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# Vermonters' Opinions on Low-Dose CT Lung Cancer Screening

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## Introduction

Lung cancer is the number one cause of cancer death among men and women in Vermont and the United States.

Smoking increases the risk of lung cancer—nearly 90% of lung cancer is due to smoking.

Frequently, lung cancers do not present clinically until they are advanced stage and therefore prognosis is poor. However, if detected early lung cancers are more operable and patients have better outcomes.

In December 2013 the US Preventive Services Task Force released new guidelines for lung cancer screening among current and former smokers ages 55 to 80. It is recommended that current and former (within 15 years of quitting) smokers of 30 pack years receive an annual low-dose CT scan.

The objective of this project was to assess the level of knowledge and attitudes towards lung cancer screening with low-dose CT scanning among Vermonters in the Burlington area.

## Materials and Methods

### Population

Vermont non-smokers, smokers and former smokers.

### Focus Group

Six questions discussing opinions and knowledge about the test conducted at Winooski Housing Authority with four community members.

### Survey

Thirty-three questions addressing demographics, smoking status, motivation to quit, barriers to screening, attitudes and knowledge of the screening test.

The survey was distributed to primary care offices in the Burlington area, the pulmonary rehabilitation clinic, and mailed to members of the Better Breathers Club.

### Data Analysis

Mann-Whitney U test ( $\alpha=0.05$ ; GraphPad Prism 6.0).

## Results

**Table 1. Demographics and Beliefs**

Characteristic	Never Smokers N=22	Current Smokers N=19	Former Smokers N=46	All subjects N=87
Gender (%M)	40%	42%	42%	41%
Education beyond high school	73%	55%	77%	72%
Employed	32%	52%	27%	41%
Have health insurance	91%	95%	96%	93%
Income (% <50k)	45%	68% ‡	42%	47%
Very good or excellent health	82%	58%	48% *	51%
Do you think you're at risk for lung cancer? (% yes)	14%	73% †	48% *	45%
Told by doctor to be at high risk for lung cancer? (% yes)	4.5%	74% †‡	45% *	39%
Would consider surgery if tumor found? (% yes)	95%	89%	77% *	85%
Pack-years (average)	-	26.6 †‡	19.4 *	19.5

**Table 2. Barriers to Screening**

Based on a scale of 1 to 10, 1 = least important as a barrier, 10 = most important as a barrier:

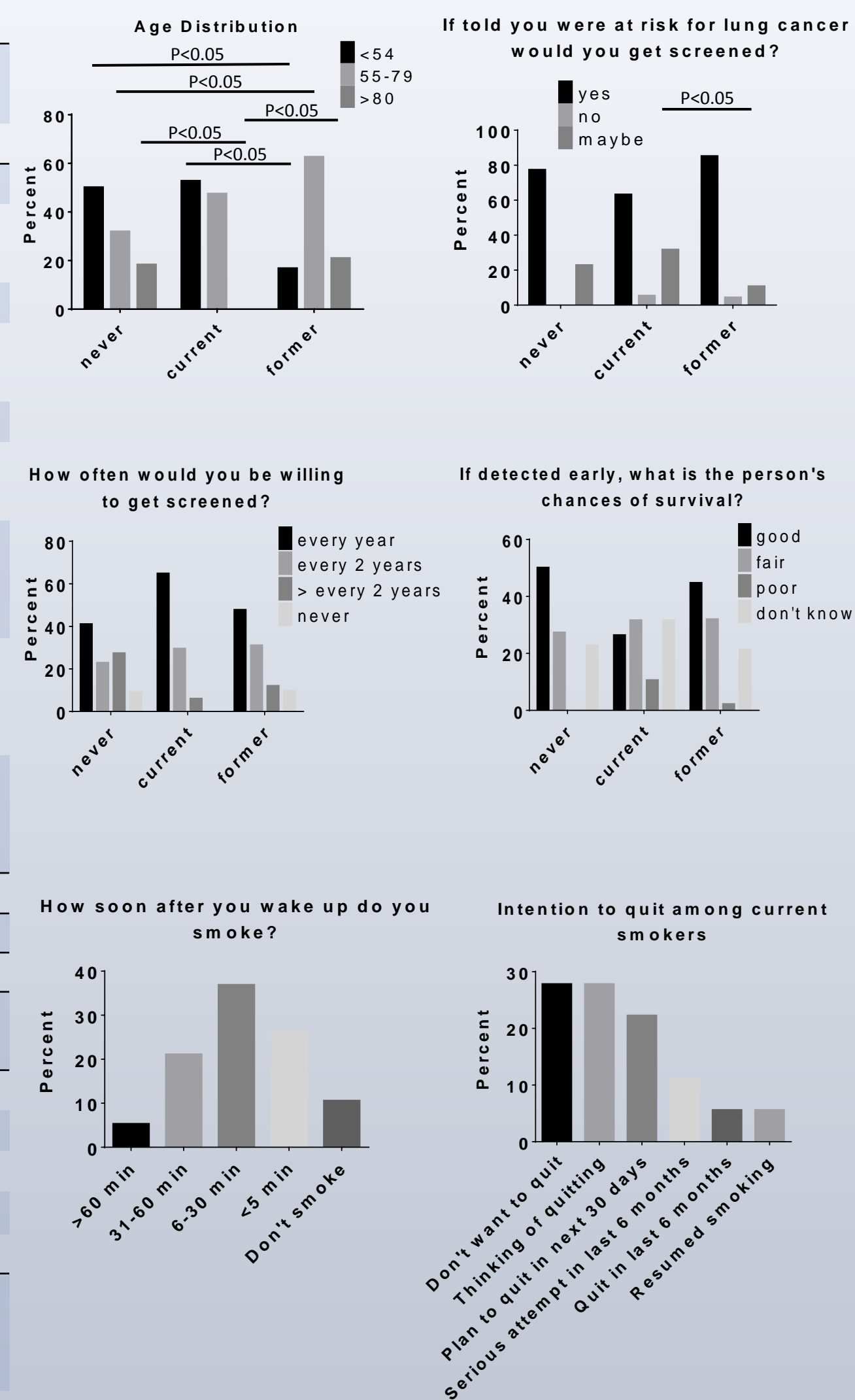
Barrier	Never Smokers	Current Smokers	Former Smokers	All
Cost	5.8	7.1	6.2	6.3
Convenience	5.3	5.7	5.8	5.7
False positive result	7.2	6.4	7.4	7.1
Radiation exposure	7.1	7.6	8.2	7.8

Other: transportation, missing work

\* p<0.05 between never smokers and former smokers

† p<0.05 between never smokers and current smokers

‡ p<0.05 between former smokers and current smokers



### Focus Group Findings:

Fatalism, fear, and unfamiliarity associated with lung cancer and significance of early detection.

"If you're going to get [lung cancer] you're going to get it."

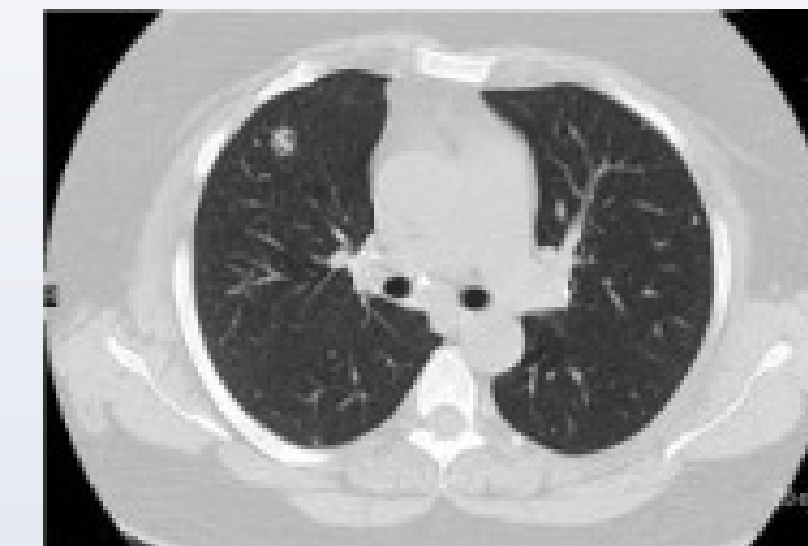
"I look at it this way: If you know you have really bad lung cancer why would you go on to have surgery on it?"

"I'm afraid to know what I've got."

"Whatever the good Lord gives me for time, that's it."

"My [niece] had liver and lung cancer in her 30s and never smoked. When people say lung cancer is caused by smoking I agree and disagree."

"If my doctor told me to go for [the screening test] I would do it."



Representative image of a lung mass on CT.

## Conclusions

The top three barriers to getting a CT scan include transportation, missing work, and cost.

There is a lack of understanding about staging of cancers and cure rates when detected early. Patients' knowledge about lung cancer may be shaped by stories and personal experiences more than facts.

Most participants would consider getting the screening test if recommended by a doctor despite false positives and radiation exposure.

When implementing the low-dose CT lung cancer screening guidelines, more education about staging of cancer and the importance of detecting lung cancer early is needed. Health care providers should play a more active role in counseling patients about smoking cessation and lung cancer because it is shown that doctors influence their patients' decisions about care.

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