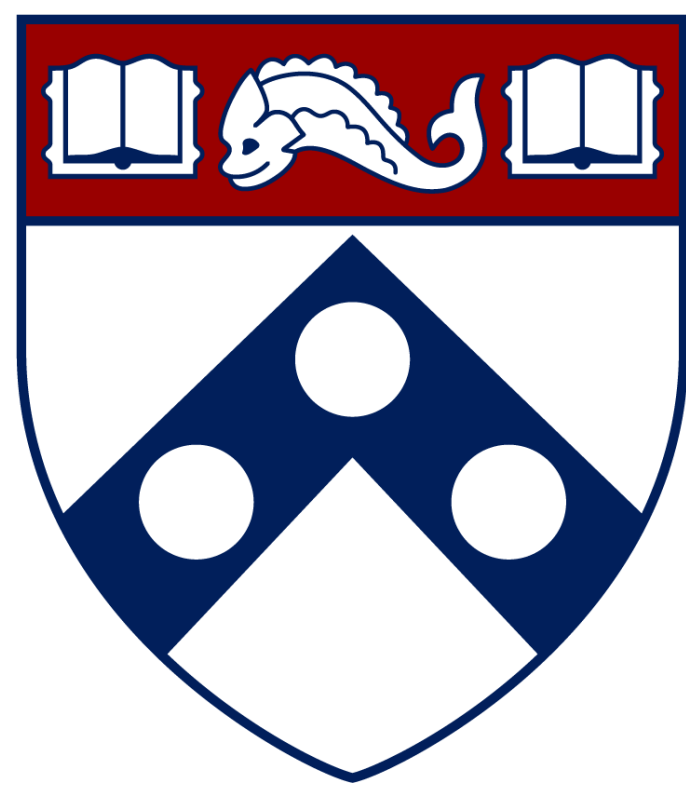




P2127: iNUDGE: INtegration of liqUiD biopsy based next generation Gene sEquencing in newly diagnosed NSCLC – Results from a prospective clinical trial

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IASLC 2026 World
Conference on Lung Cancer

SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

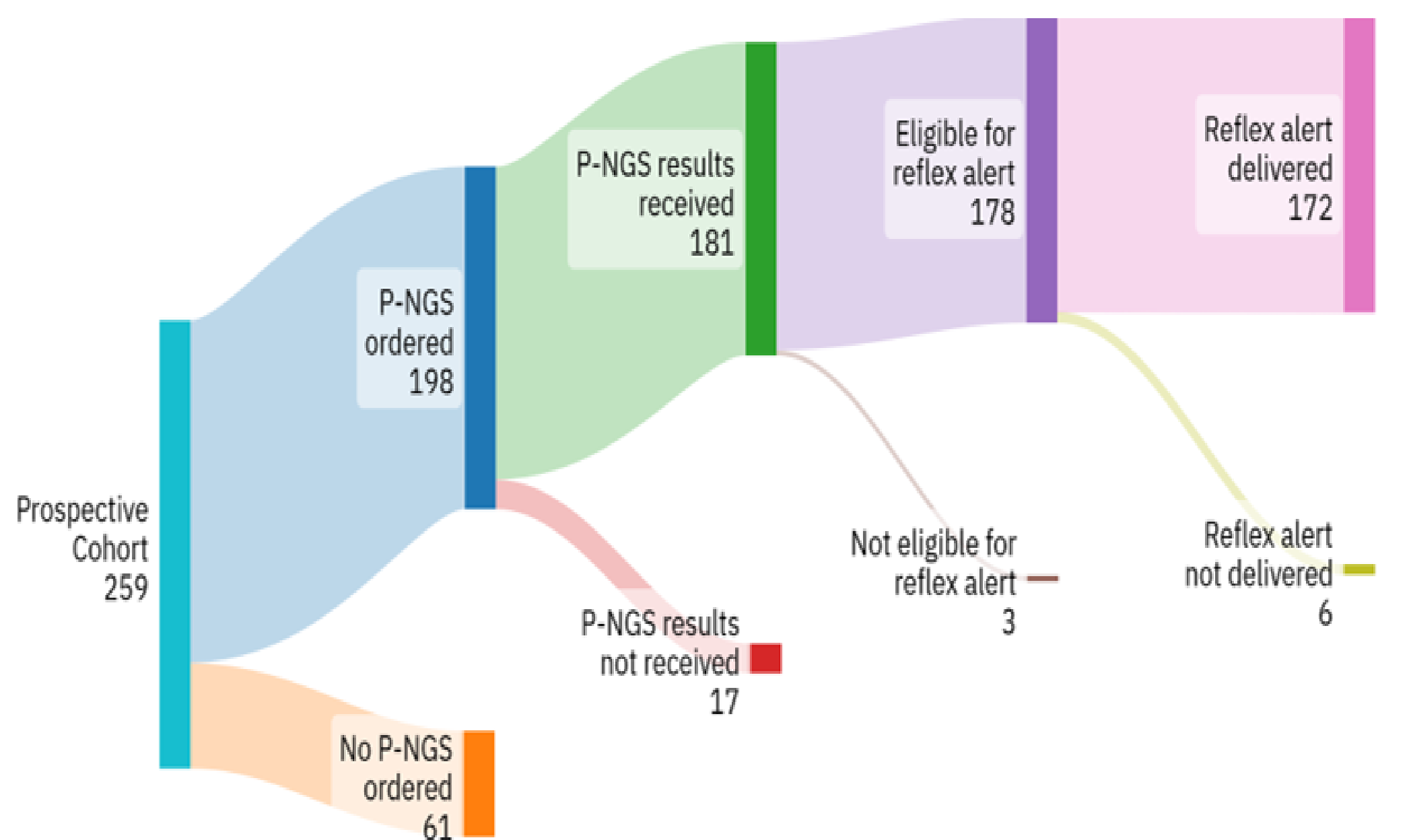
- Guidelines recommend comprehensive molecular profiling (as defined by NCCN) before first-line (1L) therapy for all patients with newly diagnosed metastatic non-squamous (mNSq) NSCLC.
- Despite the availability of **tissue- (T)** and **plasma-based (P)** next-generation sequencing (**NGS**), biomarker testing rates are low.
- Innovative strategies are needed to improve timely guideline-concordant care and clinical outcomes.

RESULTS

Table 1. Demographics & Baseline Characteristics

Characteristic	Retrospective N = 365	Prospective N = 259	p-value
Age			
Median (IQR)	68 (60-76)	72 (63-78)	0.009
Sex, n (%)			
Female	201 (55%)	139 (54%)	0.7
Male	164 (45%)	120 (46%)	
Smoking Status, n (%)			0.3
Former	232 (64%)	152 (59%)	
Never	64 (18%)	58 (22%)	
Current	69 (19%)	49 (19%)	
Comprehensive testing completed prior to 1L start?			0.075
n (%)			
Yes	314 (86%)	235 (91%)	
No	51 (14%)	24 (9.3%)	
Combined testing modality, n (%)			<0.001
Tissue + Plasma	160 (45%)	142 (56%)	
Tissue Only	133 (37%)	58 (23%)	
Plasma Only	66 (18%)	55 (22%)	
Missing	6 (1.6)	4 (1.5)	
Actionable alteration detected			0.013
No	210 (61%)	123 (51%)	
Yes	132 (39%)	118 (49%)	

Figure 1. San Key Diagram with e-CDS Reflex Alerts



N = 172 total sent; 63 (36.6%) clinically actionable alteration; 77 (44.8%) no alterations detected; 32 (18.6%) clinical trial availability for non-actionable alteration

Table 2. Pre- and Post-intervention Combined Test Modality by Cluster

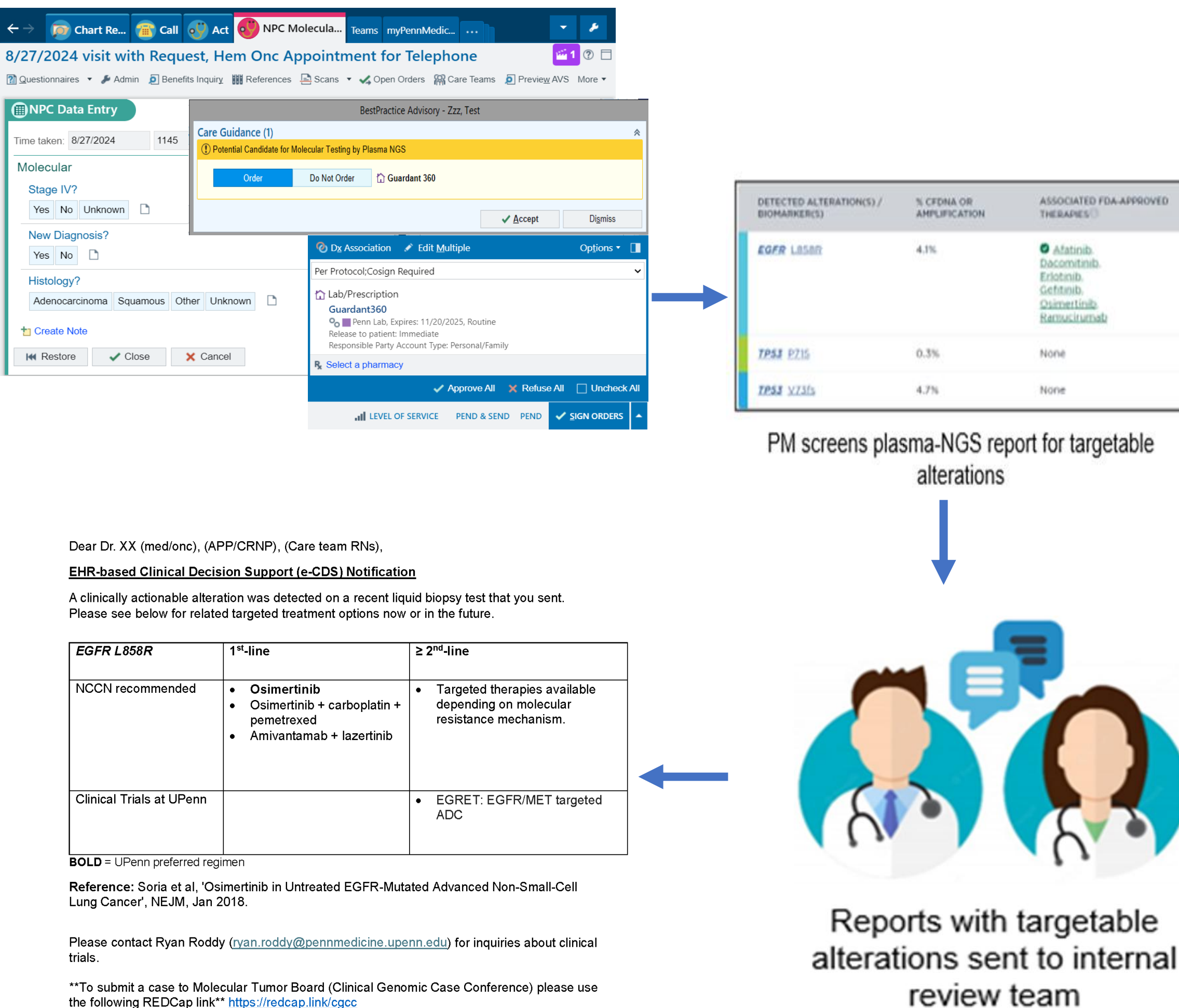
Cluster	Retrospective	Prospective	p-value ¹
1			0.3
Test Modality			
T Only	35 (29%)	28 (21%)	
P Only	29 (24%)	36 (27%)	
T + P	56 (47%)	69 (52%)	
2			<0.001
Test Modality			
T Only	83 (58%)	12 (16%)	
P Only	26 (18%)	17 (23%)	
T + P	34 (24%)	46 (61%)	
3			0.008
Test Modality			
T Only	15 (16%)	18 (38%)	
P Only	11 (11%)	2 (4.3%)	
T + P	70 (73%)	27 (57%)	

¹Pearson's Chi-squared test

Table 3. Comprehensive Testing before 1L by Cluster

Cluster	Retrospective	Prospective	Absolute Difference	Relative Difference	OR
1	86.4%	87.4%	1.04%	1.21%	1.10
2	82.8%	93.5%	10.7%	13.0%	3.00
3	91.0%	95.7%	4.74%	5.21%	2.23

Figure 2. EHR-based Nudge and e- CDS



DISCUSSION AND CONCLUSION

Actionable Take Away Message

- EHR-based nudge was associated with increased combined testing modality (T+P) and higher detection of actionable alterations in patients with metastatic NSCLC.

Future Direction for Research

- EHR-integrated strategies have the potential to improve biomarker-driven care. Tailored implementation strategies are needed to optimize molecular testing across diverse practice settings.

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Acknowledgements & Disclosures

- NCT#05853887
 - The authors declare no competing interests.
- This study is supported in part through a collaboration with Eli Lilly and Company.*

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METHODS

Design: Prospective stepped-wedge cluster randomized clinical trial with 3 clusters across 6 community-based cancer centers

Intervention: (1) EHR-based nudge for default order of P NGS at first medical oncology visit (2) Electronic clinical decision support (e-CDS) alert to notify physicians of molecular test results

Population: Patients with newly-diagnosed, stage IV mNSq NSCLC, systemic treatment naïve and enrolled July 2023 - June 2025

Primary Outcome: Availability of comprehensive molecular test results prior to 1L therapy

