>18 in 1,000</td>
<td>21 in 1,000</td>
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<tr>
<td>Deaths from all causes over 6.5-year followup period</td>
<td>70 in 1,000</td>
<td>75 in 1,000</td>
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*About the NIST, more than 50,000 smokers participated; participants had up to three annual screenings; average followup was 6.5 years.

Harms: What are the harms of screening for lung cancer with LDCT?

- Positive (abnormal) results: 380 of 1,000 people screened
- False positives (“false alarms”): 356 (about 94%)
- Invasive diagnostic procedures: 18 of 1,000 people screened
- Major complications from invasive diagnostic procedures (e.g., infection, bleeding in lung, collapsed lung): 0.4 of 1,000 people screened
- Overdiagnosis (diagnosed lung cancer that never would have progressed to cause the patient harm): Estimated at 10-20 percent of lung cancer cases diagnosed with LDCT

Comparing sources of radiation exposure with a single LDCT scan:
- Air travel, 10 hours: 0.04 mSv
- Chest x-ray: 0.1 mSv
- Screening mammogram: 0.4 mSv
- LDCT scan: 1.4 mSv
- Average background radiation in the United States (1 year): 3.0–5.0 mSv
- Diagnostic CT: 7.0 mSv

mSv = millisievert, a measure of the amount of radiation absorbed by the body.

To locate accredited imaging facilities go to www.cms.gov/Medicare/Medicare-General-Information/MedicareApprovedFacilitie/Lung-Cancer-ScreeningRegistries.html.

Follows CMS eligibility criteria

A Clinician’s Checklist

Implementation Tools: Decision Aids for Patients

Communicating benefits and harms
• Lung cancer–specific mortality benefit
• Overall mortality benefit
• “False alarms”
• Invasive producers, and major complications

Design features – icon arrays
• Visual depiction
• Common denominator (1000)
• Clear timeframe
• Accompanying text to reinforce visual display

How can we promote the use of SDM in lung cancer screening?

New/better tools

Populations of greatest need:
• Low literacy/numeracy tools

Clinician training

Alternative delivery models
SDM Task Group Breakout Session: Opportunities for intervention/influence

• Create tools to aid patients and providers. Develop model informed/shared decision-making materials and content to overcome current shortcomings.

• Provide feedback to CMS to assist in verifying that a quality visit is taking place.

• Advise on strategic priorities, program direction, and scientific policy that results in the ability to empower the decision-making process for patients and providers.