Results From a Multisite Quality Improvement Initiative in Solid Tumor Precision Medicine

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Background and Aim

- Timely, comprehensive biomarker testing is essential to identify actionable genomic alterations and guide targeted therapy in advanced solid tumors.
- Community and academic cancer centers often face delays in test ordering, long turnaround from diagnosis to results, and gaps before targeted therapy starts.
- **Aim:** To close the above gaps in advanced NSCLC and other solid tumors with a guided multisite QI initiative that paired accredited education (CME) with QI coaching.

Methods

BASELINE July–Nov 2024	Chart review of metastatic solid tumors diagnosed in 2023
INTERVENTION 2024–2025	CME curriculum (launched Sept 2024), QI coaching and meetings, PDSA cycles for site-specific process change
POST INTERVENTION Oct–Dec 2025	Chart review of patients diagnosed Oct–Dec 2025

- **3 sites:** Georgia Cancer Center at Augusta University (GA), AdventHealth Shawnee Mission (KS), Southern Ohio Medical Center (OH)
- **Sample:** 20 NSCLC + 30 other solid tumor charts sampled per site per period; analyzed n = 59 → 50 (NSCLC) and 114 → 107 (all solid tumors)
- **Measures:** test ordered ≤4 weeks of diagnosis; median days to complete results; percentage of actionable alterations treated with targeted therapy; median days from result to therapy start
- **Learners:** pre/post competency questions in live and enduring CME

Interventions and Sustainment

STANDARDIZED PATHWAY
NSCLC and CRC biomarker-testing algorithms

STANDARDIZED PATHWAY
Single or designated reference lab

STANDARDIZED PATHWAY
Reflex tissue NGS, then ctDNA if tissue insufficient

STANDARDIZED PATHWAY
Computerized order entry with EHR integration

WORKFORCE ENABLEMENT
Nurse navigators track orders, results, and treatment visits

WORKFORCE ENABLEMENT
Tumor board and weekly case-finding list review

Sustainability

- Navigators retained ownership of testing coordination
- Automated EHR reporting now tracks turnaround time
- Biomarker testing is a standing topic in oncology governance meetings

Find this program on our website

Funding: Healthcare Improvement grant from Lilly (ID A-37375).
Contact: Joseph Kim, MD, MPH, MBA, FACHE jkim@qsynthesis.com

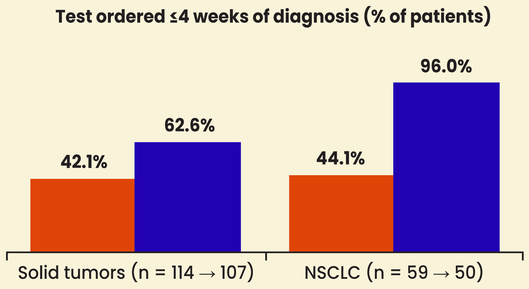
Results

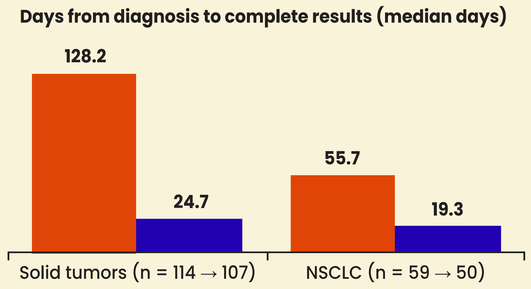
QI Initiative Improves Timeliness of Biomarker Testing and Targeted Therapy in Advanced Solid Tumors

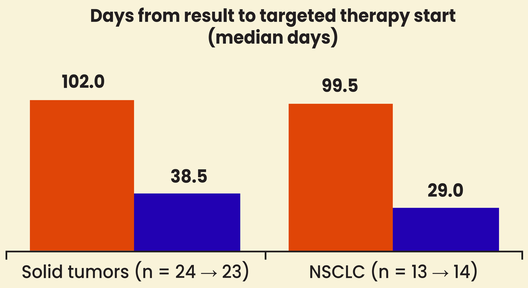
Percent of test ordered within 4 weeks of diagnosis
20.5% improvement
all solid tumors: 42.1% → 63.5 days faster
NSCLC: 51.9% improvement
44.1% → 96.0%

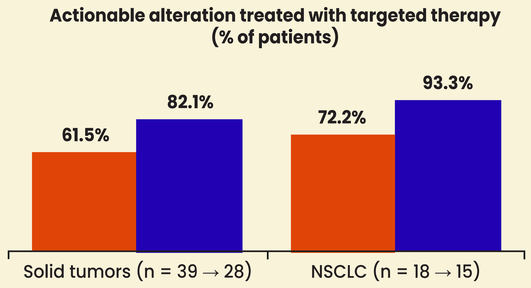
Median days from diagnosis to complete results
103.5 days faster
all solid tumors: 128.2 → 24.7 days
NSCLC: 36.4 days faster
55.7 → 19.3 days

Median days from result to targeted therapy start
63.5 days faster
all solid tumors: 102 → 38.5 days
NSCLC: 70.5 days faster
99.5 → 29 days



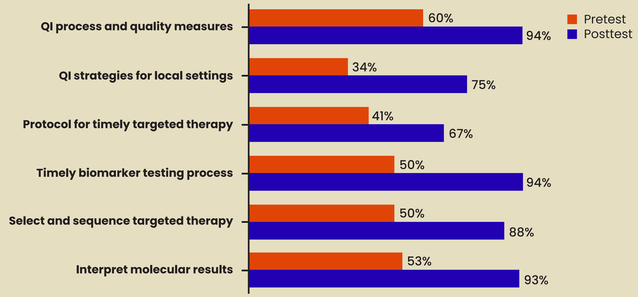






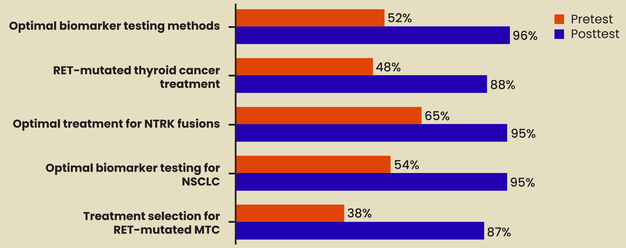
Baseline Post intervention

Learner Competency (CME)



- **Enduring learners improved on all 7 measured objectives** (P <.001 except protocol objective and patient-communication rating, P <.05). Pretest n = 857, posttest n = 692 for testing-process objective.

Selected Learner Outcomes (CME)



Enduring learners; all comparisons P <.001.

Conclusions

- A structured multisite QI initiative produced clinically meaningful gains in the timeliness of biomarker testing and targeted therapy initiation across diverse cancer centers.
- Key drivers: standardized testing workflows, computerized order entry, and expanded nurse navigator roles.
- Locally adapted process changes can substantially reduce delays in precision oncology care. An implementation toolkit is available to support spread.
- Accredited education provided evidence-based, standardized benchmarks for establishing performance improvement measures within each participating site.

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