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Hereditary Cancer Genetic Testing in Community-Based Obstetrics and Gynecology Settings

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INTRODUCTION

- Despite ACOG recommendations, many Obstetricians and Gynecologists (Ob/Gyns) do not routinely screen patients for hereditary cancer risk.
- We evaluated the feasibility of improving hereditary cancer risk assessment and genetic testing, when appropriate, in community Ob/Gyn practices.

METHODS

- Prospective, single-arm process intervention study across 6 community Ob/Gyn office sites.
  - Associates for Women's Medicine (Syracuse, NY; 4 sites with 14 participating providers)
  - Westwood Women's Health (Waterbury, CT; 2 sites with 2 participating providers)
- Data was collected during an 8-week pre-intervention and an 8-week post-intervention period.
- A 4-week practice period followed the process intervention.
- Surveys were completed by providers (15) and patients who submitted a sample for genetic testing (169).

RESULTS

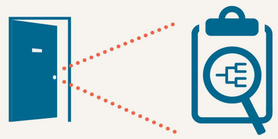
Figure 1. Process Flowchart

Pre-Intervention (8 weeks)

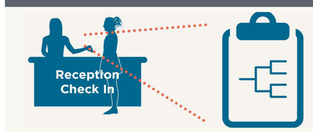
- Hereditary cancer screening and testing performed as usual

Process Intervention (4 weeks)

- Ob/Gyn providers and staff, Certified Genetic Counselors, and LEAN-certified process engineering experts:
  - Assess existing hereditary cancer risk screening process at each site
  - Refine work-flows and tools
  - Train site providers and staff in risk screening and follow-up



Practice Period (4 weeks)



Implement process changes and work-flows at each site

Post-Intervention (8 weeks)

- Providers conduct routine hereditary cancer risk screening with patients in clinic site
- Genetic testing offered to patients meeting NCCN criteria
- Patient testing, counseling, and follow-up
- Patient satisfaction survey following submission of test sample

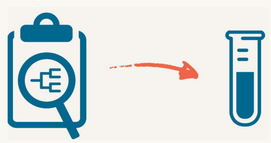


Table 1. Post-Intervention Patient Metrics

Provided family history	3,811/4,107 (92.8%)
Met NCCN testing guidelines	906/3,811 (23.8%)
Offered genetic testing	813/906 (89.7%)
Agreed to undergo genetic testing	318/813 (39.1%)
Submitted sample for genetic testing	219/318 (68.9%)
Completed genetic testing (of agreed)*	165/318 (51.9%)
Completed genetic testing (of total seen)*	165/4,107 (4.0%)

*Includes only patients with a reported test. Patients with only a canceled test (n=41) and patients who had previously been tested (n=13) are excluded from this group.

- In the pre-intervention period, 43/3,882 (1%) of patients seen completed genetic testing.
- In the post-intervention period, 165/4,107 (4%) of patients seen completed genetic testing.
  - Full post-intervention metrics are in Table 1.
- 5.5% (9/165) of patients who underwent testing carried a pathogenic variant (Table 2).
- Patients understood the information provided (98.8%) and were satisfied with the overall process (97.6%).
- Providers were satisfied with the process implementation and will continue to use this process to screen risk for hereditary cancer (Figure 2).

Table 2. Variants Identified

Variant	Total
*BRCA2**	3 (1.8%)
MSH6**	3 (1.8%)
*BRCA1**	1 (0.6%)
*CHEK2****	1 (0.6%)
*PALB2****	1 (0.6%)
Total	9 (5.5%)

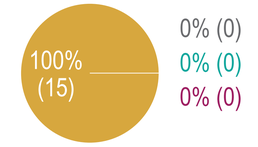
*Associated with Hereditary Breast & Ovarian Cancer
** Associated with Lynch Syndrome
***Associated with Breast Cancer

Figure 2. Select Patient and Provider Survey Responses

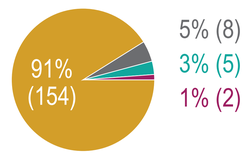
Survey Responses
Patients surveyed at time of testing. Providers surveyed at end of study.

Yes
No
Undecided
Missing

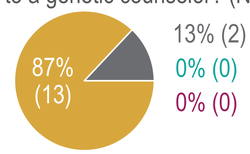
Provider Question: After this study, will you continue to use this process to screen and test patients at risk for hereditary cancer? (N=15)



Patient Question: Do you feel that a return visit to discuss your test results is important regardless of a positive or negative result? (N=169)



Provider Question: Do you agree that identifying patients for hereditary risk was thorough, and are you comfortable recommending genetic testing without referral to a genetic counselor? (N=15)



CONCLUSIONS

- The process intervention substantially increased the proportion of at-risk patients who had genetic testing, and both patients and providers reported a positive experience.
- Ob/Gyns added routine screening, patient counseling, and genetic test ordering efficiently within the clinic work-flow.
- Integration into routine practice is feasible and beneficial in a community Ob/Gyn setting.

CONTACT INFORMATION

Please email Mark DeFrancesco (mdefrancesco@womenshealthct.com) with any questions or comments.

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