

Health Care Provider Education: HBOC CME Module

Katrina F. Trivers, PhD, MSPH

Epidemiologist

Division of Cancer Prevention and Control

CDC

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Division of Cancer Prevention and Control



Background to Development of Online CME

- ❑ **Health care providers may lack knowledge and confidence about family history and genetics**
 - High risk women are often not identified
- ❑ **Difficult to work genetics/family history discussions into already crowded primary care appointments**
 - Most risk assessment tools are complex and not easy to implement in primary care
 - Quick tools are being developed, validation and study needed
 - Which is best?
- ❑ **Shortage of genetics experts (especially non-urban areas)**

Health Care Provider Knowledge and Practice Gaps: Examples

□ MI Data:

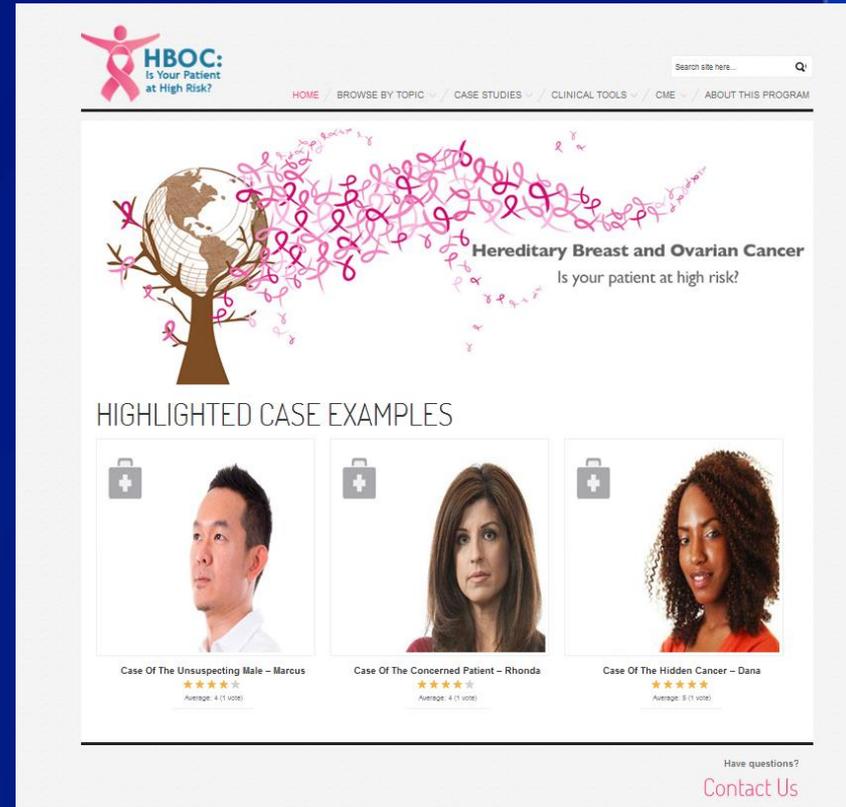
- 39.7% identified autosomal dominant as most common mode of inheritance for most hereditary cancer syndromes
- 39.5% collect ancestry/ethnicity when obtaining family history for cancer risk assessment
- 31.8% identified prophylactic oophorectomy as procedure which most reduces risk of cancer for 40 year old female with known BRCA mutation
- 38.1% aware of the Genetic Information Nondiscrimination Act (GINA)

□ National Data:

- 28.7% primary care MDs would refer an average-risk woman, 41.1% would refer a high-risk woman for genetic counseling or testing

Collaboration to Create and Disseminate National Provider Education Resource

- ❑ Since 2009, MDCH developed and provided an in-person interactive case-based presentation
- ❑ Based on the success of these in-person case-based presentations, MDCH, CDC, NCHPEG, Oregon, Georgia and Moffitt collaborated in 2012-2013 to develop online breast cancer genomics module
- ❑ In 2013, Michigan State University approved 2.0 CMEs until October 2016
 - ❑ Available at no cost to participants



The screenshot displays the HBOC website interface. At the top left is the logo for HBOC: "Is Your Patient at High Risk?". To the right is a search bar with the placeholder text "Search site here...". Below the logo and search bar is a navigation menu with links: HOME, BROWSE BY TOPIC, CASE STUDIES, CLINICAL TOOLS, CME, and ABOUT THIS PROGRAM. The main content area features a graphic of a globe with pink ribbons forming a tree-like structure, with the text "Hereditary Breast and Ovarian Cancer" and "Is your patient at high risk?". Below this is a section titled "HIGHLIGHTED CASE EXAMPLES" containing three case study cards. Each card includes a medical icon, a portrait of the patient, the case title, and an average rating.

Case Title	Rating
Case Of The Unsuspecting Male – Marcus	Average: 4 (1 vote)
Case Of The Concerned Patient – Rhonda	Average: 4 (1 vote)
Case Of The Hidden Cancer – Dana	Average: 5 (1 vote)

At the bottom right of the page, there is a link for "Have questions? Contact Us".

<http://www.nchpeg.org/hboc/>

Case-based Approach

CASE STUDY DETAIL

Hereditary Breast and Ovarian Cancer Is your patient at high risk?



Case of the Concerned Patient – Rhonda



Average: 3.8 (4 votes)

CASE STUDY



LAUNCH THE CASE STUDY



Case Description

Tools

SCENARIO SETUP

Your patient, a 45-year-old woman, Rhonda, tells you that her sister just died from breast cancer at 35 years of age. She makes an appointment with you, her primary care provider, because she wants testing for the “breast cancer gene”.

LEARNING OBJECTIVES

- Assess genomic risk
- Determine appropriate management
- Collaborate with genetics professionals

Introduction

In the following scenario you will have the opportunity to practice identifying red flags and assessing family history risk to inform genetic testing decision making.

Download these tools to help answer the questions in the activity.

- [Download Red Flags Checklist Tool](#)
- [Download Family History Collection Tool](#)
- [Download Pedigree Tool](#)
- [Download the Screening Guidelines Tool](#)
- [Download the Collaboration Tool](#)

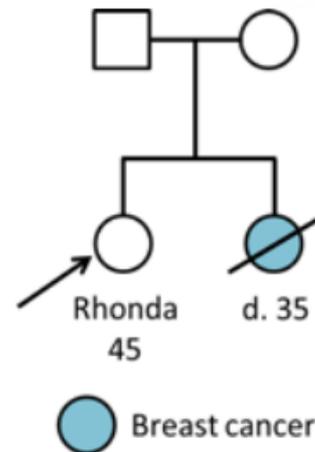
Click **CONTINUE** when you are ready to move on.



Family History

45-year-old woman, Rhonda, makes an appointment with you, her primary care provider, because she wants testing for the “breast cancer gene”.

She tells you that her sister just died from breast cancer at 35 years of age.



Click **CONTINUE** when you are ready to move on.

What would you do next?

- A) Refer her to a genetic counselor.
- B) Order genetic testing.
- C) Gather more information before deciding whether to make a referral.

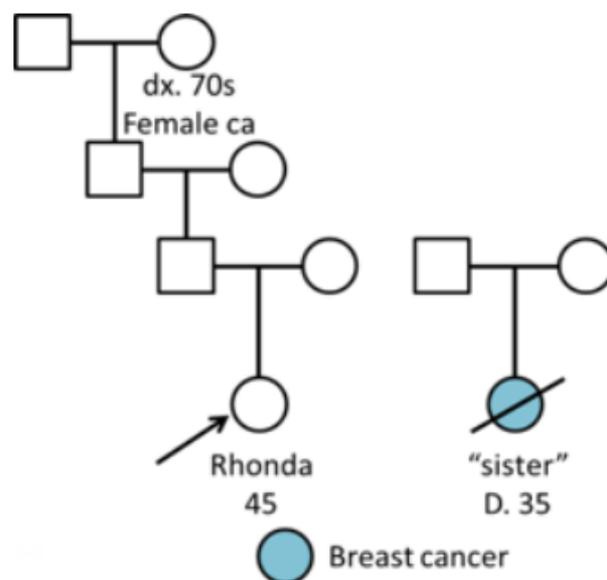
Choose an answer to see what happens next



You are concerned that Rhonda may be at high risk because she has a first-degree relative with early onset breast cancer. You ask some clarifying questions about the family history.

You learn that Rhonda's sister is actually adopted and not related by blood. One of Rhonda's paternal great-grandmothers had a "female cancer" when she was "older". She has no other family history of any type of cancer.

Ask For More Information



Click **CONTINUE** when you are ready to move on.

Rhonda has had normal mammograms and no significant health issues.

You counsel her about her average risk of breast cancer, explaining the red flags that would indicate increased risk. You explain that genetic testing is most useful for individuals at high risk.

Rhonda expresses understanding and is comfortable with continuing her current level of screening.

Ask For More Information



Click **CONTINUE** when you are ready to move on

ASK FOR MORE INFORMATION

This is the best choice. By asking a few key questions, you could appropriately triage Rhonda into an average risk group not requiring additional workup.



This is the best answer. Choose **CONTINUE** to debrief the case.

» CONTINUE

Case Of The Concerned Patient – Rhonda

End of Case: Lessons Learned



Clarify the family history. A few simple questions can help you appropriately triage individuals who need a more thorough assessment. People define family in many ways and may not differentiate social from biological relations unless you ask specifically.

- The targeted genetic interview
- [Review the Family History Collection Tool](#)
- [Review the Pedigree Tool](#)



Recognizing individuals at average risk is an important aspect of genetic risk assessment. A single diagnosis at an older age, like Rhonda's paternal great-grandmother, is most likely sporadic (or non-hereditary). Unless there are other issues with the family (e.g., small family, early deaths), you can counsel about recommendations for population risk.

- Stratifying risk
- [Review the Risk Stratification Screening Tool](#)



Referral to genetic counselors/genetics experts is most effective for patients who are at high risk, whose medical or family histories need further clarification, or to determine an appropriate testing strategy. In this case, by asking a few key questions, you can triage Rhonda as at average risk for breast cancer, with no red flags in her family history.

- Effective referral
- [Review the Collaboration Tool](#)

What would you do next?

- A) Refer her to a genetic counselor.
- B) Order genetic testing.**
- C) Gather more information before deciding whether to make a referral.

Choose an answer to see what happens next



You determine that Rhonda is at increased risk for having a hereditary cancer syndrome based on having a first degree relative with early onset breast cancer. Since her sister is deceased, you order comprehensive genetic testing for Rhonda.

Click **CONTINUE** when you are ready to move on.

Order BRCA Testing



You order comprehensive BRCA1/2 testing based on her family history. The results show a variant of unknown significance in BRCA1. You later learn that Rhonda's sister was actually adopted, and is not a blood relative.

Based on family history, Rhonda is at average risk and would not have been a good candidate for BRCA1/2 testing. Knowing she has a VUS has increased her anxiety without any changes to her recommended screening.

Order BRCA Testing



Click **CONTINUE** when you are ready to move on.

Order BRCA Testing

This was not the best choice. Further family history risk assessment would have clarified the family relationship and revealed that testing was not indicated. Improve your family history assessment skills with these tips and tools:



Skillbuilding

- The targeted genetic interview
- [Review the Family History Collection Tool](#)
- [Review the Pedigree Tool](#)



Not the best outcome. You can **TRY AGAIN** or **CONTINUE** to see the best answer.

TRY AGAIN <<

>> CONTINUE

Other Educational/Reference Material Available

HBOC:
Is Your Patient
at High Risk?

HOME / BROWSE BY TOPIC / CASE STUDIES / **CLINICAL TOOLS** / CME / ABOUT THIS PROGRAM

Search site here... Q

Hereditary Breast and Ovarian Cancer

Is your patient at high risk?

CLINICAL TOOLS

The tools provided in this section are to help with risk assessment, genetic testing, management, and collaboration at the point of care. You can view them on the website or download/print them for offline access.

- [HBOC Fact Sheet](#)
- [Red Flags Checklist](#)
- [Family History Collection](#)
- [Pedigree Form](#)
- [Breast Cancer Genetics Referral Screening Tool](#)
- [Cancer Risks & Screening Guidelines](#)
- [Risk Stratification](#)
- [Result Interpretation Table](#)
- [Collaboration Tool](#)
- [Patient and Family Resources](#)

ABOUT THIS PROGRAM

Welcome to "Hereditary Breast and Ovarian Cancer (HBOC): Is Your Patient at High Risk?" The goal of this program is to improve the primary care provider to identify, evaluate, and manage patients at increased risk of HBOC. This program was developed for primary care providers including physicians, physician assistants, and nurse practitioners. The content is likely to be appropriate for other health professionals as well.

Role of Genetics in Breast and Ovarian Cancer

One in eight (12%) of U.S. women aged 90 years or younger will develop breast cancer sometime during her lifetime. One in 70 (1.4%) will develop ovarian cancer. Female sex, increasing age, and family history of breast and/or ovarian cancer are the three greatest risk factors for both breast cancers and ovarian cancer. All cancers, CRC develops due to a combination of genetic, biologic, and environment factors interacting together. Approximately 5-10% of breast cancer cases are due to a hereditary syndrome, where a single gene alteration conveys a high risk of CRC and sometimes other cancers. Patients with hereditary cancer face additional cancer risks themselves as do their family members. This program focuses on developing skills and knowledge to identify those at-risk and provide resources for cancer risk assessment and management.

What to Expect from this Program

This program is case-based and addresses skills and knowledge in four areas: assessing risk, genetic testing, collaboration and communication, and screening and surveillance. There are seven cases that each addresses different aspects of these areas. Information is also organized into topic areas accessible outside of the cases. You will also have access to point of care tools that will help you complete the activities and questions in the patient scenarios, and can also be downloaded and printed for use in your practice.

Working through the case studies, you will practice identifying, evaluating, and managing patients with HBOC. The program also provides strategies for counseling patients before and after genetic testing, approaches to communicating risk, and tools to help you collaborate with a genetic or other specialist.

This program was based on a presentation developed and delivered by Jenna McLosky, MS, CGC and Debra Duquette, MS, CGC for the Michigan Department of Community Health for primary care providers. We adapted the cases created for online use, added additional cases, and developed supporting materials. All materials were reviewed by experts and their comments incorporated into the final program.

Learning Objectives

1. Demonstrate the ability to collect cancer family history information
2. Describe appropriate referral procedures and methods to identify genetic specialists in one's area.

Hereditary Breast and Ovarian Cancer

Is your patient at high risk?

CME

- ❑ 2.0 CMEs approved by Michigan State**
- ❑ No cost to participants**
- ❑ Must get a 70% on post-test to receive CMEs**
- ❑ Retakes NOT allowed**

Dissemination/Communication Plans

- ❑ **State providers/lists**
- ❑ **Professional Societies**
- ❑ **CDC Blog**
- ❑ **Other CDC grantees (e.g., B&C program)**
- ❑ **MedEd Portal**
 - Online hub for peer-reviewed health education teaching and assessment resources
- ❑ **Commerical labs that do BRCA testing**
 - Myriad, GeneDX, Ambry
- ❑ **Other suggestions?**
 - Your help would be greatly appreciated!

Thanks!

For more information on CDC's cancer prevention and control programs:

www.cdc.gov/cancer

Katrina Trivers (fph1@cdc.gov)

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.