

A scalable approach to democratizing cancer risk stratification; one healthcare system's approach using a patient-facing digital platform.

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Background:

Access to genetic testing and risk stratification is primarily gated by referrals from non-genetics providers for patients who meet testing criteria. The majority of Americans seek care at community hospitals that are closer to home; community hospitals are faced with the challenge of how to democratize access to precision oncology and cancer prevention. Research has shown that the establishment of such protocols is challenging, requiring organizational buy-in, capital, resources, and the involvement of multiple levels of clinical and nonclinical stakeholders. Here we highlight Sarah Cannon, the Cancer Institute of HCA Healthcare, and their programmatic approach to risk stratification using a digital platform offered universally to all patients undergoing screening mammography.

Methods:

From February to November in 2022, fourteen sites were assessed to have appropriate provider and facility capabilities to support the implement the CARE program. The web-based risk-stratification tool is sent to individuals before standard ambulatory appointments to assess their lifetime risk for breast cancer based on the Tyrer-Cuzick (version 8.0) risk algorithm and National Comprehensive Cancer Network (NCCN[®]) genetic testing criteria. Testing criteria included hereditary breast, ovarian, pancreatic, and prostate cancers, Lynch syndrome, and familial adenomatous polyposis (FAP). Retrospective data was pulled from patients seen between February 2022 through January 2023. The outcome measures included percentage of individuals who completed the risk-assessment, met genetic testing criteria, pursued germline genetic testing, received a positive germline result, and/or had a breast cancer risk $\geq 20\%$.

Results:

During the 10 months at the 14 community hospitals a total of 25,671 individuals were invited for risk assessment through the CARE program; 19,277 (75.1%) individuals completed assessment. Overall, 5,070 (26.3%) met genetic testing criteria and 1,536 individuals had a $\geq 20\%$ lifetime risk of breast cancer, for a total of 34% of patients identified as elevated risk. 23.4% (1,187) of those meeting criteria opted to proceed with germline genetic testing. An additional 126 individuals who did not meet criteria pursued genetic testing. Of the 1,313 completed genetic tests, 96 (7%) had positive genetic test results. Fifty-four of 96 (56%) positive results had an impact on medical management and cancer prevention.

Conclusions:

Sarah Cannon and HCA Healthcare have successfully begun implementing a comprehensive, digital risk stratification program in the community hospital setting to provide standardized access to genomic testing and risk stratification. By identifying patients with an elevated risk for cancer, the potential for increased early cancer detection and precision oncology can be observed in a scalable and sustainable program.