

Reducing Barriers to Lung Cancer Screening

Increasing Access in Underserved Populations

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THE PROBLEM

#1

Lung cancer is the leading cause of cancer mortality in the US ¹

80–90%

of lung cancer cases attributed to cigarette smoking ²

18.1%

of eligible individuals received LDCT screening nationally in 2022 ³



Two landmark randomized trials demonstrated LDCT reduces lung cancer mortality by 20–33% in high-risk smokers — yet despite this evidence, the majority of eligible patients remain unscreened. We sought to understand and address why. ^{4,5}

1. Bray F, et al. *CA Cancer J Clin.* 2018;68(6):394-424.

2. American Cancer Society. *Cancer Facts & Figures 2024.*

3. Hossein-Pour N, et al. *JAMA Intern Med.* 2024;184(8):882-891.

4. NLST Research Team. *N Engl J Med.* 2011;365(5):395-409.

5. de Koning HJ, et al. *N Engl J Med.* 2020;382(6):503-513.

WHY THIS POPULATION? — HEALTH EQUITY

KNOWN DISPARITIES IN LCS ACCESS

Lower screening rates in Medicaid & low-income patients ⁶

Medicaid beneficiaries and those in socioeconomically deprived areas are significantly less likely to complete LDCT screening.

Tobacco burden is highest in low-income populations ⁷

Smoking prevalence is disproportionately high among low-SES individuals, yet they face the greatest barriers to cessation support and lung cancer screening.

OUR SETTING & AIM

KP LAMC serves a large MediCal population in the greater Los Angeles area — a community with high tobacco burden and limited primary care access.

Our study addresses:

1

What barriers prevent MediCal patients from completing lung cancer screening CTs after agreeing to be screened?

2

Are those barriers systemic or personal — and what can we do about them?

METHODS

PATIENT IDENTIFICATION

*Per 2021 USPSTF criteria: age 50–80,
≥20 pack-year smoking history*

**216 eligible
(EMR-identified)**

Excluded: already compliant, >80 yrs, ongoing scans

**193 eligible
after exclusions**

*Phone outreach with
shared decision-making*

**115 / 193
responders (60%)**

*Excluded: declined CT,
not eligible by smoking hx*

**99 eligible
for survey**

SURVEY 1 — ELIGIBILITY & BASELINE

Administered to all patients contacted during physician phone outreach:

1. Did you know you are eligible for lung cancer screening?
2. Confirmed smoking history (pack-years, quit status)
3. Have you ever received smoking cessation counseling?
4. Are you interested in completing a lung cancer screening CT?

For non-completers ↓

SURVEY 2 — BARRIER ASSESSMENT

Administered to patients who agreed to screen but did not complete CT at 3-month follow-up:

Access & Logistics (*scheduling difficulty,
transport, appointment availability*)

Patient Perception (*radiation concern, felt
screening unnecessary*)

System & Process (*unclear instructions, no
follow-up, referral issues*)

Health / Personal Factors (*competing medical
issues, anxiety*)

RESULTS: SHARED DECISION-MAKING — PATIENT AGREEMENT

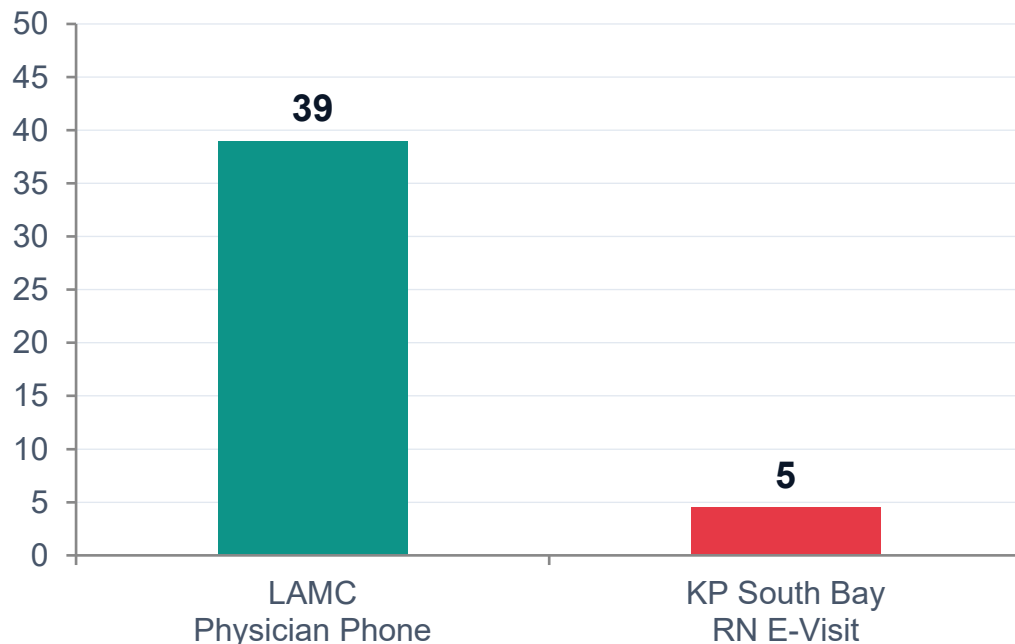
73%

84 of 115 patients contacted
**agreed to lung cancer
screening CT**

73% acceptance rate following physician-led SDM discussion

RESULTS: CT ORDERING — PHYSICIAN vs. NURSE-LED OUTREACH

% CTs Ordered / Charts Screened



Physician-led shared decision-making yields 8.7× more CT orders than RN-led e-visits

KEY FINDING

39%

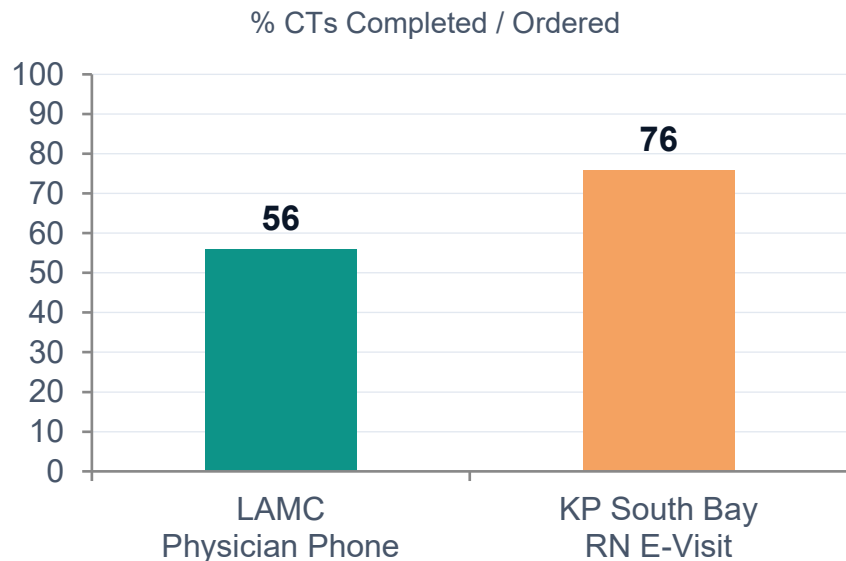
LAMC: CTs ordered
84 / 216 screened

4.5%

South Bay: CTs ordered
45 / 991 screened

$\chi^2 = 494, p < 0.0001$

RESULTS & DISCUSSION: CT COMPLETION



LAMC: $47/84 = 56\%$ | South Bay: $34/45 = 76\%$ | $\chi^2 = 6, p < 0.014$

INTERPRETING THE PARADOX

Physician-led outreach ordered more CTs but had lower completion — why?

⚠ Selection Bias in South Bay Model

South Bay e-visits required patients to self-initiate — selecting for higher-motivation individuals already more likely to complete screening.

⚠ Population Bias

The completion gap reflects population differences, not a failure of SDM — systemic barriers disproportionately affect the patients we most need to reach.

WHY DON'T PATIENTS COMPLETE THEIR CTs? — SURVEY RESULTS

40 patients contacted · 21 respondents (53%)

67%

Systemic barriers
(scheduling, reminders, clarity)

33%

Personal barriers
(health, perception, finances)

10%

Were never contacted
after CT was ordered

90%

Would complete CT
if scheduling were easier

TOP SYSTEMIC BARRIERS

1. Never contacted to schedule after CT ordered
2. Unclear next steps after physician discussion
3. No reminder or follow-up outreach
4. Did not recall agreeing to screen

Barriers did not correlate with age, sex, race, language, or smoking status (multivariate regression)

IMPLICATIONS & NEXT STEPS

CLINICAL IMPLICATIONS

System-level failures — not patient reluctance — are the primary barrier to LDCT completion

Patients assigned to self-schedule have a sub-optimal completion rate; proactive contact is essential

Physician-led SDM drives 8.7× more CT orders vs nurse-led e-visit

NEXT STEPS

01

Accurate EMR Documentation

Encourage systematic and accurate documentation of smoking history at the primary care level

02

Automate LCS at Primary Care

Build an automated system to flag and refer eligible patients for lung cancer screening

03

Prospective Telephone Outreach

Launch a prospective initiative for structured phone outreach and shared decision-making

04

Expand to Other Institutions

Scale program to other Kaiser facilities and ultimately other health systems

THE STORY IN SUMMARY

THE PROBLEM

18.1%

of eligible patients
receive LDCT screening
nationally

THE POPULATION

MediCal

High tobacco burden,
limited access, historically
low screening rates

SDM AGREEMENT

73%

84 of 115 agreed
to CT after
physician-led SDM

CT ORDERING

39%

LAMC physician phone

4.5%

South Bay RN e-visit

8.7× more CTs ordered with phone outreach $\chi^2 = 494$, $p < 0.0001$

BARRIER ASSESSMENT

67%

Systemic barriers

90%

Would screen if easier

Failure is in the scheduling system — not the patient

ACKNOWLEDGEMENTS



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The Trudeau Society For hosting this conference and providing a platform dedicated to improving lung health

A CLOSING THOUGHT

Lung cancer is the most preventable cancer death we have — and yet we continue to lose patients not because screening doesn't work, but because the systems around it do. Every CT scan that goes unscheduled is a patient who may die a preventable death from lung cancer.

Works Cited

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