Evaluating socioeconomic status, racial, and US geographic regional differences in biomarker testing and treatment in advanced ovarian cancer

Objective
To describe the socioeconomic status (SES), racial, and US regional differences in the use of biomarker testing and treatment in advanced ovarian cancer (AOC). The aim was to identify characteristics associated with lower use of biomarker testing and treatment and the highest geographic areas with disparities.

Introduction
Cancer care is a leading cause of socioeconomic cancer death in the US, trebling advanced ovarian cancer (AOC) treatment differences in the US and potentially across regions. Differences in the use of biomarker testing and treatment are observed between socioeconomic statuses (SES), race, and geographic region. Understanding the effects on biomarker testing and treatment among patients may help to improve access to care.

Methods
The retrospective cohort study involved the analysis of Flatiron Health Database. Data were analyzed from 907 individuals of AOC who were newly diagnosed between January 01, 2019 and March 31, 2022 were included for analysis. SES, race, and geographic region differences in the use of biomarker testing and treatment among patients were evaluated using descriptive statistics and chi-squared testing. The use of biomarker testing, defined as a recorded BRCAm and/or HRD testing, was evaluated.

Results
Most patients (98%; n=896/907) received biomarker testing, with the majority (82%; n=732/896) having both BRCAm and HRD testing. Testing rates for BRCAm and HRD (defined as having a recorded BRCAm and/or HRD testing) were similar across SES, race, and US region. Most (82%; n=98/119) patients who did not receive BRCAm or HRD testing did not receive biomarker testing following the diagnosis.

What were the findings of this research?
• Most HRD+ patients (70.0%; n=84/120) received 1LM therapy, with 45.0% (37/80) receiving PARP inhibitor and bevacizumab.

What are the implications of this research?
• This real-world study aimed to describe SES, racial, and US regional differences in the use of biomarker testing and treatment in AOC patients.

Plain language summary
Advanced ovarian cancer (AOC) is a leading cause of cancer death in the US. Differences in the use of biomarker testing and treatment are observed between socioeconomic statuses (SES), race, and geographic region. Understanding the effects on biomarker testing and treatment among patients may help to improve access to care.

Conclusions
Further exploration of the observed differences in biomarker-testing rates by SES and race/ethnicity is required to better understand the implications of these findings.

Acknowledgments
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References

Figure 1. Study design

Table 1. Baseline characteristics

Table 2. Biomarker-testing rates by SES score, race/ethnicity, and US region

Figure 2. Breakdown of 1LM therapy by HRD status

Figure 3. Breakdown of 1LM therapy by patients’ SES

Figure 4. Breakdown of 1LM therapy by HRD status

Table 3. Receipt of 1LM therapy for patients with biomarker testing, by SES score, race, and US region

Limitations
• This is a real-world study that evaluated AOC patients received biomarker testing to determine 1LM therapy. The use of biomarker testing, defined as a recorded BRCAm and/or HRD testing, was evaluated.

• The observed differences in numbers of patients between clinical and academic cancer clinics could help design future studies that are more systematically different in the way data was collected.