Abstract 9 Figure 1 Mutation Heatmap of "ultra-low risk" endometrial cancers

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10 GLOBAL ECONOMIC EVALUATION OF POPULATION-BASED BRCA1/BRCA2 MUTATION TESTING

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Objectives To evaluate cost-effectiveness and population-impact of unselected population-based BRCA-testing compared to clinical-criteria/family-history(FH) based BRCA-testing across Lower-middle-income/LMIC (India), Upper-middle-income/UMIC (Brazil/China) and High-income-countries/HIC (US/UK/Netherlands) health-systems. **Methods** Markov-modelling compared lifetime costs-&-effects of BRCA1/BRCA2-testing all general-population women

≥30years compared with clinical-criteria/FH-based testing. Analyses undertaken for UK/USA/Netherlands/China/Brazil/India using both health-system/payer and societal perspectives. All women ≥30years in the Population-Testing arm and only those fulfilling clinical/FH-criteria in the Clinical-Criteria/FH-based testing arm undergo BRCA-mutation testing. We collected primary-data on direct medical costs from China, Brazil, India. Costing-data were obtained from published NHS-reference-costs for the UK/Netherlands and published literature for USA. Future costs/health-effects discount-rate=3.5%. Parameter-uncertainty was explored using one-way and probabilistic-sensitivity-analyses. Specific health-economic cost-effectiveness threshold guidelines were used where available for UK=£20,000-£30,000; USA=\$50,000-\$100,000; Netherlands=€ 20,000-€ 50,000. Main-outcome=ICER/QALY. For comparison local currency values are converted to \$s using purchasing-power-parity factor.

Results From 'societal-perspective', population-based BRCA-testing is 'cost-saving' in HIC: UK-ICER=\$-3,508/QALY; USA-ICER=\$-1,327/QALY; Netherlands-ICER=\$-8,663/QALY. It is potentially Cost-effective in UMIC depending on willingness-to-pay thresholds chosen and genetic-testing costs. UMIC-ICERs are just above 1*GDP-threshold: China-ICER=\$20,988/QALY; Brazil-ICER=\$15,587/QALY. It becomes under 3*GDP threshold in India if BRCA-testing cost is \$148/test (ICER=\$19,676/QALY). From 'payer-perspective', population-based BRCA-testing is cost-effective in HIC: UK-ICER=\$24,101/QALY; USA-ICER=\$19,804/QALY; Netherlands-ICER=\$28,668/QALY. Results are sensitive to genetic-testing costs. Population-based BRCA-testing can prevent an additional 2319-to-2666 breast-cancers and 327-to-449 ovarian-cancers/

million-women translating to tens-of-thousands more breast/ovarian-cancers prevented across the population.

Conclusions Population-based BRCA-testing is cost-effective in HIC and potentially in UMIC depending on the local willingness-to-pay thresholds. Genetic-testing costs need to fall further for LMIC cost-effectiveness. Population-testing can prevent tens-of-thousands more breast/ovarian-cancers than the current clinical strategy.

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11 FLABRA, FRONTLINE APPROACH FOR BRCA TESTING IN OVARIAN CANCER (OC) TREATMENT NAÏVE POPULATION. A LATIN AMERICA (LA) EPIDEMIOLOGIC STUDY

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Objectives Previously described prevalence of BRCA mutated OC is 14% for germline BRCA mutations (gBRCA^M), that could increase to 20% considering somatic BRCA mutations (sBRCA^M). Latinamerican population is a paradigm of poly-ethnicity and ancestries and the prevalence of BRCA^M is unknown.

FLABRA is a cross-sectional, multi-center study designed to determine the prevalence of BRCA^M, either sBRCA^M or gBRCA^M in high grade serous OC LA patients, with a new approach of start testing in tumor. We also aimed to describe current genetic counselling and treatment approach at frontline in this population.

Methods We enrolled 407 patients from Argentina, Brazil, Colombia, Mexico, Peru and Panama, diagnosed with OC within the last 120 days. Archived tumor blocks or 10-µm sections were used for BRCA testing in tissue (Myriad Tumor BRCAAnalysis CDx™). Patients who were positive in tumor, were analysed in blood to determine if the mutation was from germline (Myriad Single Site BRCAAnalysis®). In gBRCA^M, genetic counseling was advised. Patients medical records were reviewed for data relevant to medical history, OC diagnosis, counseling approach, and treatment plan.

Results Results from first 376 patients who already completed the study: BRCA mutations prevalence detected in tumor was 30%.

Conclusions Our data show a high prevalence of sBRCA^M and gBRCA^M in LA OC pts. Additionally, this new approach of start testing the tumor may prove to be more cost effective, leading to a more conclusive result; so refinement of this technique is a must. The high prevalence of sBRCA^M in certain regions of LA needs to be further investigated.

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12 GENETIC ANALYSIS OF PRIMARY AND RECURRENT ADULT GRANULOSA CELL TUMORS OF THE OVARY

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Objectives Adult granulosa cell tumors (aGCTs) are rare ovarian tumors underpinned by the FOXL2 p.C134W mutation, with a 10–30% risk of relapse. We sought to determine the genetic alterations underpinning primary and recurrent aGCTs.

Abstract 11 Table 1

	TOTAL LATAM	ARGENTINA	BRAZIL	COLOMBIA	MEXICO	PANAMA	PERU
Total tested in tumor tissue N	376	105	101	74	44	22	30
BRCA ^M tissue N (%)	112 (29,78%)	34 (32,4%)	27 (26,7%)	17 (23%)	18 (40,9%)	3 (13,6%)	13 (43,3%)
gBRCA ^M N (%)	67 (59,82%)	24 (70,6%)	17 (63%)	5 (29,4%)	16 (88,9%)	1 (33,3%)	4 (30,8%)
sBRCA ^M N (%)	32 (28,57%)	7 (20,6%)	4 (14,8%)	12 (70,6%)	0 (0%)	2 (66,6%)	7 (53,8%)
Inconclusive	13 (11,6%)	3 (8,8%)	6 (22,2%)	0 (0%)	2 (11,1%)	0 (0%)	2 (15,4%)