

Addressing Challenges of Pharmacy Practice in Non-Small Cell Lung Cancer (NSCLC®): Insights from a Multi-Site Survey of Southeast U.S. Pharmacists

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Background

NSCLC accounts for approximately 85% of all lung cancer cases, with genetic mutations such as EGFR, KRAS, ALK, and ROS1 playing a crucial role in treatment decisions (Abughanimeh O et al, 2022). Targeted therapies like Krazati® (adagrasib) and Augtyro® (repotrectinib) have transformed treatment paradigms, but challenges persist in integrating these options into clinical practice.

Despite advances in next-generation sequencing (NGS) testing, gaps remain in community oncology settings, regarding when and how to implement biomarker testing. In many sites, biomarker testing occurs only at the second-line treatment phase rather than at diagnosis, potentially delayed optimal therapy selection. Furthermore, electronic medical record (EMR) systems often lack built-in standardized biomarker testing panels or automated alerts to guide the multidisciplinary medically integrated team.

Objectives

1. Assess the integration of biomarker testing into EMRs
2. Evaluate pharmacist involvement in education and clinical decision-making
3. Identify gaps in biomarker-driven therapy selection
4. Propose solutions for optimizing biomarker testing workflows

Methods

We completed a retrospective review of survey responses to identify challenges associated with the treatment of NSCLC and NGS testing provided by practicing pharmacists across the Southeast region of the U.S.

Methods, cont'd

- Participants included pharmacists practicing in community oncology, hospital pharmacy, or academia and had attended NCODA Fall Summit 2024
- At least 30 pharmacists were required to meet study criteria
- Each participant received a survey with pre-specified questions regarding their practicing site's workflow
- Survey responses included both fixed and open-ended questions to thoroughly extract challenges
- Following survey completion, data was synthesized for review and categorized into two key challenge areas:
 - Integration of NGS testing into their institution-specific EMR
 - Education surrounding NGS testing, genetic mutations, and patient counseling

Results

Between November 25 – December 13, 2024, 95 participants were enrolled in the study; 84% (n= 80) completed the survey in its entirety. The median time to completion was 18 minutes and 9 seconds.

- Out of the 95 respondents, most pharmacists reported working in community oncology (61%, n= 58), followed by hospital pharmacy (25%, n= 28) and academia (9%, n=9)
- 83 (87%) participating pharmacists out of 95 responded active involvement in treating lung cancer or integrating NGS testing into practice
- In institutions with biomarker integration, 40% (n=35 of 88) of pharmacists reported that standardized biomarker testing or specific recommendations for NSCLC patients was determined on a case-by-case basis
- Among all pharmacists, ~40% (n= 35 of 88) reported being integral to NSCLC disease state management, ~74% (n= 64 of 86) indicated being involved in EMR builds and maintenance of treatment regimens, and 31.82% (n= 28 of 88) assisted in the interpretation of biomarkers
- ~40% (n= 35 of 88) of pharmacists provided regular updates and training of emerging NSCLC therapies, however only a combined 43% (n=35 of 81) pharmacists disclosed feeling "very" or "extremely confident" in understanding the role of lung cancer mutations

Figure 1. Embedded EMR Integration for Biomarker Testing/Recommendation(s)

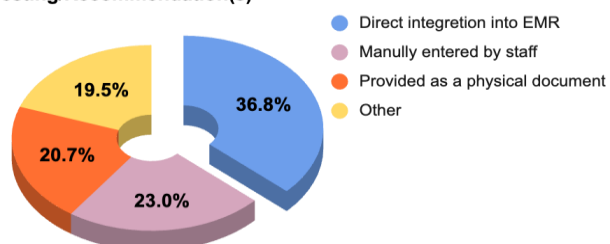
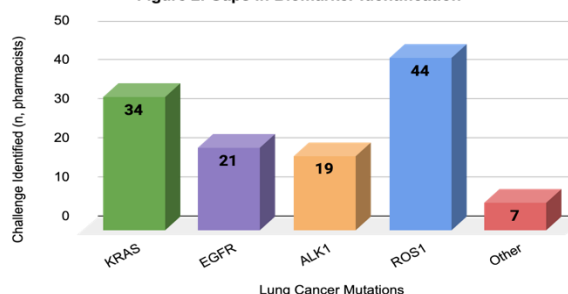


Figure 2. Gaps in Biomarker Identification



Discussion

This study highlights critical gaps in EMR integration, pharmacist involvement, and multidisciplinary education in biomarker-driven treatment workflows. Nearly half of participants reported that standardized biomarker testing recommendations were not embedded in their institution's EMR, resulting in case-by-case decisions that risk inconsistency and inefficiency (Tsai CH, et al., 2020). In institutions with EMR integration, nursing staff primarily coordinated test results, while pharmacists had minimal involvement in chart updates despite being part of informatics teams that build regimens (74.42%; n= 64 of 86). Furthermore, 65% of pharmacists (n= 53 of 81) stated their EMRs did not support or barely supported mutation reporting and patient flagging. This lack of standardization is particularly concerning given the recommendation for biomarker testing to occur at diagnosis (Riely GL, 2017). Despite their central role in dosing, safety, and adherence, pharmacists' involvement in educating the care team on biomarker-driven therapies is inconsistent. These findings emphasize the need for better EMR support and more robust pharmacist-led education in NSCLC biomarker care.

Conclusion

Efforts to improve EMR system integration, enhance pharmacist-led education, and standardize biomarker testing within practice could lead to more effective and accurate treatment decisions. Addressing these gaps will not only optimize workflow efficiency but also improve patient outcomes in biomarker-driven lung cancer care.

Additional Materials

Scan the QR code (right) for review of the abstract and references.

DISCLOSURES: Bristol-Myers Squibb® was the sponsor of this survey, however, at this time, there is no relevance to bias, study analysis, or results to disclose.

