Abstract Title:

Implementation Of Routine Genetic Screening In A Rural Gastrointestinal Clinic Leads To Identification Of Inherited Gastrointestinal Disorders And Other Cancer Risks In 20% Of Patients Tested

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ABSTRACT BODY:

Identifying patients at increased risk of GI cancers/disorders allows for early detection and prevention. Early identification of inherited disorders may also aid in physician- patient developed care plans, patient adoption of life-style changes and notification of family members about their potential risks. Barriers to identifying patients include lack of physician knowledge of office based genetic testing implementation, patient awareness, inadequate family history documentation, risk calculation complexity, and lack of genetics providers to perform risk assessment and testing. In our rural based GI clinic, we describe our experience with a virtual assistant (VA)-based Comprehensive Risk Assessment and Education (CARE) program.

All patients scheduled for a routine appointment were invited via text or email to complete a cancer genetic risk assessment using a VA-based chatbot. This included genetic testing criteria (National Comprehensive Cancer Network [NCCN] Guidelines for Hereditary Breast, Ovarian and Pancreatic Cancer, Lynch syndrome, and familial adenomatous polyposis) for all patients. Breast cancer risk (Tyrer-Cuzick [TC]) was assessed for females. Patients meeting testing criteria were offered pre-test education via the VA and a 91-gene panel test was ordered for interested patients. Risk assessment and testing outcomes were retrospectively reviewed for participants in the CARE program from March to October 2021.

Assessments were completed by 52.9% (n=1029/1944) of patients. Of completed assessments, 64.5% were female; 82.8% were Caucasian. Thirty-five percent (n=363/1029) of patients met NCCN testing criteria, and testing was ordered for 33.1% (n=120). Of 111 patients whose testing was completed at the time of abstract preparation, 32.4% (n=36) received a positive result. Of these positive results, 55% (n=20) were potentially clinically actionable with respect to cancer screening & risk reduction. Half of the patients with positive results (n=18) had findings that require management in our GI clinic (i.e. hereditary pancreatitis, increased risk for pancreatic and colon cancers). Additionally, 25% (n=9) of positive patients were identified at increased hereditary risk for breast cancer and 8.7% of women studied had a TC score of ≥20. For each patient identified, a care plan was recommended and implemented in conjunction with their primary care physician. When indicated, family members and spouses were also offered testing.

Implementation of routine genetic screening in our GI clinic identified patients at increased risk for a variety of cancers and pancreatitis. The identification of these patients highlights the importance of making cancer risk assessment available to all patients and implementing workflows that are sustainable in community-based practice