

A nationwide initiative to expand access to lung cancer screening: Results and impact of the Color/American Cancer Society Lung Screening Access Program



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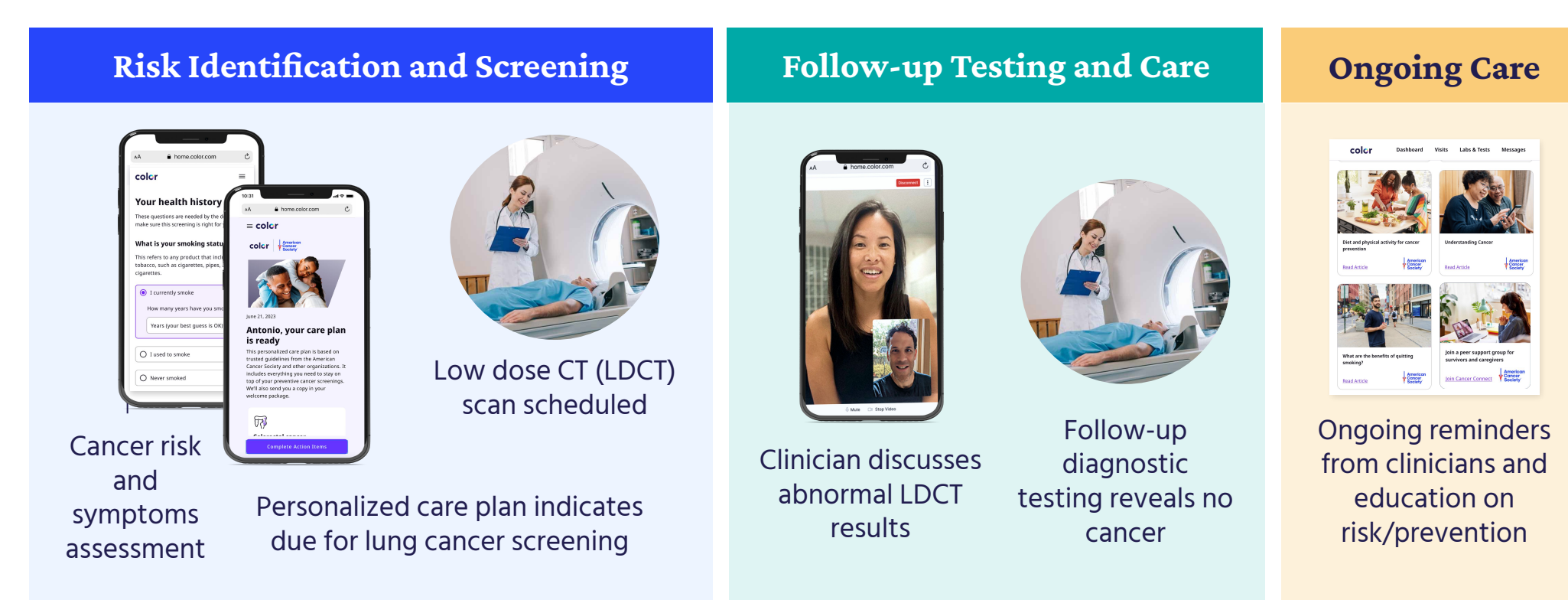
Background

Lung cancer is a leading health challenge in the United States – it is the third most common cancer and disproportionately impacts people of color. Early detection of lung cancer is possible through routine screenings using low-dose lung CT (LDCT) scans. Despite the efficacy of screening, 80-85% of people eligible for screening are not up-to-date. The underutilization of regular screening has often been attributed to gaps in primary care and insufficient support following an abnormal result.

Program overview

In an effort to improve access, Color and the American Cancer Society (ACS) launched a nationwide initiative to make lung cancer screening readily accessible and free across all 50 states based on ACS guidelines. The program simplifies the screening process by managing all logistical steps from physician orders to finding and booking appointments at local clinics to assisting with next steps if abnormalities are detected. This end-to-end process is supported by a care advocate from Color, who assists with finding, scheduling, and coordinating care.

Figure 1. The Color/ACS Lung Cancer Screening Access Program



Program eligibility

Anyone 18 years of age and older is eligible to complete the risk assessment to learn more about lung cancer screening. People who are eligible for screening (i.e., they are 50-80 years of age and have a 20-pack-year smoking history) can start finding a screening location right away with the help of the Color care team. Those who are not eligible to participate are encouraged to share information about the program with their friends and family members.

Table 1. ACS screening guidelines vs. USPSTF guidelines

	ACS Lung Cancer Screening Guideline <i>Last updated: November 2023</i>	USPSTF Lung Cancer Screening Guideline <i>Last updated: March 2021</i>
Age to stop	50 years	50 years
Age to start	80 years	80 years
Minimum pack years	20 pack years	20 pack years
Years since quit	Requirement removed in November 2023	Currently smoke or have quit within the past 15 years

Conclusions

The Color/ACS Lung Screening Access Program demonstrates the impact that a virtual lung cancer screening program has on closing screening gaps. It underscores the critical role of supporting patients not only in undergoing cancer screening, but also in navigating the complexities of follow-up care, thereby enhancing the overall efficacy of lung cancer prevention and early detection strategies.

Key learnings

- People want to know if they should get screened for lung cancer, and they are generally good at knowing when they may be eligible.
- Insurance coverage for lung cancer screening hasn't caught up with the latest screening guidelines.
- Lung CT scans can reveal unexpected, yet important, results.

Participants feedback

"I got my screening today. The facility is amazing and I highly recommended. The whole process runs smoothly. You guys are so nice and patient, leading me through the process and I thank you for that."

"All is great. Thank you. This was very helpful. I have mentioned this to many of my friends."

References

1. American Cancer Society. Cancer Facts & Figures 2024. American Cancer Society; 2024.
2. Henderson LM, et al. Prevalence of Lung Cancer Screening in the US, 2022. *JAMA Netw Open*. 2024.
3. Menakuru SR, et al. Patient perception and adherence to lung cancer screening in those who meet eligibility criteria. *J Clin Orthod*. 2023.



Questions?

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Results: Enrollment

Since the program launched in November 2023, 124 people completed the online health risk assessment (Figure 2). Participants were on average 53.9 years of age (range: 18 - 81 years), 63.7% (n=79) female, and 72.6% (n=90) White (Table 2). 28.2% (n=35) of the respondents currently smoked, 57.3% (n=71) had a former history of smoking, and average smoking history was 24.3 pack years (range: 0.1 - 110 pack years) (Table 2, Figure 4). While the program primarily supports individuals who meet ACS lung screening guidelines, all participants can speak with a clinician about screening.

About half (n=61, 49.2%) of participants who completed the health risk assessment met ACS eligibility criteria for lung screening and had not been screened for lung cancer within the past 12 months (Figure 2). Eligible participants were on average 61.2 years of age (range: 50-78 years), 65.6% (n=40) were female, and 88.5% (n=54) were White (Table 2). Eligible participants resided in 27 states, with Florida and Texas having the highest number of eligible individuals (Figure 3).

Of those who did not qualify for screening (n=63, 50.8%), 14 participants were not eligible due to their age only (< 50 years), 16 did not meet the smoking history requirement (i.e., 20-pack year smoking history), and 15 were not eligible due to their age and smoking history (Table 2). Interestingly, 18 additional participants completed the health risk assessment and reported a history of no smoking (Figure 4).

Figure 2. Flow diagram of program participation

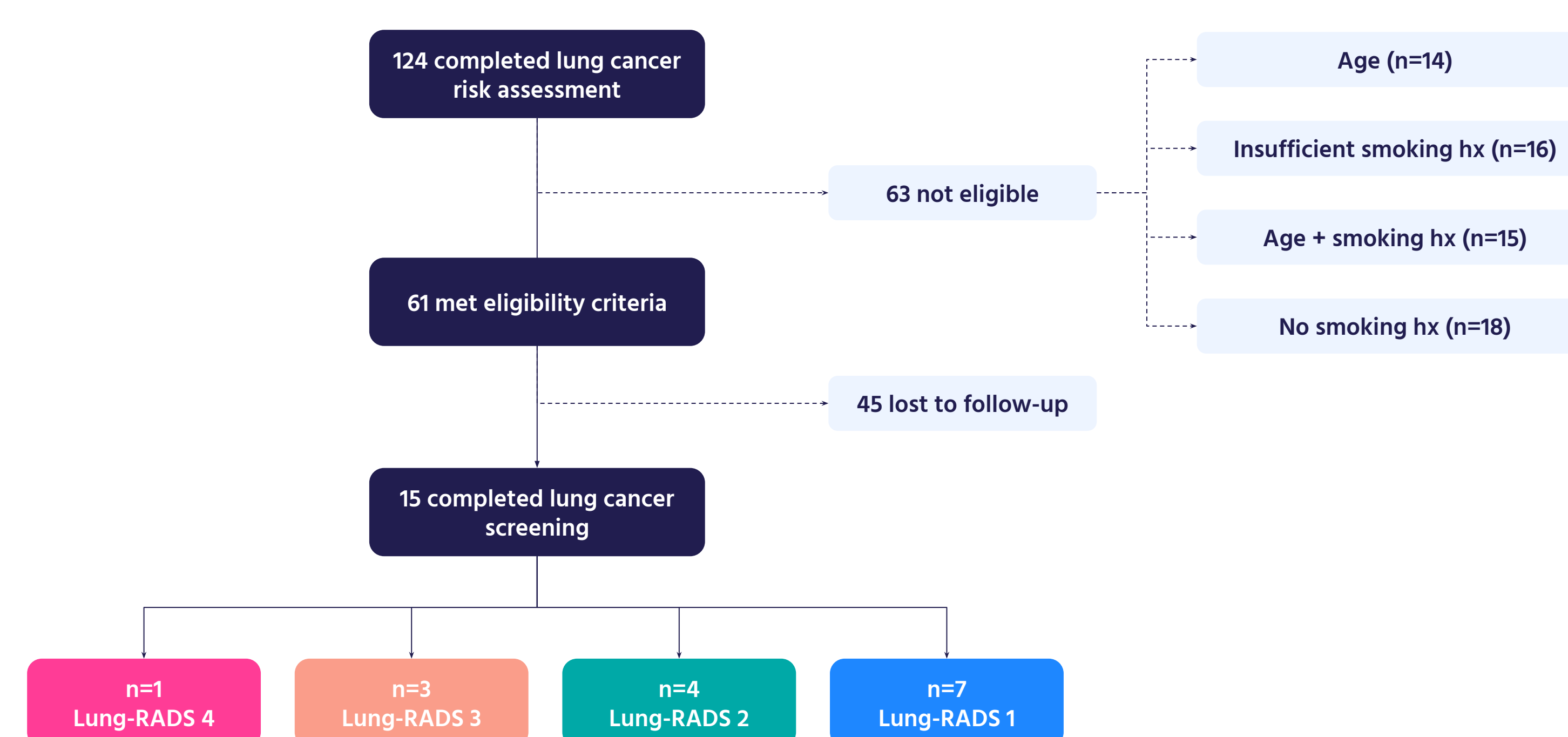


Table 2. Participant demographics and smoking history

		Completed health risk (N=124, 100%)	Eligible by ACS (N=61, 49.2%)
Age at enrollment	Mean (SD)	53.9 years	61.2 years
	Median	54.5 years	50.0 years
	Range	18 - 81 years	50 - 78 years
Sex assigned at birth	Female	79 (63.7%)	40 (65.6%)
	Male	45 (36.3%)	21 (34.4%)
Race/Ethnicity (self-reported)	Asian/Pacific Islander	5 (4.0%)	0 (0%)
	Black or African American	6 (4.8%)	2 (3.3%)
	Hispanic or Latino of any race	11 (8.9%)	1 (1.6%)
	Multithnic	6 (4.8%)	2 (3.3%)
	Native American or Alaskan	4 (3.2%)	1 (1.6%)
	White	90 (72.6%)	54 (88.5%)
	No response	2 (1.6%)	1 (1.6%)
Smoking history	Currently smoke	35 (28.2%)	18 (29.5%)
	Previously smoked	71 (57.3%)	43 (70.5%)
	No smoking history	17 (13.7%)	N/A
	No response	1 (0.8%)	N/A
Smoking pack years (PYs)*	Average	24.3 PYs	33.7 PYs
	Range	0.1 - 110 PYs	20 - 110 PYs

* Smoking pack years is calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked.

Figure 3. Map of participant locations

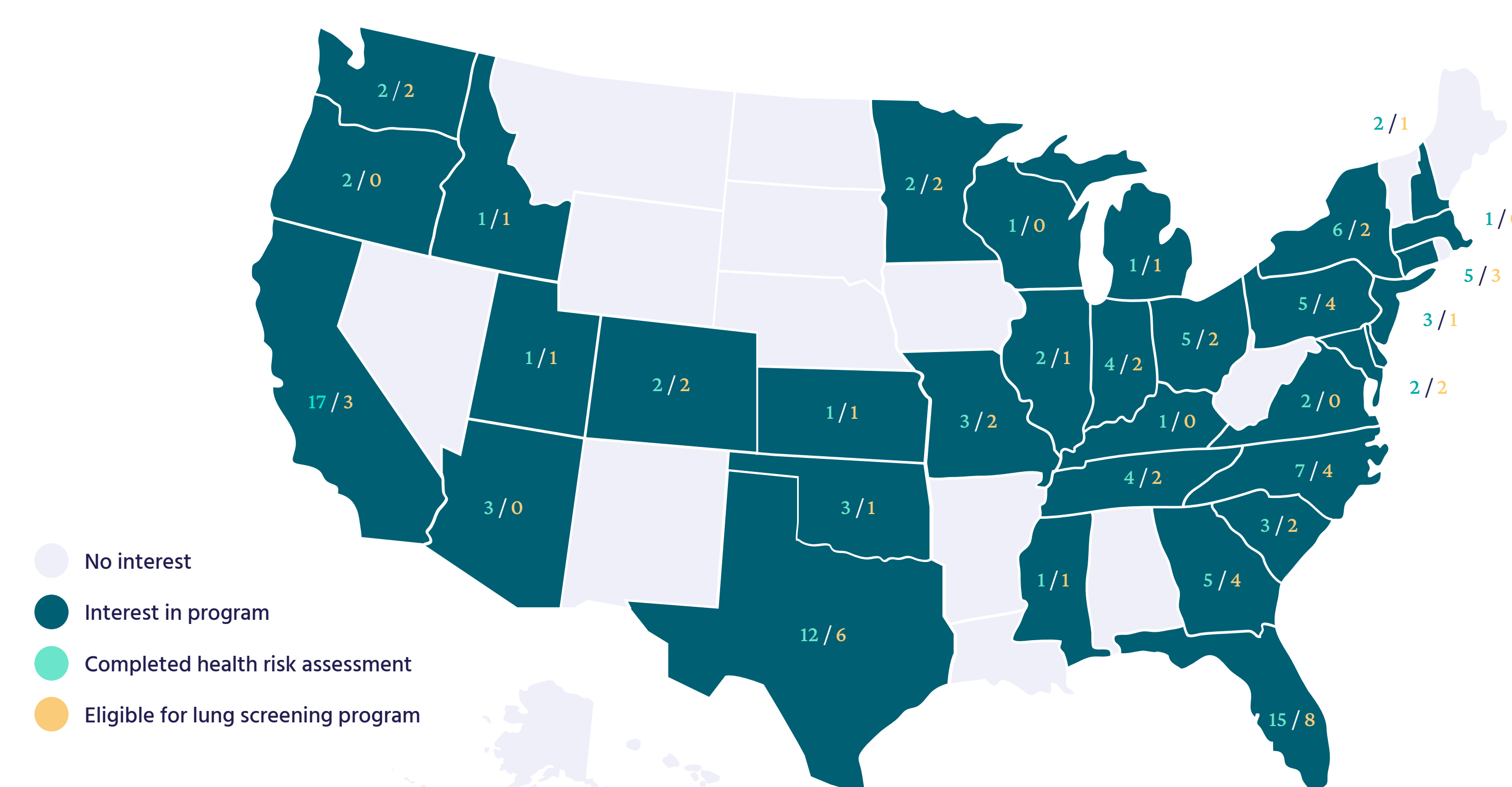
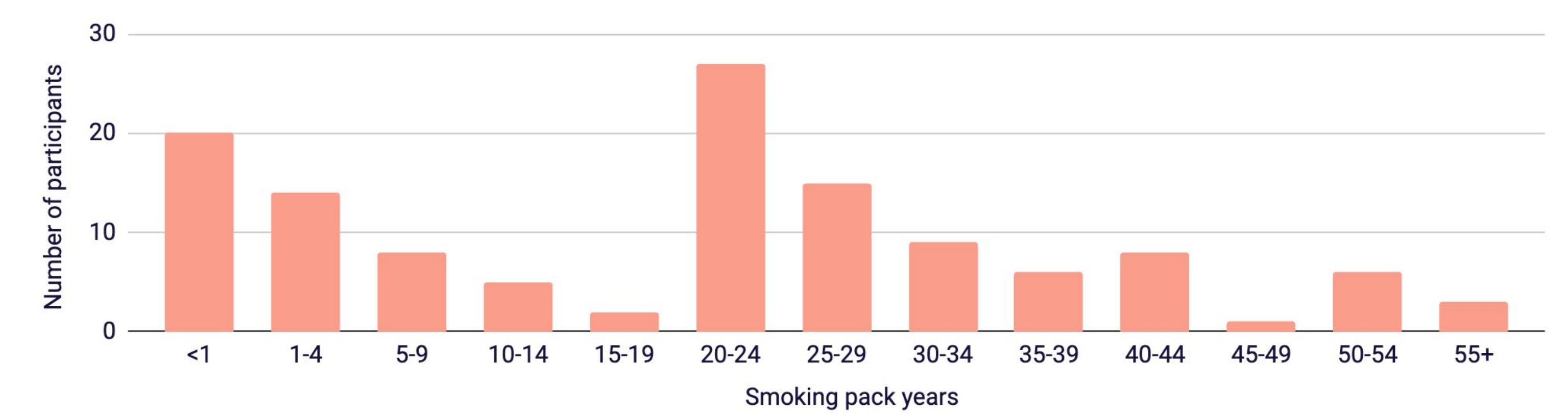


Figure 4. Smoking pack year distribution



Results: Lung screening results

To date, 15 people have completed a lung CT, and 1 is in progress. On average, appointments were scheduled within 28.5 days from the initial referral submission (range: 10 - 93 days) and were 12.2 miles from the participant's preferred location (median: 7.9 miles, range: 0.2 - 62 miles).

3 participants had a Lung-RADS 3 result, with recommended lung follow-up in 6 months, and 1 participant had a Lung-RADS 4 result, with recommended lung follow-up in 3 months (Figure 2, Table 3). No participants were recommended to have immediate diagnostic testing for lung cancer based on their results.

Table 3. LDCT results

	Result - Lung	Result - Incidental	Recommendation	
1	Lung-RADS 4	Patchy bilateral areas of peribronchovascular reticulonodular and ground-glass opacities as well as focal areas of pure ground-glass opacity in both lungs. Multiple small lung nodules, measuring up to 9 mm in size.	Mild coronary artery calcification and aortic atherosclerosis. 3.7 cm liver cyst. 9 mm left upper pole renal angiomyolipoma.	Non-contrast chest CT is recommended in 3-6 months. If the nodules are stable at time of repeat CT, then future CT at 18 - 24 months (from today's scan) is considered optional for low-risk patients, but is recommended for high-risk patients.
2	Lung-RADS 3	Multiple nonspecific bilateral pulmonary nodules measure up to 6 mm.	Indeterminate 1.9 cm right adrenal nodule. Small hiatal hernia.	Repeat LDCT in 6 months – Adrenal protocol CT or MRI with and without contrast.
3		Few nodular densities. Moderate to severe emphysema.	Mild atherosclerotic calcification.	Repeat LDCT in 6 months.
4		Mild ground glass opacities medial portion of the right upper lobe. 6m solid nodule right upper lobe.	Atherosclerotic calcification.	Repeat LDCT in 12 months.
5	Lung-RADS 2	2 solid nodules (< 6mm, < 4mm).	5.7 cm fusiform infrarenal abdominal aortic aneurysm.	Repeat LDCT in 12 months. Vascular surgical consultation.
6		Scattered subcentimeter nodules, the largest measures 0.2 cm.	None.	Repeat LDCT in 12 months.
7		Few pulmonary nodules measuring less than 6 mm in average dimension including a 5 mm nodule in the left lower lobe.	Mild coronary artery calcification.	Repeat LDCT in 12 months.
8	Lung-RADS 1	Few 2 - 3 mm micronodules scattered in both lungs.	Chronic fracture deformities seen in both ribs.	Repeat LDCT in 12 months.
9		No nodules, moderate emphysema.	Advanced coronary artery calcification.	Repeat LDCT in 12 months.
10		No nodules, mild emphysema.	Mild coronary artery calcification.	Repeat LDCT in 12 months.
11	Lung-RADS 1	No nodules, mild centrilobular emphysema.	Moderate hiatal hernia.	Repeat LDCT in 12 months.
12		No suspicious findings.	Ascending aorta is aneurysmal measuring up to 4.2 cm. Coronary stents in place.	Repeat LDCT in 12 months.
13		No suspicious findings.	Coronary atherosclerosis.	Repeat LDCT in 12 months.
14		No suspicious findings.	None.	Repeat LDCT in 12 months.
15	Lung-RADS 1	No suspicious findings.	None.	Repeat LDCT in 12 months.

Lung-RADS (Lung Imaging Reporting and Data System) standardizes LDCT lung cancer screening results. Scores range from 0 to 4, with higher scores indicating increased cancer risk: 0 (incomplete), 1 (negative), 2 (benign, < 1% cancer risk), 3 (probably benign, 1 - 2%), 4A (suspicious, 5 - 15%), and 4B/4X (highly suspicious, > 15%). This system guides follow-up, with more frequent monitoring or further evaluation for higher scores.

Results: Incidental findings

Other findings included an ascending aortic aneurysm (4.2 cm), a hiatal hernia, an indeterminate adrenal nodule, and mild coronary artery calcification, some of which required additional follow-up care with a primary care physician (PCP) or cardiologist within 3 - 12 months (Table 3).

Results: Insurance coverage

While someone might meet the ACS criteria for lung cancer screening, their screening might not be covered if they don't also meet USPSTF criteria as many insurance providers align their coverage policies with USPSTF recommendations (Table 1, Figure 5).

In this program, 12 participants encountered insurance-related issues, and 8 did not proceed with scheduling due to various reasons. Of the 4 participants who did schedule, all opted for self-pay, with an average payment of \$185 (ranging from \$99 to \$348).

Figure 5. ACS vs. USPSTF eligibility

