

INTRODUCTION

Healthcare disparities: Lung cancer (LC) is highly prevalent in underserved and minority populations, where cultural, geographical, and systemic barriers are common and negatively affect access to screening, rapid diagnosis, and modern therapeutics.

Regional Burden: Northern Israel accounts for **40% of national LC incidence**, heavily driven by endemic high smoking prevalence and historical diagnostic delays of **3 to 8 months**.

Objective: Evaluate a 2-year interim analysis of a centralized Rapid Diagnosis Center (cRDC) designed to reduce disparities in underserved and minority populations.

METHODS

Program Design: A cRDC referral hub for high-risk patients for LC was implemented in January 2024, embedding a Multidisciplinary Team of thoracic oncology experts and a care coordinator.

Centralized Model (CM) Efficacy:

Diagnosis Time (DT): the duration (days) from initial clinic encounter to definitive MDT treatment decision.

Stage Shift: changes in stage distribution at diagnosis over time.

Healthcare System Impact: changes in patient migration and local interventions over time.

Diagnostic Yield (DY) Efficiency:

Endobronchial Diagnostic Yield (EBBDY): the proportion (%) of EBUS with a definitive pathological diagnosis.

Endobronchial Biopsy Turnaround (EBBTO): Time to histopathological biopsy result (days).

Molecular Pathology Turnaround (MPTO): Time to completed NGS result (days).

RESULTS

25d
Mean DT

6d
Median EBBTO

10d
Median MPTO

92%
EBBDY

Diagnostic metric	Baseline	CM	Outcome
Diagnosis time	3-8 months	25d (mean)	Rapid diagnosis
Stage I proportion	37%	56%	P=0.046
Early stage (I-II)	50% (year 1)	66.7% (year 2)	Cure, resectability
Out-of- Network migration	High	-72%	Local care, higher treatment compliance

Figure 1: Stage Shift during CM implementation
- Increase in Stage I (37% → 56%) and reduction in Stage III (22% → 6%)

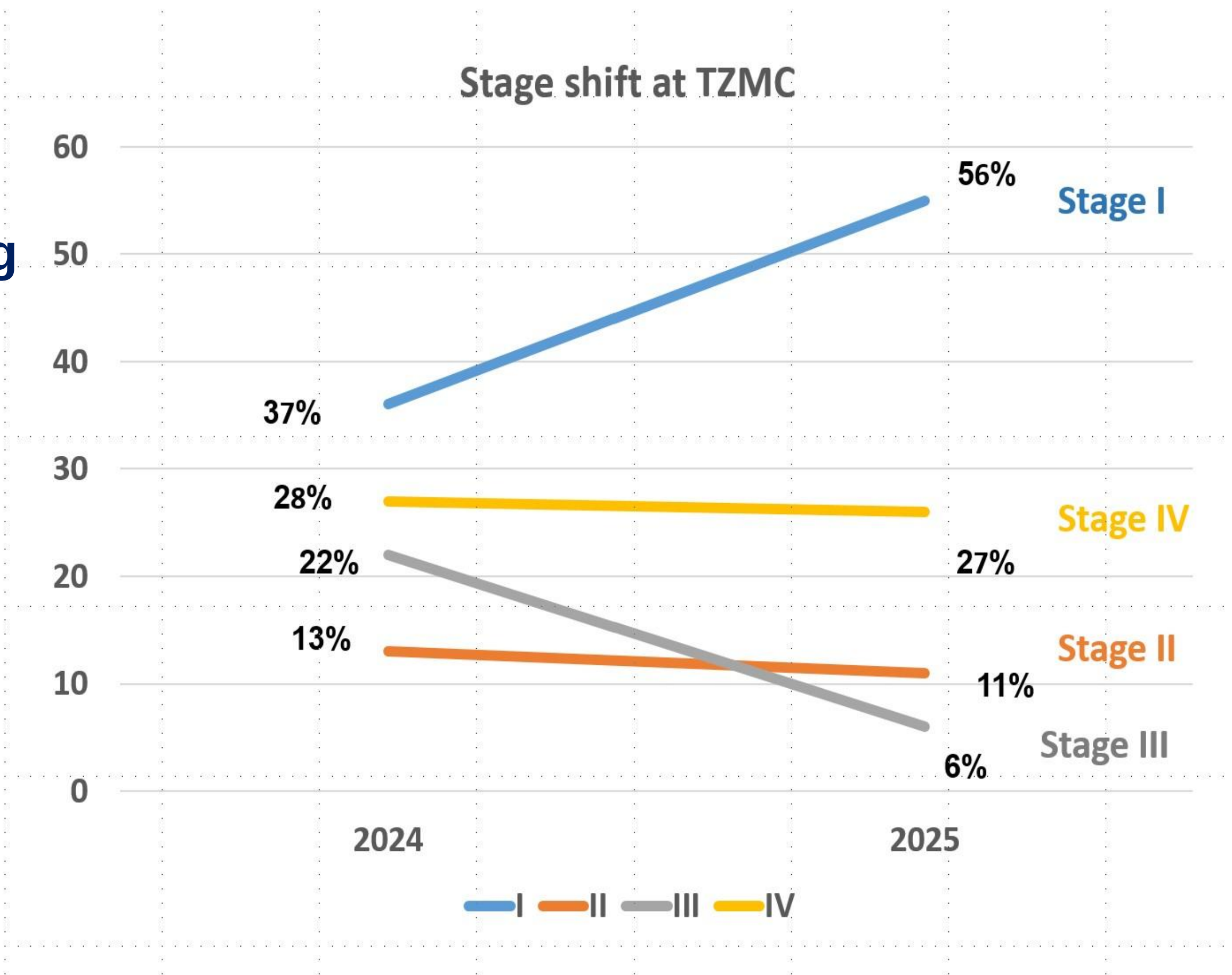
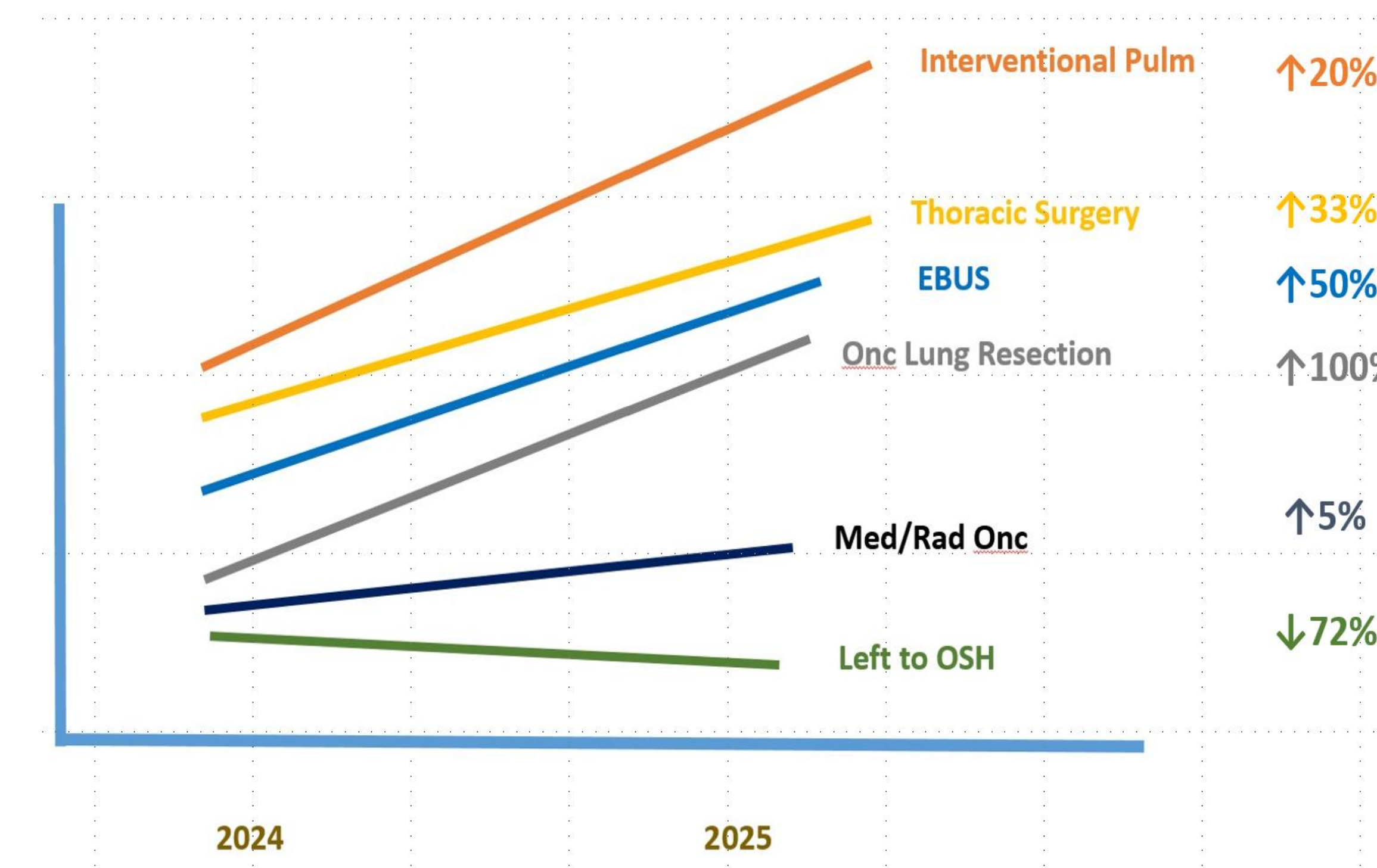


Figure 2: Increase in all procedural activity during CM implementation with major decrease of out-of-network migration (-72%).



DISCUSSION AND CONCLUSION

The implementation of a centralized model of a regional rapid diagnosis center (cRDC) yielded a significant stage shift toward earlier, potentially resectable disease.

A cRDC driven by a dedicated multidisciplinary team is a highly effective strategy for accelerating earlier diagnosis of LC, effective treatment and decreased remote care migration of patients in underserved and minority populations.

ACTIONABLE TAKE AWAY MESSAGE

A patient-centered, MDT-driven cRDC effectively overcomes cultural, geographical, and systemic healthcare disparities in underserved populations .

FUTURE DIRECTION FOR RESEARCH

Dissemination of the cRDC framework to other rural regions by establishing culturally adjusted fast-track referral pathways may decrease major disparities in other communities of minority populations in underserved areas.

Partnering with community health centers to implement **LDCT** triage and **NGS reflex testing** may link rural high-risk individuals directly into the cRDC workflow close to the patient home resulting in early diagnosis and curative treatment.

REFERENCES & ACKNOWLEDGEMENTS

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ACCME AI Use

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