



Myriad Genetics Women's Health Survey

September 2022



Study Overview

Objective

Myriad Genetics seeks to understand attitudes, perceptions, and behaviors around women regarding:

- Managing their breast and ovarian cancer risks
- Knowledge of their family's history of breast and ovarian cancer
- Awareness and understanding of genetic testing for breast and ovarian cancer

Methodology

Myriad Genetics fielded a nationally representative online survey of 1,000 women aged 25-64, living in the United States. Interviewing for this study was conducted from 7/28/2022 – 8/5/2022. The margin of error for this study is $\pm 3.0\%$.

Purpose of the Media Deck

This media deck visualizes the key themes and pitch points from the survey, intended for use in marketing materials and external communications. The key themes and pitch points include data points from the survey grouped into top-level themes, with a few sub-themes within each one. The media deck and the pitch points within do not include the full results of the survey, only what was considered most notable during our review and analysis.

Key Findings: Good is not good enough: Women are missing opportunities to be proactive in their wellness.

Women generally feel they are proactive in managing their physical health but are not doing much more than the basics.

- 80% of women rate themselves as being proactive when it comes to taking care of their physical health.
 - However, this feeling drops among Hispanic/Latinx women, of whom only 72% feel proactive.
- 83% have visited their general practitioner in the last 2 years, but 30% have not visited their OB-GYN in over 2 years.
- While 72% of women are very comfortable speaking about their physical health with their spouse, they are much less comfortable speaking with other family members (54% mother, 43% children, 32% father).
 - 49% of women have a family member with a history of breast or ovarian cancer, however only 1 in 4 (23%) are very comfortable speaking with family members outside of their parents, siblings, or children about their physical health.

Women who are of mammogram age (age 40+) are not getting their mammograms as frequently as they should.

- 82% of women aged 40+ consider themselves proactive when it comes to taking care of their physical health. 85% of these women also feel confident in managing their breast health.
- Yet 1 in 3 of women aged 40+ say they have not had a mammogram within the last 2 years (33%). Moreover, 1 in 10 of these women have *never* gotten a mammogram (13%).
 - Having a family history of cancer does not change this – 1 in 10 women aged 40+ with a family member who has been diagnosed with breast or ovarian cancer still say they have never gotten a mammogram before (10%).
- Women age 40+ are also more likely to have not visited their OB-GYN (40% vs. 31% younger women), nor gotten genetic testing within the last 2 years (76% younger women vs. 89% 40+).

Key Findings: While many women are proactive in taking care of their physical health, many are less familiar with how to manage their personal cancer risk.

Women consider themselves proactive in taking care of their physical health, however there are significant gaps in their knowledge of how to manage their cancer risk.

- 83% of women feel confident in managing their breast health.
- Having a family history of breast or ovarian cancer empowers women to feel confident in managing their health.
 - 76% of women with a family history of breast or ovarian cancer say they know what steps to take if they are concerned about getting breast or ovarian cancer.
 - 71% of women with a family history of breast or ovarian cancer feel they know how to be proactive about breast and ovarian cancer detection.
- Yet, many women do not understand that those with a family history of breast or ovarian cancer should start mammograms at an earlier age:
 - 41% of women say that people should start getting mammograms at the same time regardless of family history.
 - Over 1 in 3 (37%) say that everyone should follow the same mammogram guidelines.

Younger women (aged 25-39) with a family history of breast or ovarian cancer have a more difficult time than those 40+ with understanding how to manage their risk.

- 1 in 4 women aged 25-39 think that because someone else in their family has been diagnosed with breast or ovarian cancer, it is inevitable that they will eventually get it as well (22%, vs. 14% of age 40+).
- 1 in 4 women aged 25-39 also continue to think that that the only way to reduce their risk is to undergo surgery, such as a hysterectomy or mastectomy (25%, vs. 18% of age 40+).

Key Findings: While many women are proactive in taking care of their physical health, many are less familiar with how to manage their personal cancer risk. *(continued)*

Women who do not have a family history of breast or ovarian cancer are not taking steps to manage their cancer risks, but they could be in a higher-risk category than they think.

- Although half of women (51%) say they have no history of breast or ovarian cancer in their family, many are not even sure if that is true or not – a third of these women (30%) say they don't really know if anyone in their family has ever been diagnosed because they do not talk about medical issues in their family.
- Half of women with no family history of cancer have never spoken with their doctor about breast (47%) or ovarian (53%) cancer.

Women are less knowledgeable of their father's family health history, despite their father's side of the family still being a key indicator of breast cancer risk.

- Only 1 in 3 (32%) women are very comfortable speaking about their physical health with their father, compared to 54% being very comfortable speaking about it with their mother.
- 30% are very comfortable speaking with their father about their potential risk of getting breast or ovarian cancer, compared to 57% being very comfortable speaking about it with their mother.
- 64% of women consider themselves knowledgeable of their father's family health history, leaving another third (36%) who do not feel knowledgeable about it. In comparison, 79% of women consider themselves knowledgeable about their mother's family health history.
- Yet, women know that it's important to consider their father's health history when assessing cancer risk.
 - Only 10% of women think that they only need to worry about their mom's family when it comes to breast and ovarian cancer history.
 - Only 15% of women are only concerned about their mom's side of the family when they think about their breast or ovarian cancer risk.

Key Findings: Genetic testing for cancer risk is on most women's radar, but many are not leveraging it as part of proactive care.

Most women are aware of genetic testing for cancer risk, they just don't think it's for them.

- 1 in 3 women (30%) say they have gotten some sort genetic testing done before.
 - Women aged 40+ who have a family member who has been diagnosed with breast or ovarian cancer are more likely to have gotten genetic testing done (30%, vs. 21% of women with no family members who have been diagnosed breast or ovarian cancer).
- While women are aware that genetic testing specifically for breast cancer (87%) and ovarian cancer (81%) risk is available, they don't know about the specifics of these genetic tests.
 - 7 in 10 women are aware of ancestry (80%) or prenatal genetic testing (70%), but less than half (46%) feel the same about any cancer-related genetic tests: 42% are aware of BRCA, 20 % CHEK2, and 18% PALB2 genetic tests.
 - *Only half of those who are aware of cancer-specific genetic testing are familiar with it: 22% say they are familiar with BRCA, 9% are familiar with CHEK2, and 8% are familiar with PALB2 genetic tests.*
- 41% of all women aged 25-64 think that genetic testing is not for someone like themselves.
 - Having a family member with a breast or ovarian cancer does not change this: 38% of women with a family member with breast or ovarian cancer still said genetic testing is not for them, compared to 44% of women without a family member with cancer.
 - *More specifically, even 38% of women aged 40+ who have a family member who has been diagnosed with breast or ovarian cancer think that genetic testing is not for someone like themselves, compared to 45% of women aged 40+ who do not have a family member with cancer.*
- 34% of women believe they do not qualify for genetic testing.
- 34% of women say they do not know how to ask for genetic testing.
- 30% of women think that genetic testing for cancer risk is only necessary if multiple people in a family have breast or ovarian cancer.
- 1 in 3 also think that they can only get genetic testing for cancer risk if their doctor recommends it (35%).

Key Findings: Genetic testing for cancer risk is on most women's radar, but many are not leveraging it as part of proactive care. *(continued)*

Knowledge gaps have led women to be unsure if genetic testing is worth doing.

- Over half of women aged 25-64 (54%) believe that physical exams and mammograms are the only ways they can find out if they have breast cancer.
- 28% of women think that self-exams and regular physical check-ups are enough to understand cancer risk, so genetic testing is not necessary.
- 1 in 2 women (54%) feel they do not know enough about genetic testing to know if they want it done or not.
- Over 1 in 3 think that genetic testing is difficult (39%) and takes too much time to do (39%).
- Most women think that genetic testing is both expensive (71%) and not typically covered by insurance (64%), yet 7 in 10 (69%) still think it's worth the cost.
- Additionally, 8 in 10 (78%) think genetic testing is medically necessary instead of just for fun.

Key Findings: Women trust and feel heard by their medical providers, but many expect their medical providers to take the lead on cancer-related conversations.

Medical providers play a trusted and critical role for women in all areas of their health journey.

- Most women are very comfortable speaking about their physical health with a primary care physician (74% very comfortable) or an OB-GYN (70% very comfortable).
- This comfort level increases slightly when speaking about potential breast or ovarian cancer risk, with 77% feeling very comfortable speaking about it with their primary care physician and 72% their OB-GYN.
- Women feel they are taken seriously (81%), feel heard (77%), and are empowered (77%) when they voice their concerns about cancer risks to their doctor.
 - However, Hispanic/Latinx women feel the least heard when they voice their concerns to their doctor about their cancer risk (67%, vs. 80% White and 82% Black women).
- As a go-to resource for health matters, medical professionals are one of the first people women would go to if they were interested in genetic testing:
 - 83% ranked their primary care physician and 69% ranked their OB-GYN in the top 3 people they would speak to about genetic testing.
- Yet, 44% have never discussed genetic testing with their doctor, and 1 in 3 do not think they qualify for genetic testing (34%), nor do they know how to ask for it (34%).
 - Among women with a family history of breast or ovarian cancer:
 - 40% have never discussed genetic testing with their doctor.
 - 29% do not think they qualify for genetic testing.
 - 25% do not know how to ask for genetic testing.
 - 50% of women aged 25-39 say they have never discussed genetic testing with their doctor, vs. 41% of women aged 40+.
- 3 in 4 (76%) say that they would be more likely to get genetic testing done if it was included as part of their annual physical.

Key Findings: Women trust and feel heard by their medical providers, but many expect their medical providers to take the lead on cancer-related conversations. *(continued)*

The responsibility to discuss cancer risk falls to medical providers, as women expect them to begin these conversations.

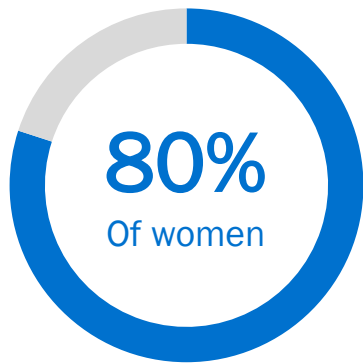
- Most women (76%) trust their doctor to bring up issues regarding their cancer risk.
- 66% of women say their doctor provides them with the information they need to understand their risk.
- 42% of women do not bring up issues with their doctor regarding their cancer risk.
 - This goes up to 47% among women aged 25-39, and even among women aged 40+, 39% still do not bring up issues with their doctor regarding their cancer risk.

Nearly half of women who have a family history of breast or ovarian cancer are not speaking with their doctors about it.

- 44% of these women say they have never spoken to their doctor about ovarian cancer, and 28% have never spoken to their doctor about breast cancer.
- Further, 41% of women aged 40+ with a family history of breast or ovarian cancer have never spoken to their doctor about ovarian cancer, and 21% have never spoken to their doctor about breast cancer.

Good is not good enough: Women are missing opportunities to be proactive in their wellness

Women generally feel they are proactive in managing their physical health, but are not doing much more than the basics



Feel they are **proactive** in taking care of their physical health

However, this feeling drops among **Hispanic/Latinx women** (72%, vs. 87% Black and 81% White)

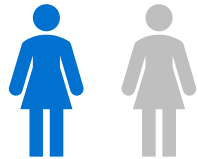
While **83% of women** have visited their general practitioner in the last 2 years...

1 in 3 women (30%) have **not visited their OB-GYN** in the last 2 years

Q1: On a scale of 1 to 4, where 1 is “not proactive at all” and 4 is “very proactive”, how proactive are you in taking care of your physical health? <Net Top 2 Box>

Q3: Still thinking about your physical health, when was the last time you did each of the following? Base: Total n=1,000; Hispanic/Latinx n=173; White n=577; Black n=131

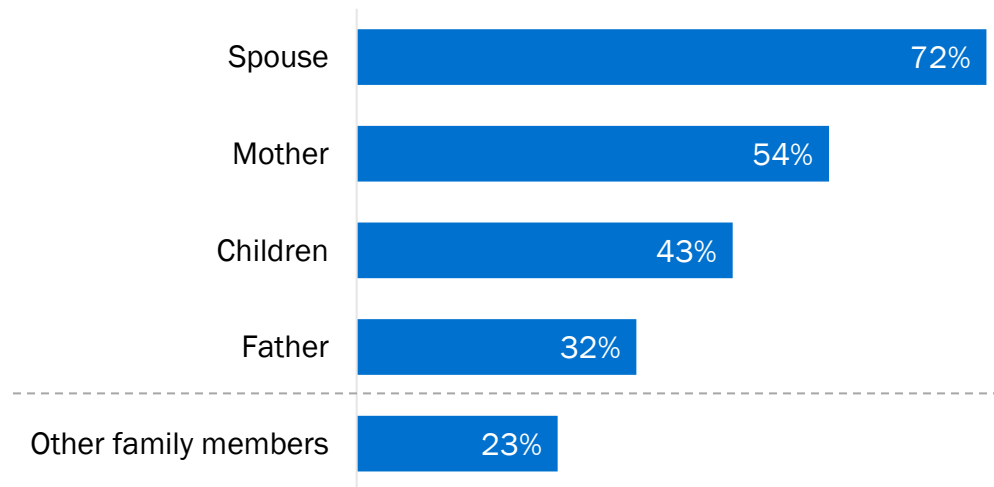
Women generally feel they are proactive in managing their physical health, but are not doing much more than the basics *(continued)*



1 in 2 women have a family member who has been diagnosed with breast or ovarian cancer (49%)

But women are not as comfortable discussing their physical health with family outside of their immediate family

(showing % very comfortable discussing physical health with each)



Q2: How comfortable would you be speaking to each of the following people about your physical health?

Q5: To the best of your knowledge, do you know anyone who has been diagnosed with each of the following? Base: Total n=1,000

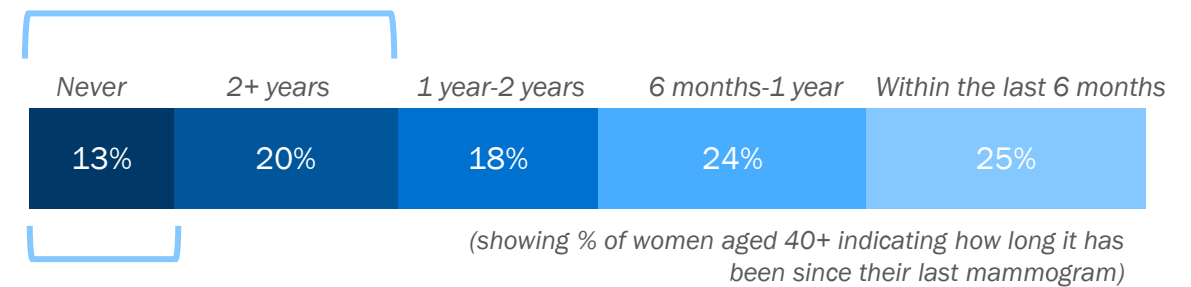
Women who are of mammogram age are not getting their mammograms as frequently as they should

8 in 10 women age 40+

consider themselves proactive when it comes to taking care of their physical health (82%)

and feel confident in managing their breast health (85%)

Yet, 33% have not had a mammogram within the last 2 years



13% have *never* had a mammogram

Having a family history of cancer does not change this: 10% women aged 40+ with a family member who has been diagnosed with breast or ovarian cancer still say they have *never* gotten a mammogram before

Q1: On a scale of 1 to 4, where 1 is “not proactive at all” and 4 is “very proactive”, how proactive are you in taking care of your physical health? <Net Top 2 Box>

Q3: Still thinking about your physical health, when was the last time you did each of the following?

Q6: On a scale of 1 to 4, where 1 is “not confident at all” and 4 is “very confident”, how confident are you in taking care of your breast health? <Net Top 2 Box>

Base: Aged 40+ n=616; Aged 40+ and has a family member diagnosed with breast or ovarian cancer n=302

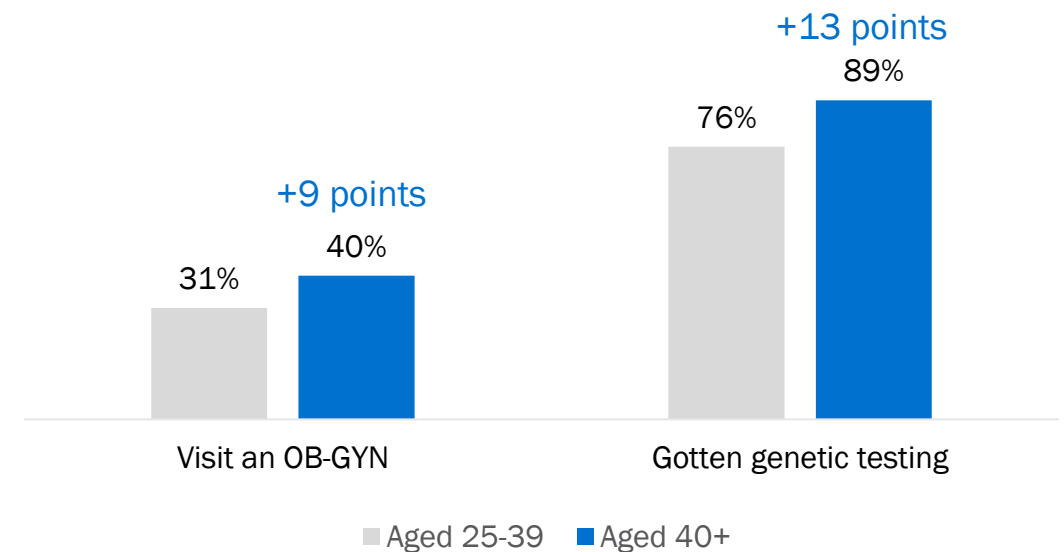
Women who are of mammogram age are not getting their mammograms as frequently as they should *(continued)*

Women aged 40+
are also more likely than younger
women to have **not**:

**Visited their OB-GYN nor
gotten genetic testing within the
last 2 years**

When was the last time you did each of the following?

(showing % of women who have not done this within the last 2 years, including never)



Q3: Still thinking about your physical health, when was the last time you did each of the following?
Base: Aged 40+ n=616; Aged 25-39 n=384

While many women are proactive in taking care of their physical health, many are less familiar with how to manage their personal cancer risk

Women consider themselves proactive in taking care of their physical health, however there are significant gaps in their knowledge of how to manage their cancer risk

Over 8 in 10 women feel confident in managing their breast health (83%)

Having a family history of breast or ovarian cancer empowers women to feel confident in managing their health:

76% of women with a family history of breast or ovarian cancer say they **know what steps to take** if they are concerned about getting breast or ovarian cancer

71% of women with a family history of breast or ovarian cancer feel they **know how to be proactive** about breast and ovarian cancer detection

And yet...



Many women do not know that those with a family history of breast or ovarian cancer should start mammograms at an earlier age:

41% of women say that people should **start getting mammograms at the same time** regardless of family history.

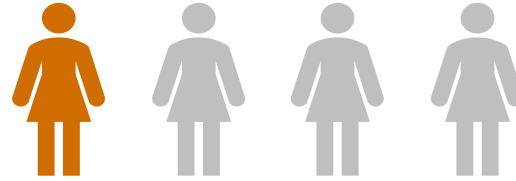
37% say that everyone **should follow the same mammogram guidelines**

Q6: On a scale of 1 to 4, where 1 is “not confident at all” and 4 is “very confident”, how confident are you in taking care of your breast health? <Net Top 2 Box>

Q10: Now, we would like to ask you a few questions specifically about mammograms, a tool used to screen for breast cancer. Do you think each of the following statements about mammograms are true or false?

Base: Total n=1,000; Has a family member diagnosed with breast or ovarian cancer n=486

Younger women with a family history of breast or ovarian cancer have a more difficult time than those 40+ with understanding how to manage their risk



1 IN 4 WOMEN aged 25-39 with a family history of breast and ovarian cancer think that:

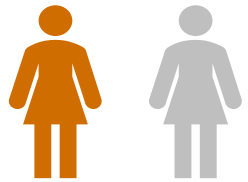
AND

Because **someone else in their family has been diagnosed** with breast or ovarian cancer, **it is inevitable that they will eventually get it as well** (22%, vs 14% of 40+)

The **only way to reduce their risk is to undergo surgery**, such as a hysterectomy or mastectomy (25%, vs 18% of 40+)

Q8: You previously mentioned you have a family member who has been diagnosed with breast or ovarian cancer. Do you agree or disagree with each of the following statements?
Base: Aged 25-39 and has a family member diagnosed with breast or ovarian cancer n=184; Aged 40+ and has a family member diagnosed with breast or ovarian cancer n=302

Women who do not have a family history of breast or ovarian cancer are not taking steps to manage their risks, but they could be in a higher-risk category than they think



51% of women

Say they have no history of breast or ovarian cancer in their family, but they don't even know if that is true:

1 in 3 of these women (30%) say they don't really know if anyone in their family has ever been diagnosed because they **do not talk about medical issues in their family**

And more than half of these women have never spoken with their doctor about breast cancer (47%) or ovarian cancer (53%)

Q5: To the best of your knowledge, do you know anyone who has been diagnosed with each of the following?

Q9: Do you agree or disagree with each of the following statements about breast or ovarian cancer? Base: Total n=1,000; Has no family members diagnosed with breast or ovarian cancer n=513

Women are less knowledgeable of their father's family health history, despite their father's side of the family still being a key indicator of breast cancer risk

How comfortable would you be speaking to each of the following people about your....

Physical health	Very Comfortable	Not Very Comfortable
My mom	54%	46%
My dad	32%	68%

Potential risk of getting breast and ovarian cancer	Very Comfortable	Not Very Comfortable
My mom	57%	43%
My dad	30%	70%

36% OF WOMEN

Do not feel knowledgeable about their **father's** family health history, compared to **21%** who do not feel knowledgeable about their **mother's** family health history



Yet, women know that it's important to consider their father's health history for assessing cancer risk:

ONLY 10%

think women only need to worry about their mom's family when it comes to breast and ovarian cancer history

ONLY 15%

are only concerned with their mom's side of the family when they think about their breast or ovarian cancer risk

Q2: How comfortable would you be speaking to each of the following people about your physical health? <Net Top 1 Box and Bottom 3 Box>

Q4: On a scale of 1 to 4, where 1 is "I don't know anything about it" and 4 is "I know a lot about it", how well do you know your family's health history? <Net Bottom 2 Box>

Q7: To the best of your knowledge, are each of the following statements about breast or ovarian cancer true or false?

Q18: How comfortable are you with speaking to each of the following people about your potential risk of getting breast and ovarian cancer? <Net Top 1 Box and Bottom 3 Box> Base: Total n=1,000

Genetic testing for cancer risk is on most women's radar, but many are not leveraging it as part of proactive care

Genetic testing for cancer risk is on most women's radar – they just don't think it's for them

8 in 10

Women are aware that genetic testing specifically for breast cancer (87%) and ovarian cancer (81%) risk is available

However, they don't know about the specifics of these genetic tests—
While they are aware of most tests, few are familiar with them.

How familiar women are with each of the following:

	Total Aware	Total Familiar (within aware)
Ancestry genetic testing	80%	10%
Prenatal genetic testing	70%	11%
BRCA genetic testing	42%	8%
CHEK2 genetic testing	20%	3%
PALB2 genetic testing	18%	3%

ONLY 1 IN 3 (30%)

Women say they have gotten some sort of genetic testing done before

30% Of women aged 40+ who have a family member who has been diagnosed with breast or ovarian cancer have gotten genetic testing done

21% Of women aged 40+ with no family members who have been diagnosed with breast or ovarian cancer have gotten genetic testing done

Q3: Still thinking about your physical health, when was the last time you did each of the following?

Q11: How aware are you with each of the following? <Net Top 2 Box and Net Top 3 Box>

Q12: Now, we would like you to think about genetic testing for cancer specifically. Do you feel each of the following statements is true or false?

Base: Total n=1,000; Aged 40+ and has a family member diagnosed with breast or ovarian cancer n=302; Aged 40+ and has no family members diagnosed with breast or ovarian cancer n=314

Genetic testing for cancer risk is on most women's radar, they just don't think it's for them *(continued)*

41%

of all women aged 25-64 think that genetic testing is **not for someone like themselves.**

Having a family member with breast or ovarian cancer does not change this: **38%** of women with a family member with breast or ovarian cancer still said genetic testing is not for them, compared to **44%** of women without a family member with cancer.

Thoughts and beliefs around genetic testing

% of women

- 34%** Believe they **do not qualify** for genetic testing
- 34%** Say they **don't know how to ask** for genetic testing
- 30%** Think that genetic testing for cancer risk is **only necessary if multiple people in a family have breast or ovarian cancer**
- 35%** Think that they can only get genetic testing for cancer risk if **their doctor recommends it**

Q13: Do you agree or disagree with each of the following statements about genetic testing to understand your risk of getting breast or ovarian cancer?

Q14: How much is each of the following a barrier for you to get genetic testing to understand your risk of getting breast or ovarian cancer? <Net Top 2 Box>

Q15: Which best describes how you feel about genetic testing to understand someone's risk of getting breast and ovarian cancer? Please select a point on each scale to describe your feelings between the two sides. <Net Top 2 Box and Net Bottom 2 Box>

Base: Total n=1,000; Has a family member diagnosed with breast or ovarian cancer n=486; Has no family members diagnosed with breast or ovarian cancer n=513

Knowledge gaps have led women to be unsure if genetic testing is worth doing

1 in 2 (54%)

Women feel they **do not know enough about genetic testing** to know if they want it done or not



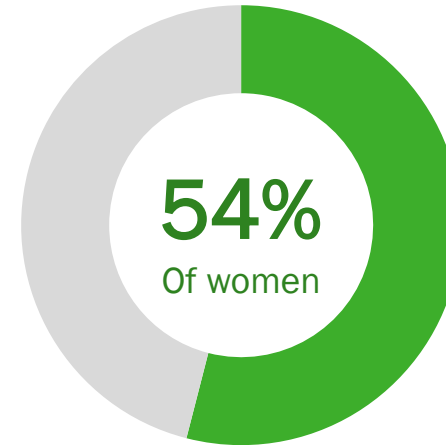
Over **1 in 3** think that **genetic testing is difficult** (39%) and **takes too much time** (39%)



Most think that **genetic testing is expensive** (71%) and **not typically covered by insurance** (64%), but still think it's **worth the cost** (69%)



Additionally, **78%** think **genetic testing is medically necessary** instead of just for fun



Believe that **physical exams and mammograms are the only ways they can find out if they have breast cancer**

28% of women think that self-exams and regular physical check-ups are enough to understand cancer risk, so genetic testing is not necessary

Q10: Now, we would like to ask you a few questions specifically about mammograms, a tool used to screen for breast cancer. Do you think each of the following statements about mammograms are true or false?

Q13: Do you agree or disagree with each of the following statements about genetic testing to understand your risk of getting breast or ovarian cancer?

Q15: Which best describes how you feel about genetic testing to understand someone's risk of getting breast and ovarian cancer? Please select a point on each scale to describe your feelings between the two sides. <Net Top 2 Box and Net Bottom 2 Box>

Base: Total n=1,000

**Women trust and feel heard by their medical providers,
but many expect their medical providers to take the lead
on cancer-related conversations**

Medical providers play a trusted and critical role for women in all areas of their health journey



7 IN 10 WOMEN

are very comfortable speaking with their medical providers about their **physical health** and **potential breast or ovarian cancer risks**

Physical Health: 74% Primary Care Physician; 70% OB-GYN
Potential Breast or Ovarian Cancer Risks: 77% Primary Care Physician; 72% OB-GYN

AND

When voicing their concerns about cancer related risks to their doctors, women feel...

81% They are taken seriously

77% Heard by their doctor

77% Empowered to ask questions

Hispanic/Latinx women feel the **least heard** when they voice their concerns to their doctor (67%, vs. 80% White and 82% Black women)

76% say they would be more likely to get genetic testing done if it was included as part of their annual physical

Q2: How comfortable would you be speaking to each of the following people about your physical health?

Q13: Do you agree or disagree with each of the following statements about getting genetic testing to understand your risk of getting breast or ovarian cancer?

Q17: How much do you agree or disagree with each of the following statements about your experience as a patient?

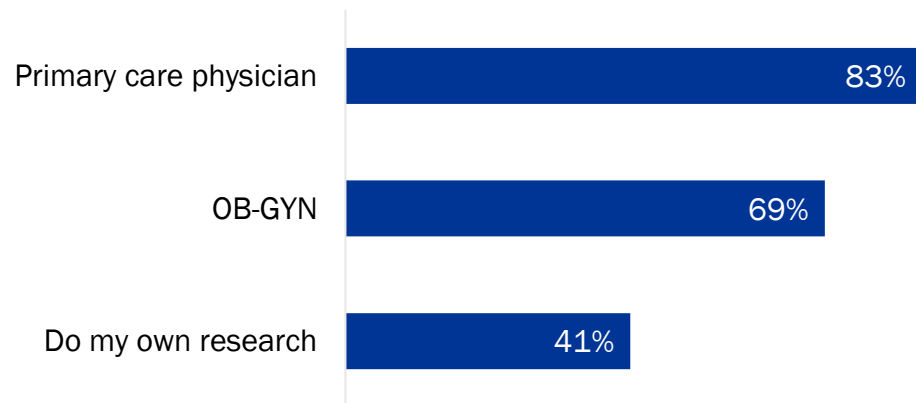
Q18: How comfortable are you with speaking to each of the following people about your potential risk of getting breast and ovarian cancer?

Base: Total n=1,000; White n=577; Black n=131; Hispanic/Latinx n=173

Medical providers play a trusted and critical role for women in all areas of their health journey *(continued)*

As a go-to resource for health matters, **medical professionals** are the first resource women would go to if they were interested in genetic testing:

(showing top 3)



Yet...

44% of women

have **never discussed genetic testing** with their doctor

(40% among women who have a family history of breast or ovarian cancer)

34% of women

do not think they qualify for genetic testing

(29% among women who have a family history of breast or ovarian cancer)

34% of women

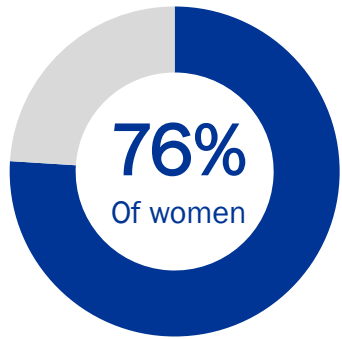
do not know how to ask for genetic testing

(25% among women who have a family history of breast or ovarian cancer)

Q14: How much is each of the following a barrier for you to get genetic testing to understand your risk of breast or ovarian cancer?

Q16: If you were interested in having genetic testing done to understand your risk of getting cancer, who would you speak to about getting it done? Please rank the following groups of people, with '1' being who you would speak to first. Base: Total n=1,000; Aged 25-39 n=384; Aged 40+ n=616

The responsibility to discuss cancer risk falls to medical providers, as women expect them to begin these conversations



Trust their doctor to bring up issues regarding their cancer risk

Additionally...

2 in 3 women (66%)

say their doctor provides them with all the information they need to understand their cancer risk

2 in 5 women (42%)

do not bring up issues with their doctor regarding their cancer risk

This goes up to 47% among women aged 25-39, and 39% of women aged 40+ still do not bring up cancer risk with their doctors

Q17: How much do you agree or disagree with each of the following statements about your experience as a patient? Base: Total n=1,000; Aged 25-39 n=384; Aged 40+ n=616

Nearly half of women who have a family history of breast or ovarian cancer are not speaking with their doctors about it

44% OF WOMEN

WITH A FAMILY HISTORY OF BREAST OR OVARIAN CANCER

have **never** spoken with their doctor about ovarian cancer

41% OF WOMEN AGED 40+

WITH A FAMILY HISTORY OF BREAST OR OVARIAN CANCER

have **never** spoken with their doctor about ovarian cancer

This does not improve with age...



28% OF WOMEN

WITH A FAMILY HISTORY OF BREAST OR OVARIAN CANCER

have **never** spoken with their doctor about breast cancer

21% OF WOMEN AGED 40+

WITH A FAMILY HISTORY OF BREAST OR OVARIAN CANCER

have **never** spoken with their doctor about breast cancer

Q8: You previously mentioned that you have a family member who has been diagnosed with breast or ovarian cancer. Do you agree or disagree with each of the following statements? Base: Has a family member diagnosed with breast or ovarian cancer n=486; Aged 40+ and has a family member diagnosed with breast or ovarian cancer n=302