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Title: Expanding access to genetic services at community clinics using a virtual assistant

Background: Virtual applications for genetic cancer risk assessment and education provide a unique opportunity for collaboration between laboratories, genetic counseling (GC) clinics, and community-based medical practices. Here, we describe our experience partnering with a GC clinic to implement a virtual assistant (VA)-based Comprehensive Risk Assessment and Education (CARE) program at two community clinics.

Methods: Patients were invited via text or email to complete an assessment prior to their annual visit with their obstetrics and gynecology (OB/GYN) or family medicine (FM) provider. For females, this assessment included breast cancer risk (Tyrer-Cuzick) and genetic testing criteria (National Comprehensive Cancer Network [NCCN] Guidelines), whereas for men, only NCCN Guidelines were assessed. Patients eligible for testing were offered pre-test education via the VA, and those interested in proceeding had multi-gene panel testing (MGPT) ordered at their visit. Negative and inconclusive results were disclosed via the VA with an optional GC appointment, whereas positive results (pathogenic or likely pathogenic variant detected) were disclosed by the ordering OB/GYN or FM provider with a referral to a local GC. Risk assessment and testing outcomes were retrospectively reviewed from patients who participated in the CARE program from October 2020 through April 2021.

Results: Assessments were completed by 73.6% (n=1946/2644) and 69.1% (n=2100/3037) of OB/GYN and FM patients, respectively. The majority were Caucasian by self-report (OB/GYN: 68.6%; FM: 78.9%), and the median (range) ages were 40 (19 to 86) and 43 (23 to 85) for OB/GYN and FM patients, respectively. Almost all OB/GYN patients were female (99.9%), whereas 54.9% of FM patients were female and 45.1% were male. Thirty percent (n=585) of OB/GYN and 21.5% (n=452) of FM patients met criteria for testing. MGPT was ordered for 27.5% (n=161) of OB/GYN and 33.0% (n=149) of FM patients meeting criteria, as well as one FM and five OB/GYN patients not meeting criteria. Of those whose testing has been completed, 5.8% of OB/GYN (n=7/121) and 12.4% (n=16/129) of FM patients received positive results. The majority of these have either completed or scheduled a follow-up visit with the local GC clinic.

Conclusions: Implementation of VA-based programs in community clinics is successful and provides expanded access to genetics services. Anecdotally, this facilitated workflow also allows for genetic counselors to focus their scope of practice on patients who are in greatest need of their expertise.