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INTRODUCTION

- Lung cancer screening in low-income countries is widely assumed to be constrained by infrastructure, resources and limited patient engagement.
- Ethiopia presents a distinct implementation environment: one of the world's highest tuberculosis burdens, ~90% of households cooking with biomass fuel, and centralized oncology services.
- Substantial effort is required to build the clinical and operational framework — but it remains unclear whether low participation is an inherent barrier or a failure of recruitment strategy.

Objective

To evaluate whether a targeted outreach campaign could effectively drive screening uptake once program infrastructure was in place within the International Early Lung Cancer Action Program (I-ELCAP) framework in Ethiopia.

METHODS

Design & Setting

- Prospective implementation study at two tertiary referral centers in Addis Ababa — Tikur Anbessa Specialized Hospital (TASH) and St. Paul's Hospital Millennium Medical College (SPHMMC), March 2024 – May 2026.
- Phased strategy that deliberately prioritized infrastructure development before large-scale recruitment.

Program Components

- Ethiopian Thoracic Society–adapted 10-domain risk assessment** incorporating locally relevant exposures: cigarette and shisha smoking, secondhand smoke, prior cancer, family history, prior TB, HIV, COPD, biomass fuel (≥2 h/day for ≥10 y) and occupational exposure. Meeting ≥1 criterion = high risk → referred for LDCT.
- ScreeningPLUS digital platform** as the operational backbone: participant registration, risk assessment documentation, structured reporting, workflow management, quality assurance, multidisciplinary communication and longitudinal tracking.
- FDA-approved MeVis AI-assisted nodule detection** integrated into the platform as a workflow-support and capacity-building tool, not a replacement for radiologist interpretation.
- Integrated referral pathways:** tuberculosis clinics, pulmonary clinics, radiology services, and community outreach all fed into one common detection infrastructure, with multidisciplinary review and universal smoking-cessation counselling.

Outreach Campaign

- After systems became operational, a focused 5-day, low-cost and scalable community campaign was run: posters in high-visibility areas, direct engagement within hospital grounds and surrounding communities, and on-site personnel performing immediate risk assessment and facilitating same-visit enrolment.

DISCUSSION AND CONCLUSION

Actionable Take-Away Message

- Once operational readiness is achieved, patient engagement is not the limiting factor.** Active, targeted outreach is what converts program capacity into actual screening uptake.
- The commonly cited barrier of limited patient interest may be overstated. When approached directly and offered immediate risk assessment and enrolment, communities responded at high rates (97.1% imaging completion).
- Community-based recruitment should be a required component — not an optional adjunct —** of lung cancer screening implementation in resource-limited settings.
- Tobacco-based eligibility alone would have excluded most of the target population: 73.9% of participants had never smoked. Locally adapted, multi-pathway risk criteria are essential.
- Build infrastructure first. Enrolment accelerated sharply only after platform deployment, radiologist training, AI integration and workflow stabilization were complete.

Future Direction

- External validation of the Ethiopian risk framework; expansion to secondary and rural centers; longitudinal follow-up of identified nodules; and measurement of stage shift and downstream treatment capacity.

Limitations

- Early implementation phase — long-term detection, stage, and mortality outcomes are not yet available; two tertiary centers in Addis Ababa only; risk framework not yet externally validated.

REFERENCES & ACKNOWLEDGEMENTS

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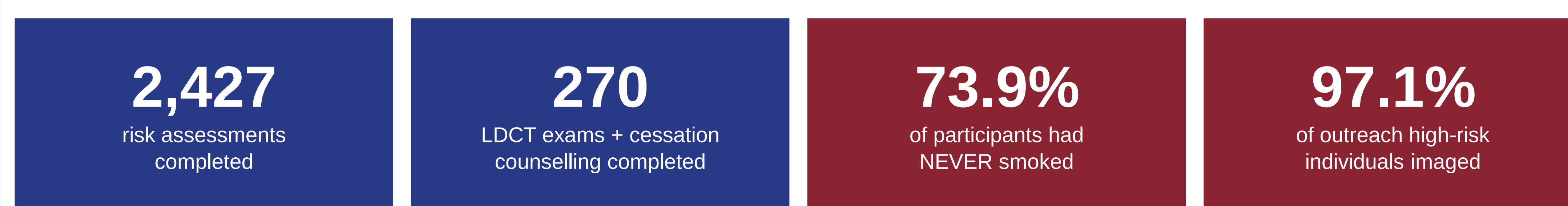
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Artificial Intelligence (AI) Use Disclosure

No AI Tools were used in the development or preparation of this poster presentation.

RESULTS



Program-wide implementation (Mar 2024 – May 2026)



Focused 5-day community outreach campaign

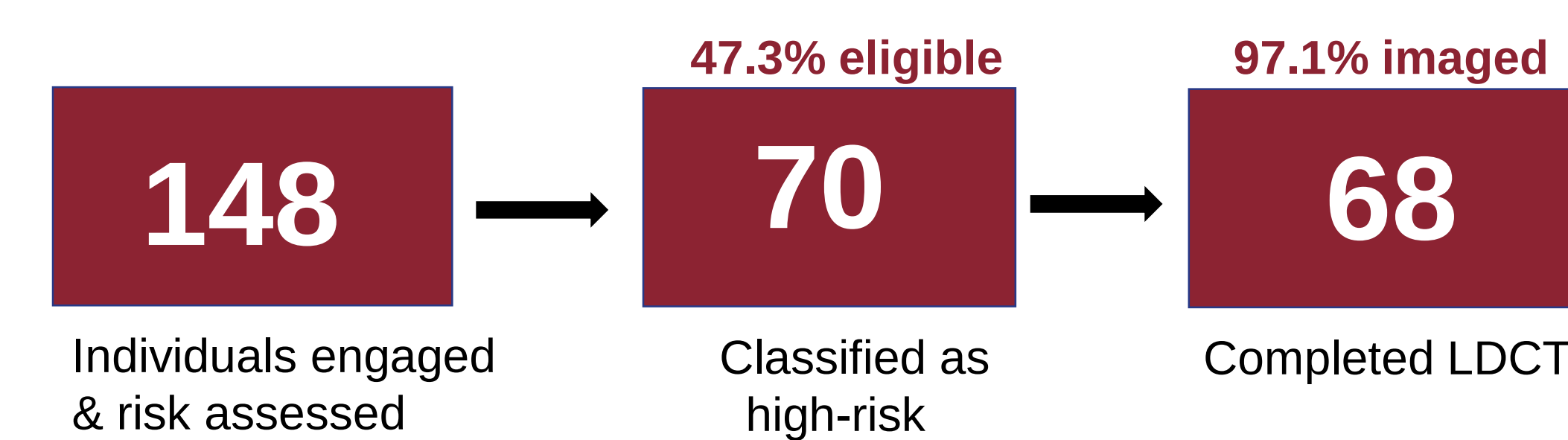


Figure 1. Enrollment cascade for the program overall and for the 5-day community outreach campaign.

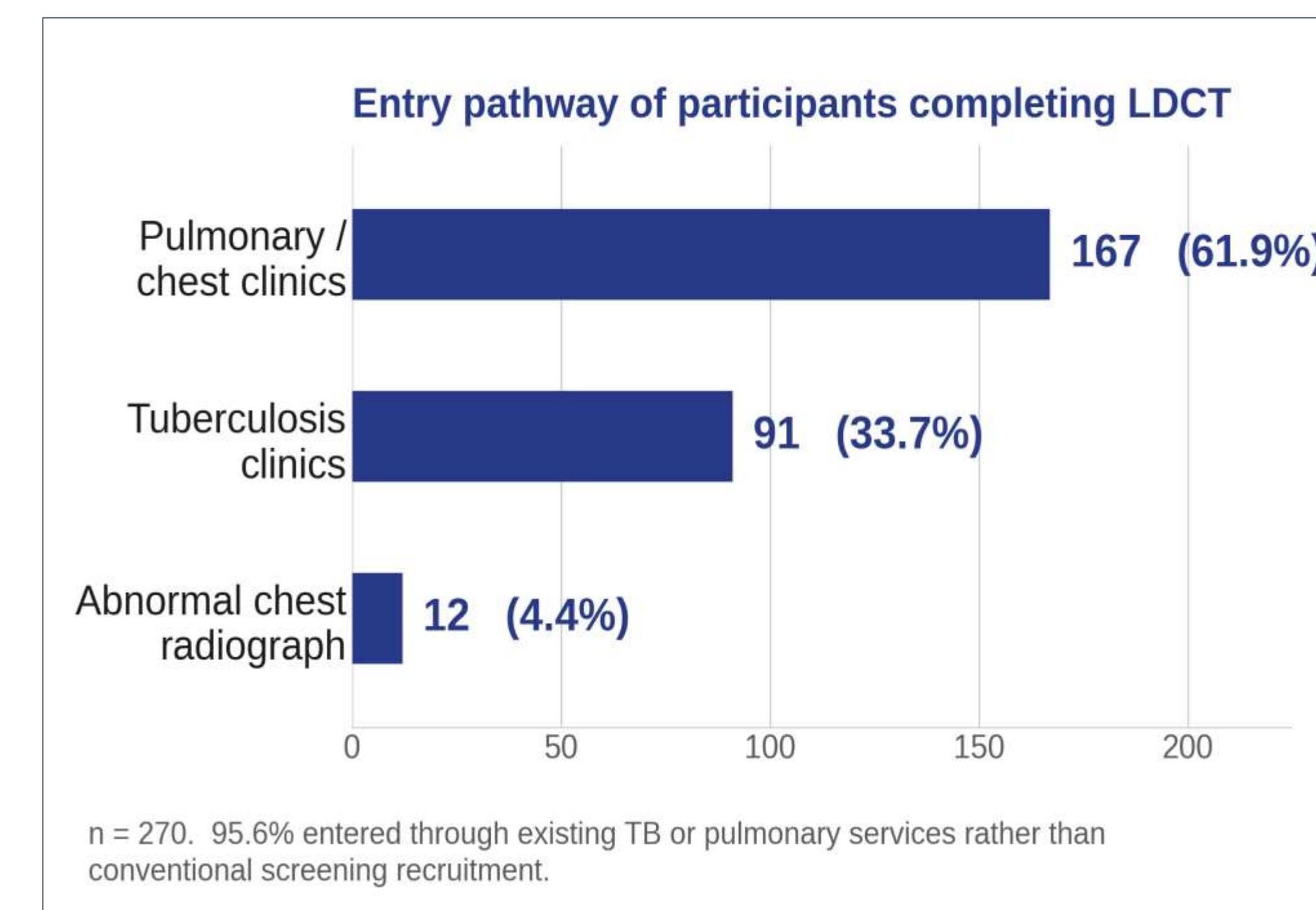


Figure 2. Clinical pathway through which participants entered the early-detection program.



Figure 3. Phased implementation — infrastructure, training and workflow were stabilized before recruitment was scaled.

Implementation outcomes

- A complete early-detection infrastructure became operational at both institutions: ScreeningPLUS, AI-assisted review, multidisciplinary review pathway, structured reporting and longitudinal tracking.
- 2,427 risk assessments → 311 met eligibility → 270 completed LDCT and smoking-cessation counselling.
- A 5-day outreach campaign conducted after infrastructure maturation identified 148 potentially eligible individuals through direct community engagement, including local residents and accompanying family members. 70 (47.3%) met high-risk criteria and were referred for LDCT; 68 (97.1%) completed imaging.
- Recruitment was driven predominantly by direct outreach rather than passive clinical pathways.

Implementation challenges encountered

- Equipment importation: high transport and customs costs, with clearance delays exceeding six months.
- Digital infrastructure: network downtime and power interruptions required more resilient workflows than cloud systems designed for high-resource settings assume.
- Shared CT capacity: scanners serve broad clinical need, so downtime and maintenance created scheduling backlogs.
- Patient identification: exact dates of birth were often unavailable, so date-of-birth–based patient matching had to be re-engineered to preserve longitudinal records.
- Cross-team communication: DICOM transfer, AI processing and workflow integration required repeated training and sustained local IT support.