

Background

- Lung cancer has the highest mortality relative to other cancer types¹.
- Imperative to increase **smoking cessation** efforts and **lung cancer screening (LCS)** awareness, as LCS reduces lung cancer mortality by about 20%².
- Challenges with limited communication on LCS³ and smoking cessation (hesitancy to discuss, underuse of supportive resources)⁴ exist.
- Lack of awareness and educational efforts about LCS contributes towards severe underutilization and low adherence to LCS^{5,6}.

Goals

- To **improve patient attitudes** towards adherence to lung cancer screening and smoking cessation by facilitating patient-centered radiology interventions.
- To **promote greater discussion** and **patient education** on **low-dose computed tomography (LDCT)** for LCS and smoking cessation, thereby reducing patients' anxiety/uncertainty surrounding imaging results/screening.

Intervention Design

- Patients scheduled for LDCT LCS appointments were consented and brought to the radiology reading room following their CT imaging. Pre-survey conducted.
- Next, the **intervention, a 10-minute consultation between patient and radiologist to view/explain the patient's own imaging results from LCS** [examples in **Figures 1 and 2**], was conducted. Followed by post-survey.
- Patient attitudes were evaluated before and after the intervention on the following areas with scaled pre- and post-surveys. Pre-survey was scaled from 1=Strongly Disagree to 7=Strongly Agree, with 4=Neutral, and post-survey was scaled from 1=Much Less to 5=Much More, with 3=Same/Neutral.
 - Q1: Patient Interest to view LCS imaging with Radiologist.
 - Q2: Patient-reported Awareness of LCS logistics (frequency, criteria, etc.)
 - Q3: Patient Commitment to work towards quitting smoking.
 - Q4: Interest in accessing smoking cessation resources.
- The sample size was n=38 patients (18 former smokers, 20 current smokers).
 - Q1 and Q2 were asked to both former and current smokers.
 - Q3 and Q4 were asked to current smokers only.

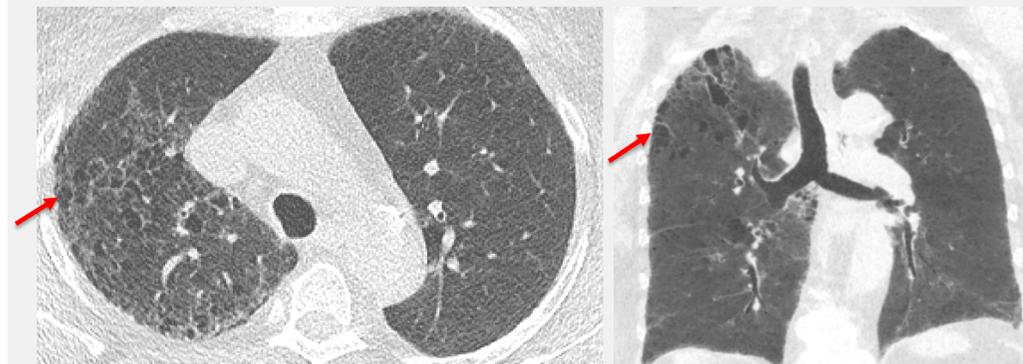


Figure 1: LDCT LCS showing emphysema in upper aspects of the lungs, Left image-transverse plane, Right image-coronal plane

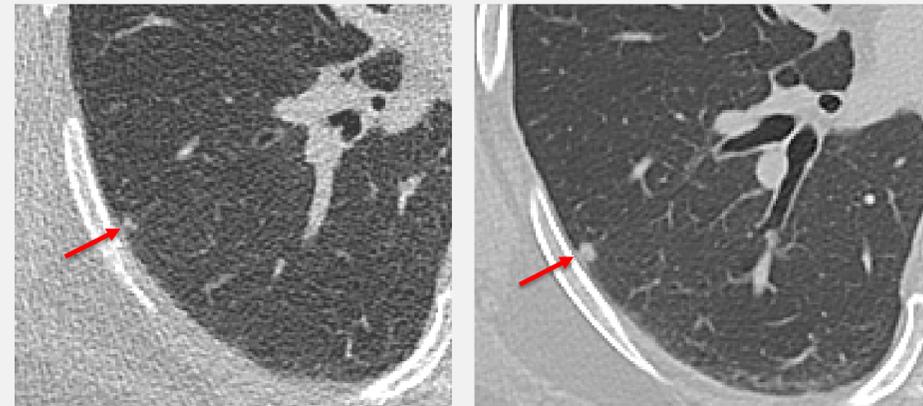


Figure 2: Left image: Very small right lower lobe (RLL) nodule; Right image: After 1 year, RLL nodule has increased in size (Lung-RADS 3: 6 month follow up)

Results

- **Sample Demographics:** Average Age: 67; Gender: 63.2% Female, 36.8% Male; Race: 86.8% Black/African American, 7.9% White, 5.3% Declined.
- **Q1:** Pre-survey: 86.8% were interested in viewing their LDCT LCS imaging with a radiologist. Post-survey: 100.0% were more (21.1%) or much more (78.9%) interested in viewing their LCS imaging with radiologist.
- **Q2:** Pre-survey: 71.1% reported awareness of LCS logistics. Post-survey: 89.5% were more or (23.7%) much more (65.8%) aware of LCS logistics.
- **Q3:** Pre-survey: 90.0% were willing to commit to work towards quitting smoking. Post-survey: 100.0% were more (25.0%) or much more (75.0%) willing to work towards this commitment.
- **Q4:** Pre-survey: 95.0% were interested in accessing smoking cessation resources. Post-survey: 90.0% were more (15.0%) or much more (75.0%) interested in these resources, with 10.0% as same/neutral.
- [see **Figures 3 and 4** for pre- and post-survey responses].

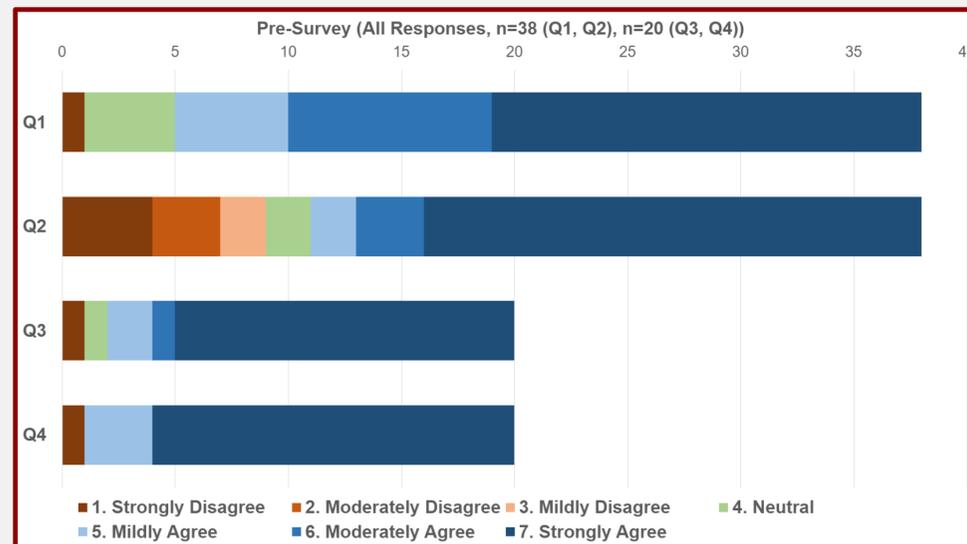


Figure 3: Pre-Survey Responses, tabulated into bar graph

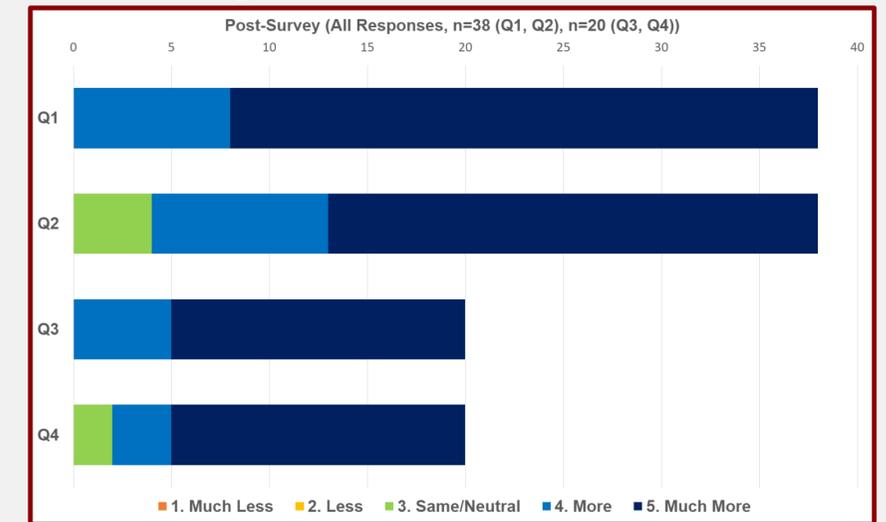


Figure 4: Post-Survey Responses, tabulated into bar graph

Conclusions

- Direct involvement of radiologists in patient-centered care through explanation of imaging studies to patients can be very impactful.
- This intervention promotes improved communication on LCS. Patients were strongly interested in these consultations on their LCS.
- An additional observation was that providing an immediate, preliminary consultation with a radiologist after a patient's LDCT can reduce patient stress and anxiety with regards to LCS results and smoking cessation.
- Utilizing LCS image-based consultation with a radiologist can be a potential novel intervention and resource for promoting smoking cessation with current smokers and improving adherence to LCS.

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