UC Irvine 趙 Chao Family Comprehensive Cancer Center

Closing the Lung Cancer Screening Gap

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Disclosure

RESEARCH SUPPORT

NIH
American Lung Association
ASCO CONQUR
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HONORARIUM

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Associate Editor

Test that reduces lung cancer mortality

Why aren't more eligible patients getting screened?

20% lower lung cancer mortality with LDCT

2013 USPSTF lung screening guidance

2015 Medicare coverage

18% of eligible adults screened nationally

THE SCREENING PATHWAY

Eligible → Identified → Discussed → Ordered → Scheduled → **Completed**

Eligibility

First problem: Who is even considered eligible?



Institutional data: eligibility depends on what the record captures

1,867 patients diagnosed with lung cancer, 2018–2024

1,867
patients with lung cancer

→

60%
had enough structured smoking data to assess eligibility

→

13%
of assessable patients were eligible

Lower adjusted odds of eligibility

Women	OR 0.32
Asian patients	OR 0.35
Hispanic patients	OR 0.38

(Zanazanian et al. 2026. Cancer Causes & Control)

National data

2024 National Health Interview Survey | adults later diagnosed with lung cancer

638,702 ws

patients with lung cancer

→

96.5% **had enough self-reported smoking data to assess eligibility**

→

52%

of assessable patients were eligible

Lower adjusted odds of eligibility

Women	**OR 0.31**

(Sharifian et al. 2026. JACR)

Can we actually FIND the eligible patients?



Eligibility depends on data we often don't have

Lung screening eligibility requires more than age

Age	✓
Smoking status	✓?
Pack-years	?
Quit date	?

39%

had incomplete EMR smoking history for determining eligibility

The guideline may be clear, but the health system cannot apply it without reliable inputs

(Sabour et al. 2025. JACR)

Can technology close the identification gap?



Finding eligibility hidden in the medical record

Clinical notes contain smoking details that structured fields often miss

Clinical notes → **NLP** → **Smoking history** → **Better identification**

Compared with manual review

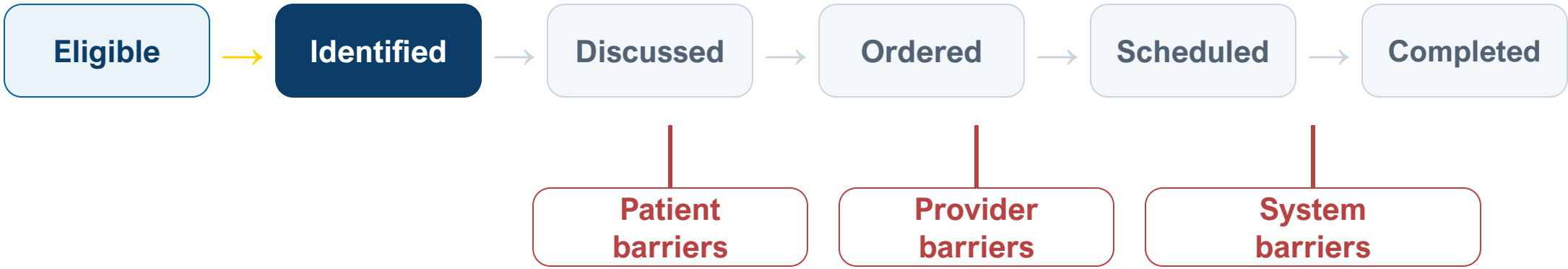
84.6%	**NLP eligibility concordance**
45.8%	**structured EHR concordance**
3×	**more eligible patients identified with NLP than structured data**

Before we can improve screening behavior, we need systems capable of identifying the right patients

Identification still doesn't mean screening happens



Finding the patient is only the beginning



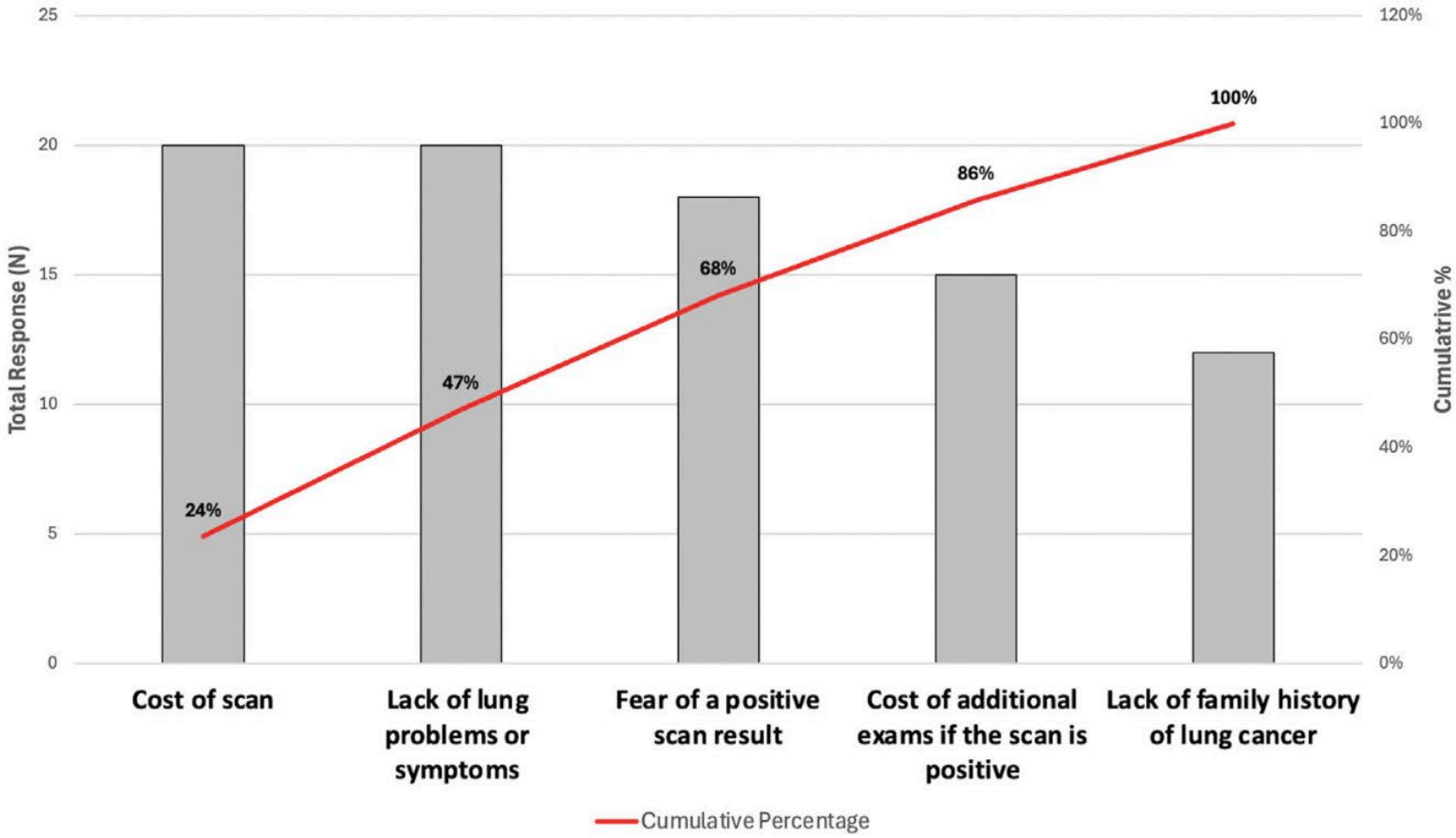
Identifying every eligible patient still does not guarantee screening

Why don't patients complete screening?



Patients face barriers at every step

54.7% reported at least one barrier

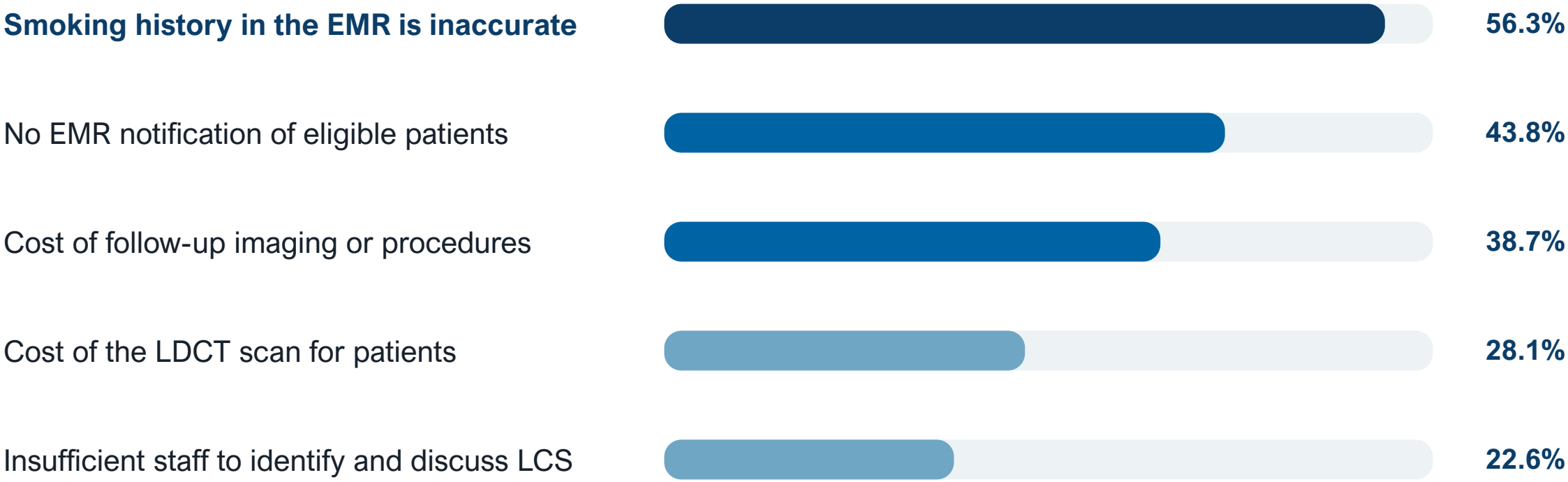


Cost, lack of symptoms, and fear of a positive result accounted for 80% of reported barriers

Jung et al. 2025. Journal of the American College of Radiology

Patients aren't the only ones facing barriers

Top five provider-reported barriers to ordering lung cancer screening



The leading barriers point to gaps in documentation, notification, and workflow capacity

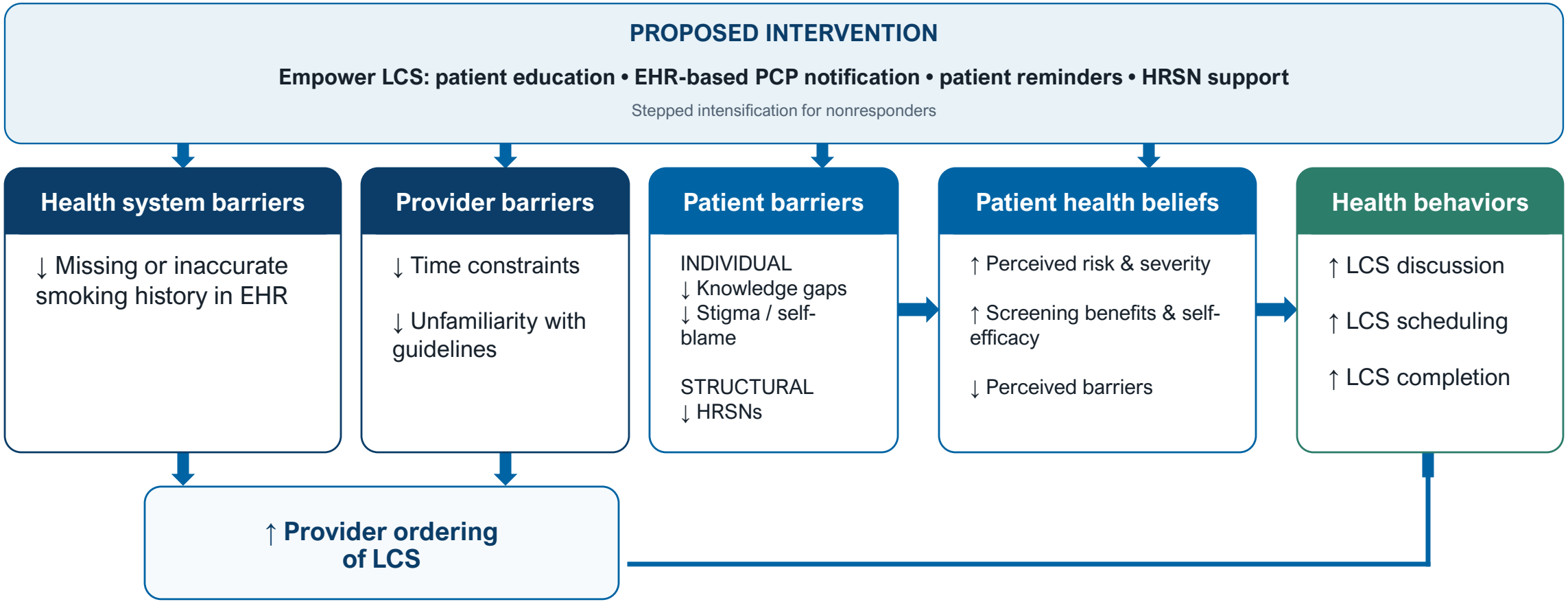
Quezada et al. 2024. Cancer Treatment and Research Communications.

What if we designed around those barriers?



Empower LCS conceptual model

A multilevel intervention designed around the barriers between eligibility and screening completion



LCS, lung cancer screening • HRSNs, health-related social needs • PCP, primary care provider

Empower LCS: Can we move patients through the screening pathway?

METHOD

Single-arm pilot trial

70 LCS-eligible adults

Age 50-80 years
Met 2021 USPSTF criteria
English, Spanish, or Vietnamese

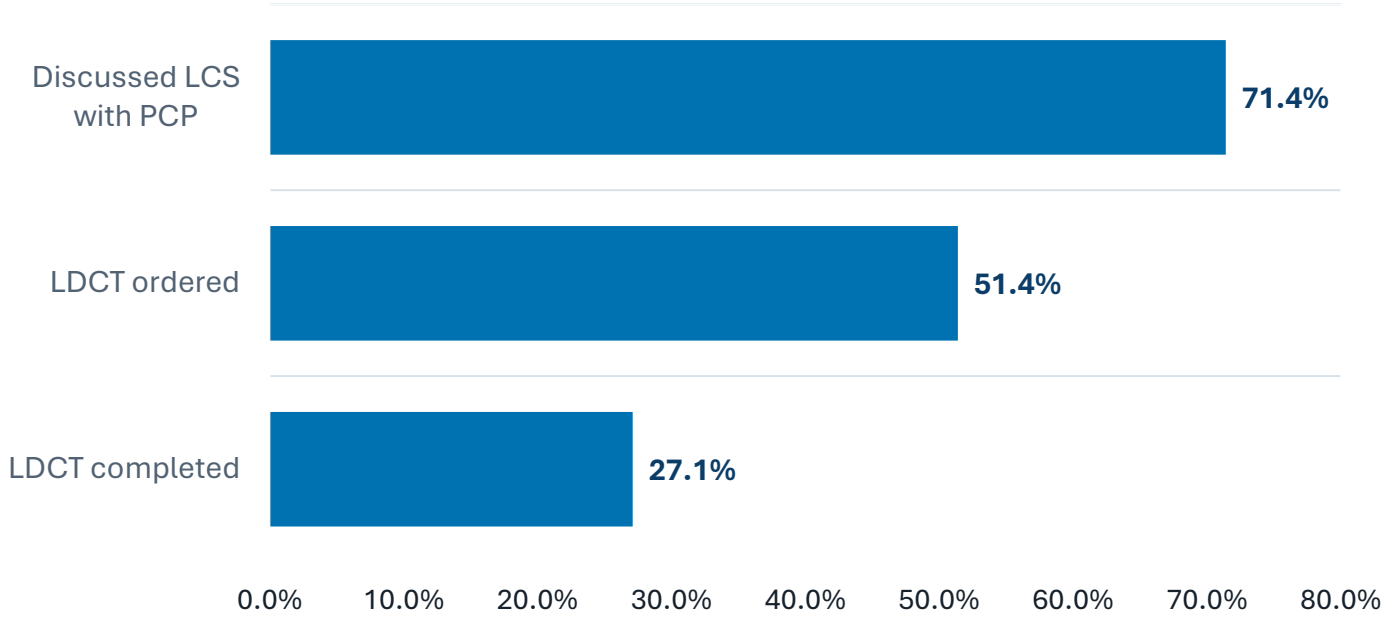
Empower LCS intervention

Decision aid and patient reminder
PCP notification of eligibility and barriers
Financial hardship and HRSN support

Outcomes assessed at 6 months using medical records and patient surveys

Patients reaching each step by 6 months

Combined medical record or self-reported data, N=70



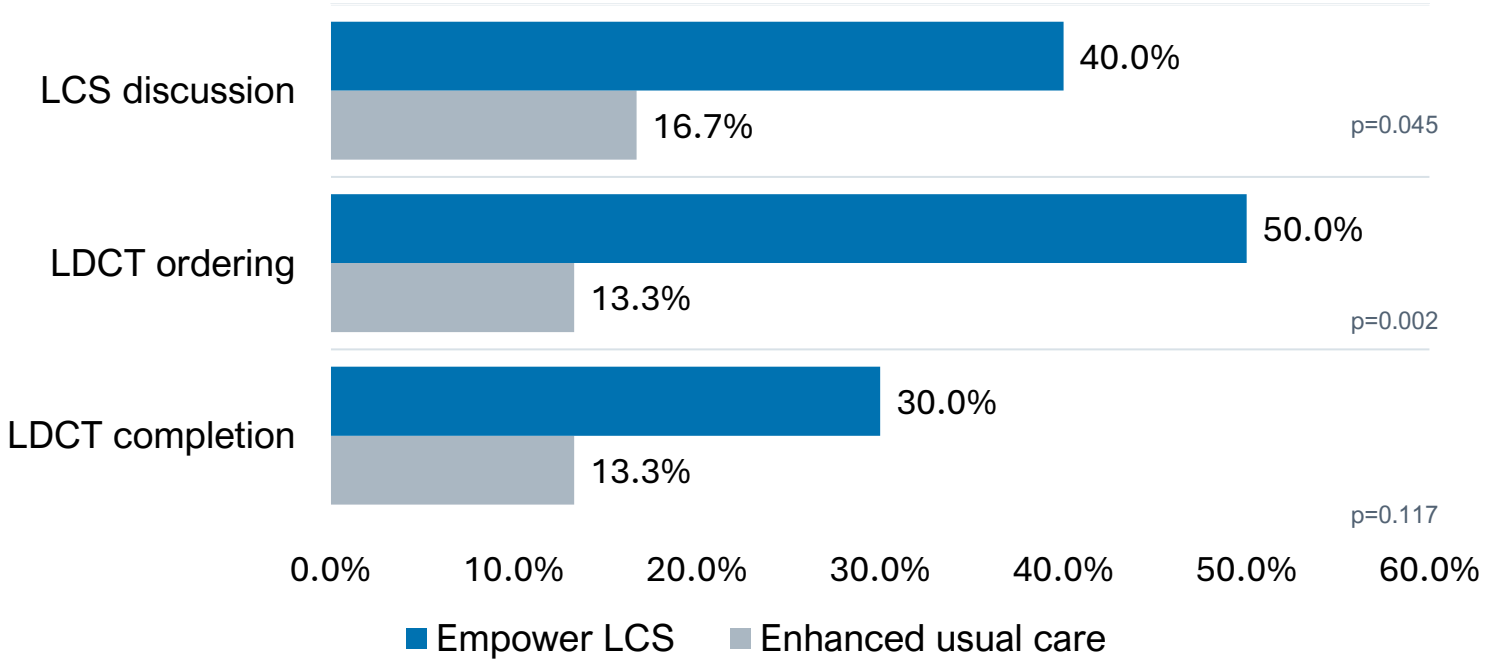
19 patients completed LDCT, representing 52.8% of those with an order

Shojazadeh et al. 2026. Journal of the American College of Radiology.

Empower Latinx improved screening engagement and ordering

Pilot randomized controlled trial, N=60; outcomes at 4 months

UNADJUSTED OUTCOMES



ADJUSTED ASSOCIATIONS

LDCT ordering **OR 14.8**
95% CI 2.2-178.0

LDCT completion **OR 8.7**
95% CI 1.2-119.7

LCS discussion **OR 6.7**
95% CI 1.1-61.4

Wide confidence intervals reflect the pilot sample size

Randomization provides causal evidence that the multilevel approach can narrow screening gaps

Empower Latinx pilot RCT, user-provided study results

Why doesn't an order become a completed CT?

Patient-reported barriers after screening enters the clinical workflow

LDCT ORDER → **THE POST-ORDER GAP** → **COMPLETED CT**

Scheduling and referrals	Long waits, added appointments, and uncertainty about where to go
Insurance and cost	Authorization delays, network restrictions, and concern about downstream costs
Access constraints	Transportation, work, caregiving, language, and limited navigation support
Unclear follow-up	Limited explanation of results or next steps, especially after an abnormal finding

"Getting screening is not easy because you have to have a referral ... And it also depends on insurance."

Patient participant #2658

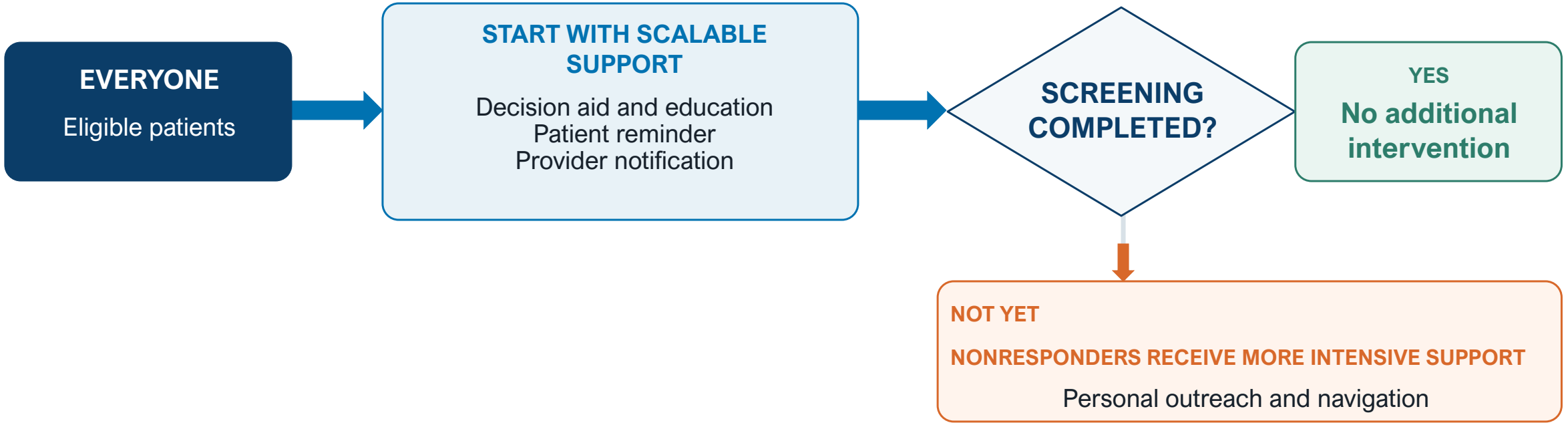
Sharifian et al. 2026. Academic Radiology.

The next generation



What if support intensified only for patients who need it?

A stepped, adaptive approach to lung cancer screening support



Start with scalable support. Intensify assistance for patients who remain at risk of falling through the gap.

Adaptive intervention model based on study-team materials

Closing the gap requires more than an imaging test

Three lessons from the patient journey

1

Identify the right patients

Eligibility depends on complete, reliable data.

2

Design around real-world barriers

Patient, provider, financial, and social barriers determine whether imaging happens.

3

Support patients through completion

Decision support, navigation, and targeted assistance turn recommendations into care.

Our responsibility extends beyond producing the image

It includes helping patients complete the pathway the image begins.

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Questions?