Comprehensive Hereditary Cancer Genetic Care in Community Setting: A Nurse Practitioner Led Implementation

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Introduction
The demand for hereditary cancer genetic risk assessment, testing, and counseling is growing. One of the barriers to access comprehensive genetic care is that formally trained genetic professionals are in urban academic healthcare systems. This poster discusses the project implementation of a comprehensive genetic care program in a community setting through an interprofessional approach led by a Nurse Practitioner.

Background
• Hereditary cancer gene constitute approximately 5-10% of all cancers (National Cancer Institute [NIH], n.d.).
• The American Association of Clinical Oncology (ASCO) recommends pre and post-genetic counseling (Robson et al., 2015).
• Ideally, certified genetic counselors (CGCs) provide genetic risk evaluation, testing, and counseling. However, as of early 2018, there were only an estimated 7,000 genetic counselors globally, with 4,400 practicing in North America (Ormond et al., 2018).
  ➢ The shortage of CGCs does not meet the growing demand for hereditary cancer genetic risk assessment, testing, and counseling.

Problem
In this area of West Texas, there is no cancer CGC or clinically trained genetic Nurse Practitioner (NP) thereby limiting the access of individuals in this area to evaluation of cancer susceptibility or precision cancer treatment.

Purpose of the Project
The purpose of the project was to implement an NP led hereditary cancer genetic risk assessment, testing, and counseling program guided by the logic model (Millar et al., 2001). Advanced Practice Nurses Registered Nurses (APRN) play a vital role in implementing cancer risk assessment and promoting prevention and early detection of cancer for patients and their families (Mahon, 2015). NPs can have a significant impact on providing comprehensive genetic care to the growing demand for genetic counseling before genetic testing (Stenejhem et al., 2018), particularly in rural communities. Cohen et al. (2019), stated that “it is necessary to improve access to genetic counseling and testing in all communities, including those underserved due to economic, social, or geographical status.”

Project Implementation: Logic Model Application

<table>
<thead>
<tr>
<th>Stakeholders: Physicians Nurse Practitioner (NP) Clinic Administrator Liaison Officer Certified Genetic Counselor (CGC) Business Office Laboratory Patients Resources: Time Financial</th>
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</thead>
<tbody>
<tr>
<td>Inputs</td>
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<tr>
<td>Short</td>
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<tr>
<td>CGC trains NP on basic evidence-based hereditary cancer genetic risk assessment and testing counseling guidelines</td>
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<td>Promote evidence-based criteria on hereditary cancer genetic risk assessment and testing counseling to healthcare providers in the clinic and the community by providing checklist</td>
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<td>Increased healthcare provider awareness of the benefits of hereditary cancer genetic risk assessment and testing counseling</td>
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<td>Establishment of the disease will lead to early treatment management, thereby improving outcomes</td>
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Assumptions
The APRN-led comprehensive hereditary cancer genetic program through interprofessional collaboration will increase access to evidenced-based genetic risk assessment, testing, and counseling in a community setting.

Project Evaluation

Statistical Data
• 89 individuals (sample size) had a genetic pre-counseling visit with the APRN
• 84 individuals (94.4%) consented to proceed with genetic testing after the pre-counseling session.
  ➢ 20 individuals (23.8%) were positive for a pathogenic mutation

Patient Satisfaction
• “How satisfied are you with your genetic risk evaluation and testing visit?”
  ➢ 4-point Likert scale of very satisfied, satisfied, unsatisfied, very unsatisfied.
• Twenty-four responses (26.96%)
  ➢ Eighteen (75%) of the respondents were very satisfied Three (12.5%) were satisfied.
  ➢ Two respondents (8.3%) were very satisfied
  ➢ Two respondents (8.3%) were unsatisfied

Discussion
The program demonstrated a successful implementation of the genetic risk assessment, testing, and counseling service in a community setting with a consent rate of 94.4%. Most individuals who consented to have the genetic testing expressed their satisfaction (88%) with their visit with the NP. The satisfaction rate of the program may be inferred to the NP’s competency in delivering hereditary cancer risk assessment. The seventeen individuals identified with pathogenic hereditary cancer syndrome had a strong clinical impact as their oncologist planned their treatments based on the identified mutation.

Conclusion
Nurse Practitioners have a role in addressing the growing demand for hereditary cancer genetic care. The current trend of personalized medicine, providing the right treatment based on genetic mutation of the cancer, will inevitably drive the need for comprehensive genetic care. In collaboration with genetics-trained healthcare providers such as CGCs and geneticists, NPs can start a genetic risk assessment, testing, and counseling program in rural communities. The logic model delineated the step to bring about the desired outcome of the program.

References
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# Project Implementation: Logic Model Application

## Program: Hereditary Cancer Genetic Risk Assessment and Testing Program Logic Model

**Situation:** Lack of access to hereditary cancer genetic risk assessment, testing, and counseling

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs Activities</th>
<th>Short</th>
<th>Medium</th>
<th>Long</th>
<th>Impact</th>
</tr>
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</table>
| Stakeholders: Physicians  
Nurse Practitioner (NP)  
Clinic Administrator  
Liaison Officer  
Certified Genetic Counselor (CGC)  
Business Office  
Nursing  
Laboratory  
Patients  
Resources: Time  
Financial | CGC trains NP on basic evidence-based hereditary cancer genetic risk assessment and testing counseling guidelines  
Promote evidence-based criteria on hereditary cancer genetic risk assessment and testing counseling to healthcare providers in the clinic and the community by providing checklist | Increased NP’s knowledge and skills to implement the first genetic risks assessment, testing and counseling program in the community. (Currently non-existence)  
Increased number of healthcare providers to identify individuals at high risk for hereditary cancer  
Increased healthcare provider awareness of the benefits of hereditary cancer genetic risk assessment and testing counseling | Application of genetic risk assessment and testing counseling guidelines  
Increased referral for hereditary cancer genetic risk assessment and testing counseling | Sustain the hereditary cancer genetic risk assessment and testing counseling  
Establish utilization of appropriate testing and counseling | Increased access to local comprehensive cancer genetic risk assessment and testing counseling  
Targeted therapy for longer progression-free survival  
Early identification of the disease will lead to early treatment management, thereby improving outcomes.

**Assumptions**

The APRN-led comprehensive hereditary cancer genetic program through interprofessional collaboration will increase access to evidenced-based genetic risk assessment, testing, and counseling in a community setting.
Project Evaluation

Statistical Data
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- “How satisfied are you with your genetic risk evaluation and testing visit?”
  - 4-point Likert scale of very satisfied, satisfied, unsatisfied, very unsatisfied.
- Twenty-four responses (26.96%)
  - Eighteen (75%) of the respondents were very satisfied
  - Three (12.5%) were satisfied
  - Two respondents (8.3%) were unsatisfied
  - One (4.1%) was very unsatisfied
Discussion

The program demonstrated a successful implementation of the genetic risk assessment, testing, and counseling service in a community setting with a consent rate of 94.4%. Most individuals who consented to have the genetic testing expressed their satisfaction (88%) with their visit with the NP. The satisfaction rate of the program may be inferred to the NP’s competency in delivering hereditary cancer risk assessment.

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References


