Poster 31: Global Disparities Exist in Molecular and Somatic Genetic Testing for Gynecologic Cancers

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Topic
Financial Toxicity and Disparities

Objectives
Low- and lower middle-income countries (LMICs) bear a disproportionate burden of gynecologic cancers and have worse outcomes due to delayed diagnosis, limited access to care, and fewer treatment options. Molecular and genetic testing, prerequisites for targeted therapies which have shown improved outcomes in clinical trials, are often unavailable in LMICs due to infrastructure and cost barriers. This study aims to evaluate real-world patterns of molecular and genetic testing in gynecologic cancers across economic regions, identify barriers to testing, and highlight areas for improvement in testing guidelines.

Methods
A 16-question anonymous online survey was distributed via REDCap to physician members of the Society of Gynecologic Oncology (SGO) and International Gynecologic Cancer Society (IGCS). The survey collected provider demographics, regional economic classification, molecular and genetic testing practices in ovarian, endometrial, and cervical cancers, and perceived barriers. Participation was voluntary with partial responses allowed. Percentages were calculated per question. Fisher's exact test was used for categorical comparisons.

Results
Of 365 responses, 362 were included in analysis. Respondents were primarily gynecologic oncologists (74.8%) and pathologists (16.9%), representing North America (38.1%), Asia (22.4%), Africa (14.5%), Europe (11.6%), Latin America/Caribbean (8.3%), and Oceania/unspecified regions (5.0%). Physicians in higher-income regions reported significantly greater use of next-generation sequencing, FOLR1 testing, HER2 testing across gynecologic cancers, PD-L1 testing in cervical cancer, HRD testing in ovarian cancer, and molecular testing in endometrial cancer (all $p < 0.0001$). Cost was the most commonly cited barrier to testing across all regions, particularly in LMICs.

Conclusions
Significant economic-based disparities exist in access to molecular and genetic testing for gynecologic cancers, limiting the use of targeted therapies in LMICs. Efforts to reduce testing costs, expand diagnostic infrastructure, enhance provider training, and strengthen health systems are essential. Global collaboration and further research into targeted therapies in LMIC populations are critical to improving equity in gynecologic cancer care.

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Abstract Table or Graph

Survey Responses by Economic Region (n=362)

	High income (n=121)	Upper-middle income (n=81)	Lower-middle income (n=130)	Low income (n=30)	P value
NGS testing					
Ovarian cancer	104 (86.0%)	56 (69.1%)	60 (46.2%)	11 (36.7%)	<0.0001
Endometrial cancer	104 (86.0%)	56 (69.1%)	52 (40.0%)	12 (40.0%)	<0.0001
Cervical cancer	51 (42.1%)	23 (28.4%)	23 (17.7%)	5 (16.7%)	0.0001
FOLR1 testing					
Ovarian cancer	82 (67.8%)	38 (46.9%)	33 (25.4%)	6 (20.0%)	<0.0001
HER2 testing					
Ovarian cancer	62 (51.2%)	42 (51.9%)	43 (33.1%)	11 (36.7%)	0.009
Endometrial cancer	101 (83.5%)	61 (75.3%)	72 (55.4%)	15 (50.0%)	<0.0001
Cervical cancer	45 (37.2%)	24 (29.6%)	12 (9.2%)	5 (16.7%)	<0.0001
PD-L1 testing					
Cervical cancer	99 (81.8%)	58 (71.6%)	67 (51.5%)	11 (36.7%)	<0.0001
HRD testing					
Ovarian cancer	112 (92.6%)	61 (75.3%)	77 (59.2%)	14 (46.7%)	<0.0001
Molecular testing in endometrial cancer					
Always	77 (63.6%)	40 (49.4%)	49 (37.7%)	7 (24.1%)	<0.0001
No	14 (11.6%)	18 (22.2%)	55 (42.3%)	15 (51.7%)	
Sometimes based on histologic type	30 (24.8%)	23 (28.4%)	26 (20.0%)	7 (24.1%)	
Most significant barrier to genetic testing					
Cost of test	61 (50.4%)	46 (56.8%)	96 (73.8%)	21 (70.0%)	<0.0001
Institutional guidelines restricting tests	18 (14.9%)	12 (14.8%)	3 (2.3%)	3 (10.0%)	
Access to companies doing the testing	5 (4.1%)	3 (3.7%)	18 (13.8%)	1 (3.3%)	
No access to drugs targeting testing results	6 (5.0%)	8 (9.9%)	6 (4.6%)	2 (6.7%)	
Obtaining tumor to evaluate	13 (10.7%)	4 (4.9%)	2 (1.5%)	2 (6.7%)	
Keep track of returned data	10 (8.3%)	4 (4.9%)	4 (3.1%)	1 (3.3%)	
Not answered	8 (6.6%)	4 (4.9%)	1 (0.8%)	0 (0.0%)	

NGS, next-generation sequencing; FOLR1, folate receptor alpha; HER2, human epidermal growth factor receptor 2; PD-L1, programmed cell death-ligand 1; HRD, homologous recombination deficiency