ASCO Annual Meeting

Abstract #: e20661 Publication Only

Biomarker testing patterns and patient outcomes for metastatic NSCLC, CRC, and metastatic/recurrent HNSCC at Texas Oncology.

Authors: Ayda Mirsalehi, Tracy Li, Hozefa Divan, Jagadeswara R. Earla, Siraje Mahmud, Brenda Chang, Monica Lisi, Rachael Masias, Laura Fonseca, Brian Shelley, Lorraine Brisbin, Guillermo Lazo

Organizations: Precision Health Informatics, LLC, Dallas, TX, Center for Observational and Real World Evidence, Merck & Co., Inc., Kenilworth, NJ, Merck, Boston, MA, Merck & Co., Inc., Rahway, NJ, Precision Health Informatics, Dallas, TX, Texas Oncology PA, Dallas, TX, Texas Oncology, PA, Mcallen, TX

Background:
Biomarker testing is essential for selecting targeted and immunotherapy regimens in non–small cell lung cancer (NSCLC), colorectal cancer (CRC), and head and neck squamous cell carcinoma (HNSCC). Although clinical guidelines recommend comprehensive molecular profiling, real-world adoption and timing vary, particularly in community oncology settings. We evaluated biomarker testing patterns and their association with treatment initiation in routine practice.

Methods:
This retrospective observational study included adult patients with newly diagnosed metastatic NSCLC, CRC, or recurrent/metastatic HNSCC treated at Texas Oncology between January 2022 and May 2025. Consult-only patients and those enrolled in clinical trials were excluded. Biomarker testing included genomic and protein-based markers with established clinical relevance and was classified as early if results were available prior to first-line (1L) therapy initiation and late if results were received after treatment start. Outcomes included testing rates, biomarkers assessed, multiple testing modalities, specimen types, timing, patient and clinical characteristics, and treatment patterns across lines of therapy.

Results:
Among eligible patients (NSCLC n=3,465; CRC n=2,600; HNSCC n=190), overall biomarker testing rates exceeded 95% across tumor types, with individual biomarker testing ranging from 64–96%. Biomarker prevalence was consistent with known disease-specific epidemiology. Next-generation sequencing (NGS) was the most frequently used modality (87% in NSCLC/CRC; 72%

in HNSCC), followed by immunohistochemistry (IHC). Tissue biopsy was the most common specimen source (≈45–58%); liquid biopsy alone accounted for <11%, and combined tissue and liquid testing for <4%. Broad NGS panels (≥15 genes) comprised most tests (≈83% NSCLC/CRC; 69% HNSCC). Early testing occurred in ≈65–85% of patients. There were no observed differences in timing of testing by demographic variables, whereas poorer performance status was associated with delayed testing in NSCLC and HNSCC. Patients with early testing more frequently initiated biomarker-informed 1L therapies, including targeted agents and/or immunotherapy with or without chemotherapy, compared with late testing (90% vs 49% in NSCLC; 84% vs 53% in CRC; 91% vs 49% in HNSCC). In contrast, patients tested late more often initiated chemotherapy-based regimens, with increased use of biomarker-directed therapies in subsequent lines.

Conclusions:
In this large U.S. community oncology cohort, biomarker testing rates were consistently high across tumor types and encompassed a broad range of biomarkers and testing technologies. Early testing was associated with greater use of biomarker-informed 1L therapies, underscoring the importance of timely testing to improve precision-guided treatment decisions in real-world practice.

Research Funding:
Merck

Track:
Lung Cancer—Non-Small Cell Metastatic

Citation:
J Clin Oncol 44, 2026 (suppl 16; abstr e20661)

DOI:
10.1200/JCO.2026.44.16_suppl.e20661

Abstract Disclosures:
https://coi.asco.org/Report/ViewAbstractCOI?id=534840