Cancer Risk Assessment and Hereditary Cancer Genetic Testing in a Community OB/GYN Setting

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Background

- ACS, ACOG, ACR, ASBrS, NCCN, and USPSTF recommend cancer risk assessment and hereditary cancer genetic testing for appropriate individuals.
- Previous work found approximately 24% of unaffected patients in a community OB/GYN setting meet national guidelines for hereditary cancer testing.[1]

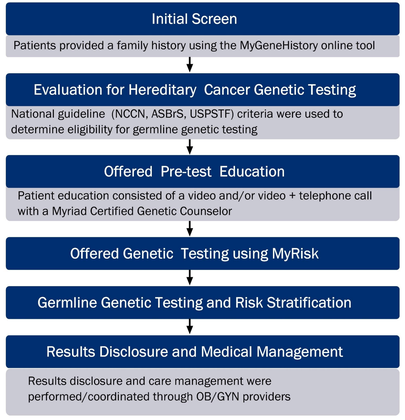
OBJECTIVES

- Determine percentage of unaffected patients meeting updated genetic testing criteria.
- Outline breast cancer risk assessment and genetic test results.
- Delineate percentage of patients in whom management changes would be recommended based on a personalized assessment of breast cancer risk.

Methods

- A hereditary cancer risk assessment focused process-intervention study was conducted at **five community OB/GYN practice sites** from July 2021 to November 2022.
- Patients who met guideline criteria and agreed to proceed with testing were provided germline genetic testing using the **MyRisk** multigene hereditary cancer panel.
- Additional **breast cancer risk stratification** was performed with the Tyrer-Cuzick (IBIS) breast cancer risk evaluation tool v7 and with **RiskScore** .
- Descriptive statistics were used for the analysis.

Figure 1: Methods



Results

Hereditary Cancer Risk Assessment and Test Completion

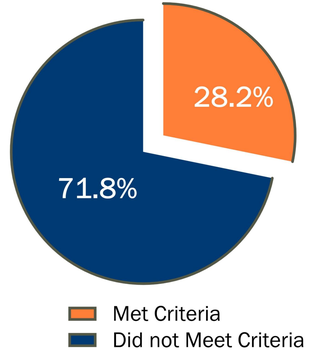
- 4,553 people provided a family history and were assessed
- 28.2% (1285/4553) met genetic testing criteria
- 89.1% (1145/1285) were offered genetic testing
- 45.0% (515 /1145) submitted a sample
- 85.2% (439/515) completed testing

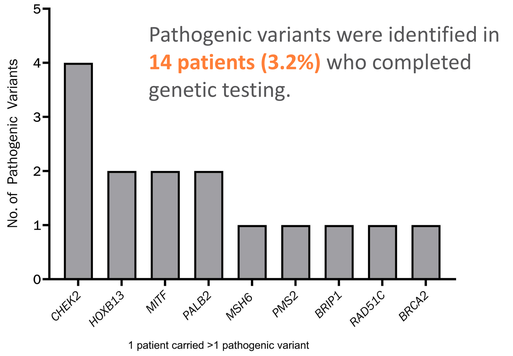
Table 1: Breast Cancer Risk Stratification

Post Intervention Period N = 367		RiskScore Estimated Lifetime Risk of Breast Cancer N (% of total)		
		< 20%	≥ 20%	TOTAL
Tyrer-Cuzick Estimated Lifetime Risk of Breast Cancer N (% of total)	< 20%	233 (63.5)	19 (5.2)	252 (68.7)
	≥ 20%	49 (13.4)	66 (18)	115 (31.3)
	TOTAL	282 (76.8)	85 (23.2)	367

36.5% of those not carrying a pathogenic variant had a calculated lifetime breast cancer risk of ≥20% as determined by Tyrer-Cuzick and/or RiskScore.

Figure 2: Percent of Patients Meeting Criteria for Genetic Testing and Pathogenic Variants Identified





Pathogenic variants were identified in **14 patients (3.2%)** who completed genetic testing.

Conclusions

- More than **one quarter of patients** seen in the community OB/GYN setting **met national guideline criteria** for hereditary cancer genetic testing.
- 3.2% of tested patients carried a pathogenic variant.
- More than **one-third of patients** not carrying a pathogenic variant were still at elevated risk for breast cancer and would **warrant consideration** for medical management change.
- Incorporating routine hereditary cancer and comprehensive breast cancer risk assessment in community OB/GYN practice provides an opportunity to **identify patients at elevated risk for breast and other cancers** and to **tailor medical management to the appropriate risk level** of the patient.

Disclosures: All authors were employees of Myriad Genetics, Inc. at the time of the study and received salary and stock options.

References: DeFrancesco MS, Waldman R, Pearlstone MM, et al. Hereditary cancer risk assessment and genetic testing in the community-practice setting. Obstetrics & Gynecology. 2018;132(5):1121-1129. doi:10.1097/aog.0000000000002916