Implementation of Standardized Hereditary Breast and Ovarian Cancer (HBOC) Risk Assessment and Genetic Referral

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CLINICAL PROBLEM

- Up to 10-15% of breast and ovarian cancers are due to HBOC.[35]
- Early detection of HBOC reduces morbidity and mortality.[21-24]
- HBOC risk assessment and genetic counseling referral are vastly underutilized in the United States.[2,9,11,29,34]
- In our practice prior to implementation, 35.1% of women at risk of HBOC were identified; 18.2% at risk were further referred.

PURPOSE/AIMS

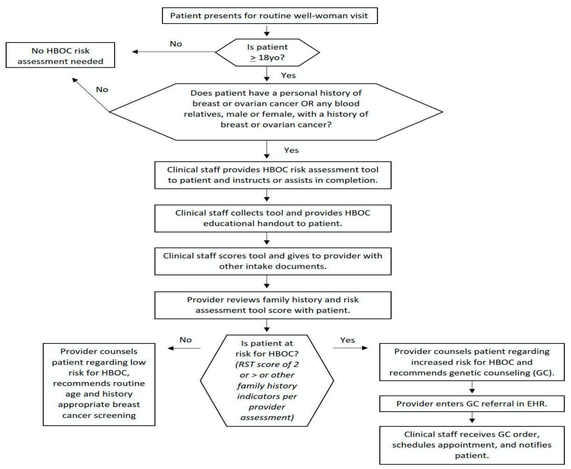
- To implement evidence-based HBOC risk assessment/referral.
- To *increase identification* of women at risk of HBOC by 25%.
- To *increase genetic referral* for women at risk by 25%.

IMPLEMENTATION

- Framework: Evidence-based Practice Improvement Model.[18]
- Literature appraisal demonstrated *good and consistent* evidence supporting use of HBOC risk assessment tools.[13]
- Risk assessment tool selection and clinical decision-making algorithm development were made via Plan-Do-Study-Act Cycles.
- All women presenting for well-woman visits were screened for HBOC risk using the RST tool.[10,35]

	Breast Cancer at Age 50 or *YOUNGER*	Ovarian Cancer at *ANY* Age
Yourself	☐	☐
Mother	☐	☐
Sister	☐	☐
Daughter	☐	☐
Mother's side		
Grandmother	☐	☐
Aunt	☐	☐
Father's side		
Grandmother	☐	☐
Aunt	☐	☐
2 or more family members with breast cancer after age 50 on the ***same side of the family***	☐	
Jewish ancestry	☐	
Male breast cancer at any age in any relative	☐	

HBOC Referral Screening Tool (RST). A score of 2 or greater warrants genetic counseling referral. Adapted by permission from Springer Nature, "Evaluation of a breast/ovarian genetics referral screening tool in a mammography population," by C. A. Bellcross, A. A. Lemke, L. S. Pape, A. L. Tess, and L. T. Meisner, 2009, *Genetics in Medicine, 11*, p. 784, Copyright 2009.



Women at risk of HBOC ***were significantly more likely to be identified and referred for genetic counseling*** after the implementation of a standardized HBOC risk assessment tool.

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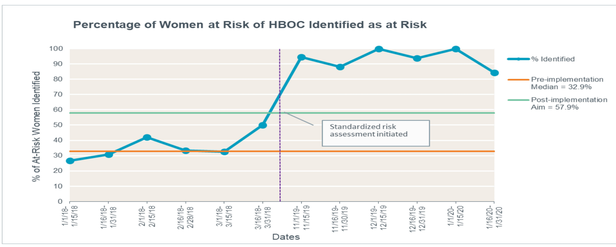
COLLEGE OF NURSING

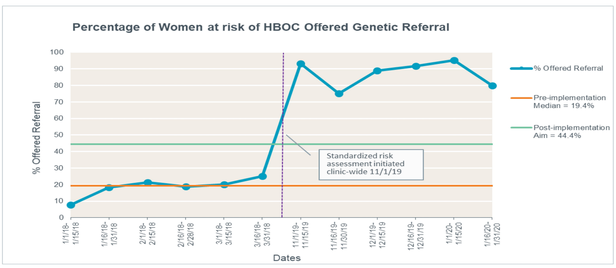
OUTCOMES

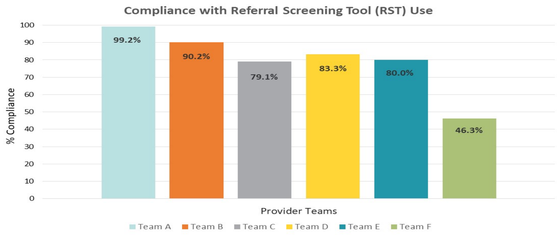
- Women at risk of HBOC were **25 times more likely to be identified as at-risk and 31 times more likely to be referred** for genetic counseling after implementation (OR = 25.88, 95% CI [10.78-62.14]; OR = 31.50, 95% CI [13.37-74.22])
- HBOC **risk identification increased by 58.2%**
- **Genetic referrals for women at risk increased by 69.3%**
- The relationship between use of the RST familial risk assessment tool and HBOC risk identification and referral for women at risk was **statistically significant** X2 (1, N = 199) = 74.76, p = < .001; X2 (1, N = 165) = 79.78, p = < .001

TABLES AND FIGURES

Characteristic	Pre-implementation (N = 930)	Post-implementation (N = 912)	*p* value
Age in years, M ± SD	38.41 ± 12.55	38.15 ± 12.68	.663
Race, n (%)			.234
Caucasian	728 (78.28)	697 (76.42)	
African American	170 (18.28)	166 (18.20)	
Asian	16 (1.72)	24 (2.63)	
Other	12 (1.29)	14 (1.54)	
Not reported	4 (0.43)	11 (1.21)	
Well-woman visits, n (%)	930 (100)	912 (100)	.205
Screen eligible, n (%)	325 (34.95)	349 (38.27)	.205
At risk of HBOC, n (%)	94 (10.11)	105 (11.51)	.705







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