Closing Health Disparity Gaps by Improving Genetic Screening and Navigation in Underserved Hispanic Populations

Eva A Meyers, PhD, NP-C, RN - Adventist Health White Memorial, Los Angeles CA

Background

Early Detection & Improved Outcomes
- Genetic screening is crucial for early cancer detection in high-risk individuals.
- Advances in FDA-approved blood tests have increased accessibility, leading to earlier diagnoses and better outcomes (National Cancer Institute, 2023).

Genetic Risk & Preventive Measures
- BRCA1/2 mutations significantly raise breast cancer risk.
- Early identification enables increased surveillance and improvement of individualized treatments for high-risk individuals (Valencia, 2016).

Reducing Mortality & Addressing Disparities
- Genetic testing can reduce cancer-related mortality, specifically in breast and ovarian cancer patients (Kurian, 2022).
- Access barriers in under-served populations contribute to disparities in early detection and treatment (Underhill, 2017).

Expanding Access & Policy Integration
- Programs like AHEAD integrate genetic testing and counseling, expanding services for under-served communities.
- Incorporating screening into routine healthcare can help close gaps and improve outcomes, especially in under-served communities (Chou, 2021).

AHEAD Program

The aim of the **A**dventist **H**ealth **E**arly **A**ll-Around **D**etection (**AHEAD**) Program is to assist patients to *"Stay AHEAD of Cancer."*

Program Structure:

Aligned with NCCN and ACS guidelines, the program includes:
- Comprehensive risk screening
- On-site genetic counseling
- Informed consent
- Genetic testing
- Follow-up care by genetics-trained providers

Methods

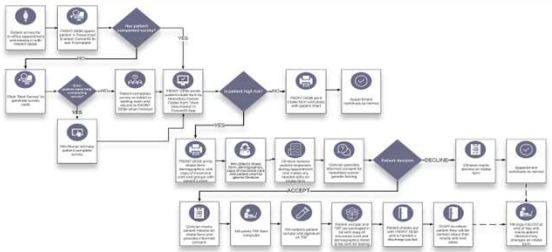
11 years operational

The genetics program at White Memorial Cancer Center has been in operation for over a decade. Three years ago, a digital health tool called CancerIQ was implemented as part of the AHEAD program to streamline and enhance genetic screening and testing.

Data Analysis

This study utilizes retrospective data in a pre/post format to investigate the impact from the AHEAD program and CancerIQ, the digital health tool. We compared data from 2014-2021 (pre-implementation) with data from 2022-2024 (post-implementation). Descriptive statistical analysis alongside difference in means tests were run on the data.

Workflow



Pre-Appointment: Patients confirm appointments by phone and completes the CancerIQ screening questionnaire in advance for staff review.

Day-of-Visit: Front desk checks questionnaire completion in PowerChart. Patients without a completed questionnaire complete it on a tablet.

Risk Stratification: Intake forms from completed questionnaires are reviewed, and high-risk patients meeting national guidelines are flagged. MAs gather additional demographic and insurance details for genetic counseling.

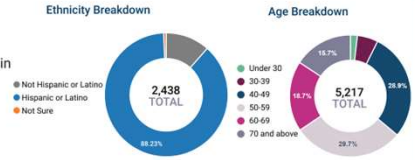
Genetic Counseling and Testing: High-risk patients meet with the clinician to review their intake form and discuss testing. Informed consent is obtained and POC (point of care) samples are collected.

Post-Test Management: Samples are sent for processing and the high risk team manages results and follow-up care.

Results

There were 7 years of data pre-implementation of the AHEAD program alongside CancerIQ. When we ran difference in mean analysis, we found a 3x increase in the number of patients screened and tested post implementation when compared with the prior date range. This difference was significant at the p<0.01 level.

In descriptive summaries of the post implementation data, over 85% of the patients screened are of Hispanic ethnicity. In addition, 65% of high risk patients indicated interested in genetic counseling and testing and 99% of those patients followed through and completed genetic testing.



Discussion

Digital Tools and Process Improvements

The implementation of the AHEAD program and standardization of the process and patient journey, alongside the CancerIQ digital tool significantly increased patient screening and throughput. By tracking each step of the patient process, utilizing metrics and analytics to continuously improve the process, White Memorial was able to triple the number of patients screened, counseled, tested, and ultimately, managed by the high risk program.

Access for Underserved Patients

This type of program and implementation can improve access and close health disparity gaps in any patient population. Our patient population is predominantly Hispanic and underserved and we did not run into significant barriers with this population. In fact, the patient interest in and uptake of genetic counseling and testing were among some of the highest in the entire Adventist system.

Advancing Equitable Healthcare

By continuing to refine processes and testing at the point of care, we can continue advancing equitable healthcare, reduce disparities, and improve cancer screening decision-making.

Future Work

Expanding the Program

As we look to build upon these initial results, we are looking to expand into new care settings including imaging and radiology, women's health, and primary care settings. In addition to expansion in clinical settings, we also want to continue improving our current process and increase resources by hiring bilingual Spanish speaking genetic navigators to better serve our patient population.

Underserved Populations

This current study focused primarily on a Hispanic population. Further research can be done on other measurements for underserved populations including by race, by uninsured or underinsured populations, by geographic factors, and by socioeconomic factors.

Sources

Chou, A., et al. (2021). *Barriers and strategies to integrate medical genetics and primary care in underserved populations: A review.* Cancer Medicine, 10(3), 1123-1134. https://pubmed.ncbi.nlm.nih.gov/33523369/

Kurian, A., et al. (2022). Prophylactic mastectomy in women with BRCA1 or BRCA2 mutations: A meta-analysis of survival outcomes. JAMA Surgery, 152(1), 19-26. https://doi.org/10.1001/jamasurg.2016.4243

National Cancer Institute. (2023). *FDA authorizes blood test for hereditary cancer risk.* National Cancer Institute. https://www.cancer.gov/newsevents/cancer-currents-blog/2023/fda-blood-test-hereditary-cancer-risk

Underhill, M., et al. (2017). *A state-wide initiative to promote genetic testing in an underserved community.* Journal of Genetic Counseling, 26(5), 845-854. https://pubmed.ncbi.nlm.nih.gov/28556546/

Valencia O., & et al. (2017). Impact of prophylactic surgery on survival in BRCA1 and BRCA2 mutation carriers: A retrospective cohort study. JAMA Surgery, 151(8), 698–705. https://doi.org/10.1001/jamasurg.2016.0321