Molecular testing care gap analysis of EGFR mutation for early-stage NSCLC patients in community practices

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INTRODUCTION

The past decade has seen a rapid increase in the approvals of targeted therapies, resulting in complex and frequently updated clinical guidelines. This evolution can pose challenges in delivering care that aligns with NCCN guidelines. In this report, we present a care pathway analysis to characterize the rates of NCCN-recommended molecular testing in early-stage non-small cell lung cancer (eNSCLC).

METHODS

Patients aged 18-89 were randomly sampled for the abstraction of over 120 data elements from their unstructured clinical documents, which included progress notes, pathology reports, discharge summaries, and genomic testing results. A total of 913 patients, encompassing 289,317 unstructured clinical documents from four community practices in the US, were included in the study. The curated data were independently reviewed by an oncologist and a clinical data director, and cross-checked against ML/AI predictions to ensure data quality.

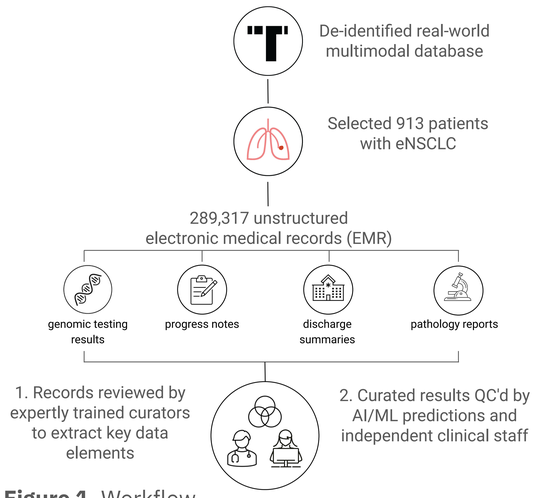


Figure 1. Workflow

SUMMARY

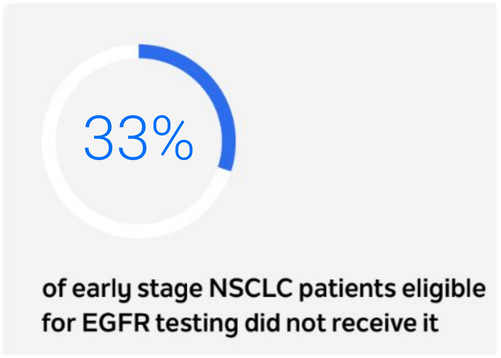
- A significant care gap exists in the administration of EGFR molecular testing for early-stage NSCLC patients.
- Implementing healthcare interventions, such as care pathway automation tools, could improve adherence to guidelines and ultimately enhance patient outcomes.

RESULTS

Table 1: Site level eNSCLC cohort attrition & EGFR Testing Rate

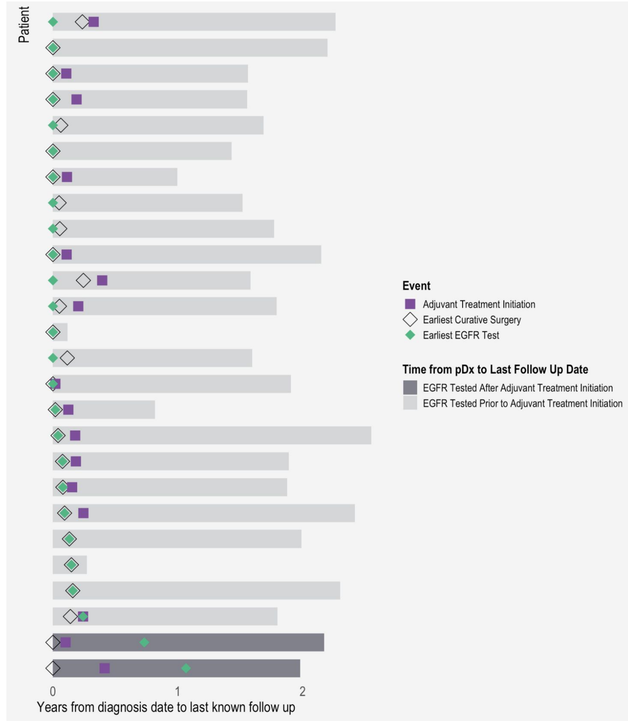
	Site 1 N (% of previous)		Site 2 N (% of previous)		Site 3 N (% of previous)		Site 4 N (% of previous)		Total N (% of previous)	
Total new lung diagnoses in 2022	403		810		342		128		**1,683**	
Sampled for analysis	354	88%	270	33%	197	58%	92	72%	**913**	54%
Primary NSCLC diagnosis	230	65%	125	46%	140	71%	55	60%	**550**	60%
No evidence of being in clinical trial	230	100%	124	99%	140	100%	55	100%	**549**	100%
Available staging data	206	90%	92	74%	89	64%	53	96%	**440**	80%
Early stage [Stage Ib-IIIB]	61	30%	21	23%	25	28%	18	34%	**125**	28%
Non-squamous	40	66%	11	52%	19	76%	8	44%	**78**	62%
Resected	22	55%	4	36%	11	58%	2	25%	**39**	50%
EGFR tested	15	68%	3	75%	8	73%	0	0%	**26**	67%

MONITORED COHORT | PRECISION COHORT | BIOMARKER TESTED



- There is homogeneity in EGFR testing rates across 4 geographically diverse sites.
- 33% of resectable early-stage non-squamous NSCLC patients eligible for EGFR testing do not receive it, compared to 11% in late-stage NSCLC. This higher guideline adherence in late-stage NSCLC, where molecular testing is an established standard of care, highlights opportunities for increased adherence in the early-stage setting.
- EMR sites with real-time feeds of both structured and unstructured data provides comprehensive, longitudinal insights into patient journeys, enabling the identification of clinically relevant care gaps

Figure 2: Patient Journey of EGFR Tested Cohort



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