Title: Navigators as a Genetic Extender: A Novel Approach to Proactive DNA Screening, Guidance, and Education for Prevention and Early Detection

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Background: Navigation is an evidence-based practice that can support care coordination for prevention and screening strategies that lead to timely access to healthcare and increased adherence.[1] The Institute of Medicine identified that fragmented care delivery leads to a breakdown in care coordination, poor adherence, and decreased access to care.[2] In 2025, nearly 70% are behind on cancer screenings (PCF), and most individuals are unaware of genetic risks for conditions that may be prevented or detected earlier.[3] Genetic screening can identify health risks that enable prevention and early detection.

Objective: To provide a U.S.-based employee benefit program with access to DNA screening (>160 genes with actionability for cancer, cardiovascular, and other notable conditions), genetic counseling, and healthcare navigation. The goal is to identify genetic risks, support personalized preventive actions, and engage individuals in adherence to routine health screenings.

Methods: Retrospective, deidentified data (1/1/23-6/30/25) was evaluated under an IRB-approved protocol. 8534 individuals completed a DNA screening test. In the first two years, self-directed engagement with a genetic counselor was offered; in 2025, navigators performed outreach and education to individuals with positive results and tailored referrals for genetic counseling to those with high-risk positive findings. Navigators attempted to engage all individuals with positive results several times via phone and email, and a certified letter with results enclosed was sent if there was no response. Individuals with negative and carrier results received digital education. Navigators served as a genetic extender, providing access to resources, supporting informed decision-making, and educating on genetics, screenings, preventative care, and healthy lifestyle behaviors to support increased adherence to follow-up actions. Descriptive statistics were used to analyze the data.

Results: The positive rate for a pathogenic, likely pathogenic, or increased risk allele for a medically actionable condition was 18.7% (1599/8534). Of the positive results for 2023-2024, 49.7% (579/1166) and 50.3% (587/1166) were associated with high and elevated risks, respectively, as previously defined[4], and 61% (711/1166) with positive results received genetic counseling. In the navigator-led model, result awareness occurred 100% of the time. Of the positive findings for 2025, 52% (226/433) and 48% (207/433) were associated with high and elevated risks, respectively. 79% (178/226) of individuals with high-risk results received genetic counseling, and one or more navigation educational encounters occurred in 73% (150/207) of individuals with elevated risk results. Across all positive results, engagement increased from 61% to 76% following implementation of the navigation-led model, a 15% increase, representing a 25% relative improvement over the self-directed model. Navigators provided support for important health actions, including sharing results with providers, coordinating peer-to-peer consultations, facilitating family testing, overcoming health system challenges, offering psychosocial support, and providing personalized guidance. Follow-up on long-term surveillance and compliance with screening and preventive care is planned.

Conclusion: An employee benefit program that combines DNA screening, genetic counseling, and tailored navigation enables individuals to be informed about their health risks and take action. Implementation of navigators as a genetic extender can increase adherence to guideline-recommended care and follow-up actions, while overcoming barriers to care and supporting improved health outcomes.

References:

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