Factors impacting genomic testing rates among epithelial ovarian cancer patients across a large community based healthcare system

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Topic: Financial Toxicity and Disparities

Objectives
To determine the rates of germline and somatic testing for epithelial ovarian cancer (EOC) patients and identify factors that impact testing rates across a large community-based healthcare system operating in five states across WA, OR, CA, AK, and MT. The system is comprised of over 100,000 caregivers, 51 hospitals and 829 physician clinics. The aim was to identify fixed barriers to testing including region, hospital type, insurance status, racial/ethnic disparities, and stage of diagnosis.

Methods
Clinical, pathologic, demographic and genomic testing information was obtained from the diverse dataset within the Providence St. Joseph Health Electronic Medical Records and the system-wide cancer registry for all patients with an invasive EOC diagnosis (ICD C56.x) between January 2015 and January 2020. Structured genomic data was sourced from laboratory information systems and manual abstraction of molecular sequencing reports. This dataset encompasses patient population data among diverse hospital settings and urban/rural environments. Hospital types were broken down into academic setting which contain a residency program (Academic), Commission on Cancer (CoC) accredited programs, or smaller community sites (Community) without CoC accreditation. Descriptive statistics and logical regression are utilized to summarize key findings.

Results
Within this EOC cohort (3,847 patients), 36% (n=1,015 patients) completed some type of genomic testing (GT). The percentage of patients tested increased from 31% in 2015 to 46% in 2019, reflecting uptake of testing guidelines. The increase in GT rates was largely attributable to an increase in somatic tumor testing; while germline testing rates were stable across the interval (Table 1). Patients were more likely to receive testing if they received care at an academic or CoC institution vs community institution (p= < .001). Logistic regression analysis demonstrated the following factors impacted tested rates: clinical setting type, insurance status, and stage at diagnosis (p<0.0001 for all). Race/ethnicity was also found to be significant (p=0.0002).

Conclusions
This study is the first to analyze practice patterns in GT for EOC across a broad community-based healthcare system servicing 5 states. The data highlight discrepancies in GT heavily influenced by practice setting, insurance status, and stage of diagnosis (likely reflecting payer coverage/ increased need for information in advanced stage disease). There is a need for a universally defined approach to testing in order to provide equitable access to evidence based cancer care.

Abstract Table or Graph
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