

**Patterns of Care: Examining the Current
Use of Genetic Testing and Related
Clinical Management for Patients with
Localized Breast Cancer**

**Clinical Investigator and
Community-Based Surgeons Survey**

Clinical Investigator Survey Respondents

Elizabeth Berger, MD, MS

Susan K Boolbol, MD

Meghan R Flanagan, MD, MPH

Mehra Golshan, MD, MBA

Kevin S Hughes, MD

Tari A King, MD

Eleftherios Mamounas, MD, MPH

Monica Morrow, MD

Atilla Soran, MD, MPH

Ilene Wapnir, MD

- 21 community-based surgeons completed the survey

Survey Outline

A woman with a biopsy positive for breast cancer and 3 base clinical scenarios:

- **<2.0-cm tumor without a suspicious axilla, surgery planned**
- **>2.0-cm tumor and/or a suspicious axilla, surgery planned**
- **>2.0-cm tumor and/or a suspicious axilla, neoadjuvant systemic therapy planned**

Additional variables within the 3 base scenarios:

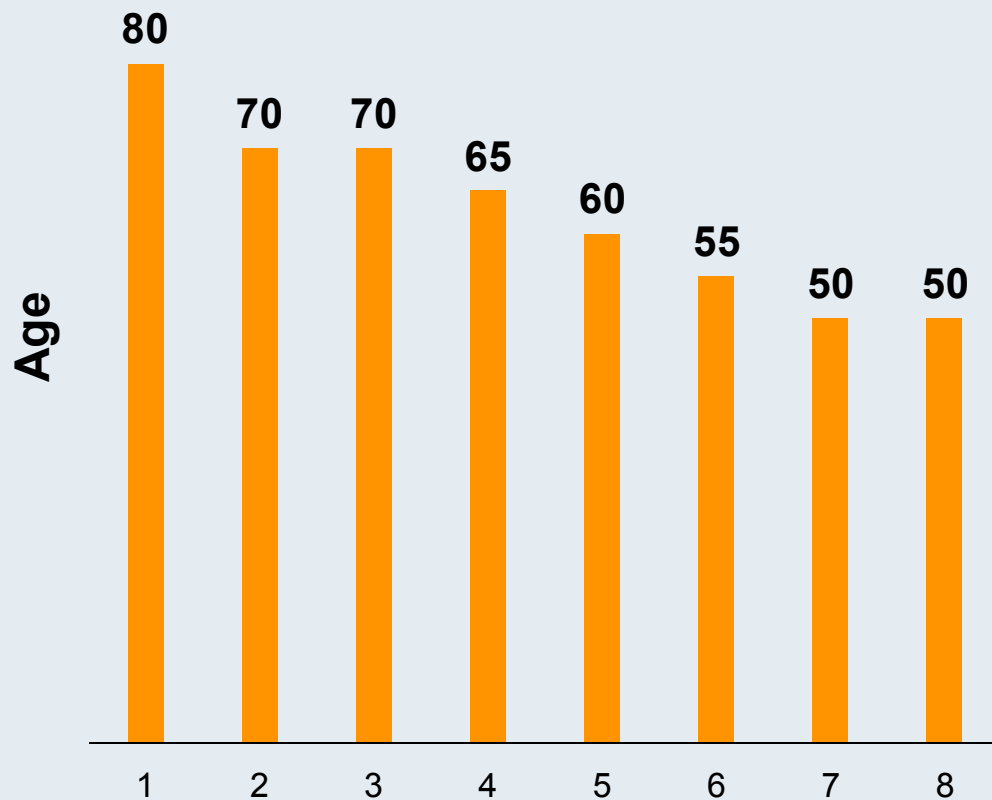
- **Age: 30-year-old, 55-year-old, 70-year-old**
- **ER/PR and HER2 status**
- **Relevant family history**

Is there an age at which you believe all patients that age and younger with newly diagnosed localized breast cancer should undergo genetic testing?

Clinical Investigators

Median: 63 Years

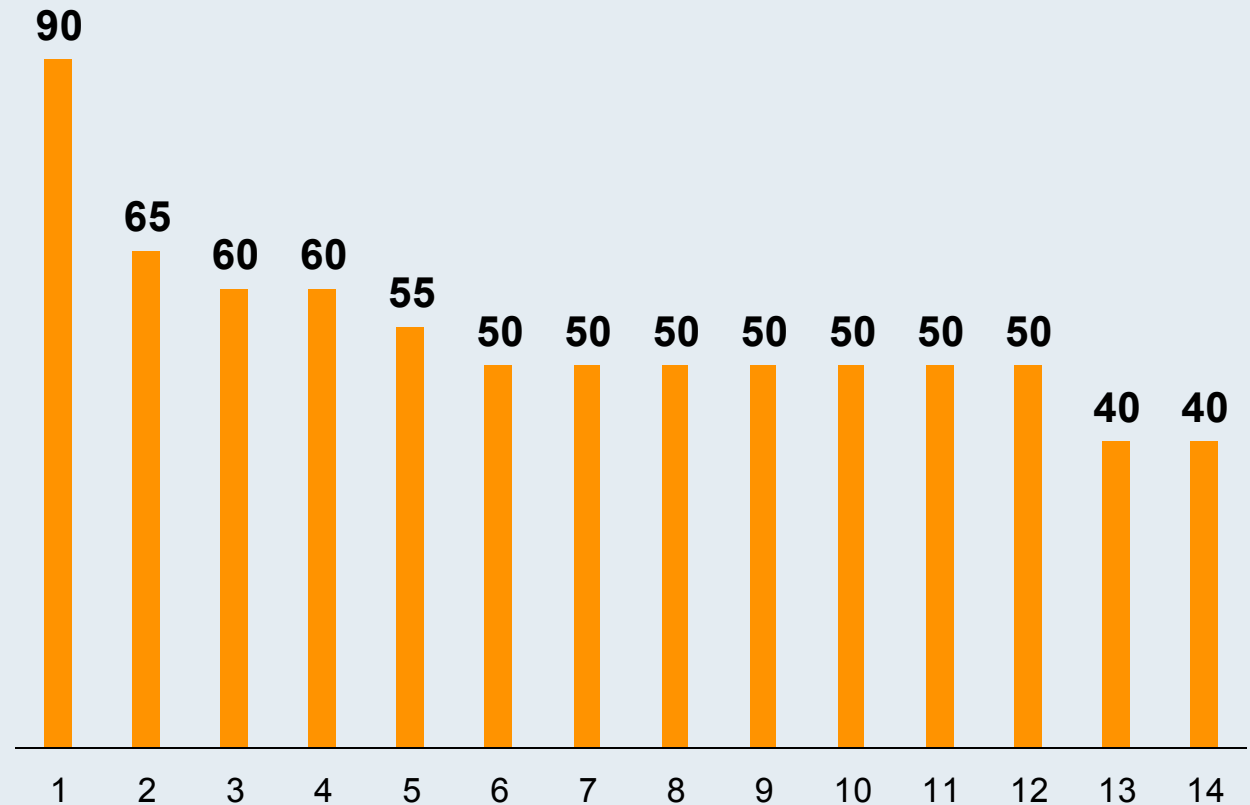
Two respondents answered No



Community-Based Surgeons

Median: 50 years

Seven respondents answered No



Survey respondent

All patients with newly diagnosed localized breast cancer described below should undergo genetic testing regardless of disease stage and family history.

| | Clinical investigators | Community-based surgeons |
|--|-------------------------------|---------------------------------|
| Patients with triple-negative breast cancer | 100% | 90% |
| Male patients | 100% | 90% |
| Patients who develop a second primary tumor (eg, contralateral breast cancer) | 100% | 86% |
| Patients of Ashkenazi Jewish ancestry | 90% | 90% |

For which of the following patients with breast cancer should BRCA genetic testing be conducted prior to a decision on the surgical approach?

| | Clinical investigators | Community-based surgeons |
|---|------------------------|--------------------------|
| A woman who desires breast-conserving surgery and whose mother has a germline BRCA mutation | 100% | 95% |
| A woman who desires breast-conserving surgery and whose mother and aunt had breast cancer but their BRCA status is unknown | 100% | 90% |
| An Ashkenazi Jewish woman who desires breast-conserving surgery | 80% | 81% |
| An Ashkenazi Jewish woman who desires breast-conserving surgery and has one close relative with breast cancer | 100% | 95% |

Please identify at least one other clinical situation in which you would order genetic testing prior to deciding the surgical approach for a patient with localized breast cancer. (Clinical Investigators)

- Two different ipsilateral breast cancers (eg TN and HR+), family histories suggestive of other syndromes other than BRCA
- A young woman
- I think all patients with breast cancer should be offered genetic testing
- DCIS as well
- We offer genetic testing to everyone
- Father has a breast cancer history
- 60-year-old with triple-negative cancer
- Any woman with newly diagnosed breast cancer under the age of 35 irrespective of family history
- Family history of multiple relatives. I consider genetic testing for information, not as a means to necessarily advocate for mastectomies
- Anyone who meets NCCN

Please identify at least one other clinical situation in which you would order genetic testing prior to deciding the surgical approach for a patient with localized breast cancer. (Community-Based Surgeons)

- Family history of ovarian cancer or pancreatic cancer
- Desiring TM to inform decision on other side surgery
- A woman deciding on contralateral mastectomy
- Someone who desires unilateral mastectomy or breast conservation but has first or second degree relatives with other cancers such as pancreatic, ovarian, or colon cancer
- History of additional type of cancer such as ovarian, pancreatic, or prostate
- A woman with multiple first degree relatives with breast cancer
- Lobular breast cancer with family history of stomach cancer
- All females who develop breast cancer under the age of 50 years
- Family history of cancer such as pancreatic in a father and under the age of 50
- Age less than 50 and unknown family history (adoption)
- All patients diagnosed with breast cancer should undergo testing
- HER2+ patient
- Am Soc of Breast surgeons recommends all women to have genetic testing though I refer to genetics
- Knowledge is power. These are highly affordable tests and results have significant impact on patients as well as their families. I feel there should be default testing for all patients and the question should be who doesn't need testing
- Mother or close first degree relative with ovarian cancer or very young melanoma history
- Any woman w/ breast cancer whose remaining lifetime risk if they test positive for deter mutation would affect surgical decision-making

A woman has had a biopsy positive for breast cancer. She has not received local therapy. For each of the following clinical scenarios, please indicate whether genetic testing should be ordered for the patient described.

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators


Yes  10


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history


Clinical Investigators


Yes  10


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history


Clinical Investigators

Yes  10

No, but I will defer
to a medical
oncologist 0

Community-Based Surgeons

Yes  19

No, but I will defer
to a medical
oncologist  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators


Yes  10


Yes, but I will
defer to a medical
oncologist 0

No, but I will defer
to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  1

No, but I will defer
to a medical
oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 55 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  4


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  1

No  5

Community-Based Surgeons

Yes  9

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  6

No  5

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators


Yes  10


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  17

Yes, but I will defer to a medical oncologist  3

No, but I will defer to a medical oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 55 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  4


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

No  4

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  5

No  3

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-positive


Genetics: Relevant family history


Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history


Clinical Investigators


Yes  9


Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  18

Yes, but I will defer to a medical oncologist  2

No, but I will defer to a medical oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  20

Yes, but I will defer to a medical oncologist  1

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  1


Yes, but I will defer to a medical oncologist  0


No, but I will defer to a medical oncologist  1

No  8

Community-Based Surgeons

Yes  5

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  2

No  13

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 70 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes  10

Yes, but I will defer to a medical oncologist 0


No, but I will defer to a medical oncologist 0

No 0

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  5

No, but I will defer to a medical oncologist  2

No  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  2


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  1

No  6

Community-Based Surgeons

Yes  8

Yes, but I will defer to a medical oncologist  2

No, but I will defer to a medical oncologist  6

No  5

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators

Yes  8


Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

No 0

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  3

No, but I will defer to a medical oncologist  4

No  2

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  7

Yes, but I will defer to a medical oncologist  1


No, but I will defer to a medical oncologist 0

No  2

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

No 0

Clinical Scenario 1: A patient with a <2.0-cm tumor without a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators


Yes  10


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  10


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive


Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history


Clinical Investigators

Yes  10

No, but I will defer
to a medical
oncologist 0

Community-Based Surgeons

Yes  20

No, but I will defer
to a medical
oncologist  1

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes 10

Yes, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes 20

Yes, but I will defer to a medical oncologist 1

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 55 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  5


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  1

No  4

Community-Based Surgeons

Yes  10

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  7

No  3

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  18

Yes, but I will defer to a medical oncologist  3

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  5


Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

No  3

Community-Based Surgeons

Yes  11

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  6

No  3

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators

Yes  8


Yes, but I will defer to a medical oncologist  2

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  16

Yes, but I will defer to a medical oncologist  4

No, but I will defer to a medical oncologist  1

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  9


Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 55 years


HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history

Clinical Investigators


Yes  9

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  2

No, but I will defer to a medical oncologist 0

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  2


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  1

No  7

Community-Based Surgeons

Yes  6

Yes, but I will defer to a medical oncologist  2

No, but I will defer to a medical oncologist  3

No  10

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes  8

Yes, but I will defer to a medical oncologist 0


No, but I will defer to a medical oncologist  1

No  1

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  5

No, but I will defer to a medical oncologist  2

No  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?

Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  3


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

No  5

Community-Based Surgeons

Yes  9

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  4

No  7

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators

Yes  8

Yes, but I will defer to a medical oncologist  2


No, but I will defer to a medical oncologist 0

No 0

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  5

No, but I will defer to a medical oncologist  2

No  2

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history

Clinical Investigators


Yes  8

Yes, but I will defer to a medical oncologist  1


No, but I will defer to a medical oncologist 0

No  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  1

No  1

Clinical Scenario 2: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to undergo surgery. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative


Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  18

Yes, but I will defer to a medical oncologist  3

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history


Clinical Investigators

Yes  10

No, but I will defer
to a medical
oncologist 0

Community-Based Surgeons

Yes  19

No, but I will defer
to a medical
oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will
defer to a medical
oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history


Clinical Investigators

Yes  10

No, but I will defer
to a medical
oncologist 0

Community-Based Surgeons

Yes  20

No, but I will defer
to a medical
oncologist  1

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 30 years

HR/HER2 status: ER/PR-negative, HER2-negative


Genetics: Relevant family history


Clinical Investigators

Yes  10

Yes, but I will
defer to a medical
oncologist 0

Community-Based Surgeons

Yes  20

Yes, but I will
defer to a medical
oncologist  1

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  6


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist 0

No  4

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  5

No  3

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  17

Yes, but I will defer to a medical oncologist  4

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  6

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist 0

No  3

Community-Based Surgeons

Yes  12

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  6

No  3

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will
defer to a medical
oncologist  1

No 0

Community-Based Surgeons

Yes  15

Yes, but I will
defer to a medical
oncologist  5

No  1

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  9


Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist 0

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 55 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  2

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?

Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  1


Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

No  7

Community-Based Surgeons

Yes  7

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  5

No  8

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-positive, HER2-negative

Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1


No, but I will defer to a medical oncologist 0

No 0

Community-Based Surgeons

Yes  14

Yes, but I will defer to a medical oncologist  5

No, but I will defer to a medical oncologist  1

No  1

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 70 years


HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: No relevant family history

Clinical Investigators

Yes  2

Yes, but I will defer to a medical oncologist  1

No, but I will defer to a medical oncologist  2

No  5

Community-Based Surgeons

Yes  9

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  7

No  5

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-positive, HER2-positive

Genetics: Relevant family history

Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1


No, but I will defer to a medical oncologist 0

No 0

Community-Based Surgeons

Yes  13

Yes, but I will defer to a medical oncologist  5

No, but I will defer to a medical oncologist  2

No  1

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: No relevant family history

Clinical Investigators

Yes  8

Yes, but I will defer to a medical oncologist  1


No, but I will defer to a medical oncologist 0

No  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist 0

No, but I will defer to a medical oncologist  2

No 0

Clinical Scenario 3: A patient with a >2.0-cm tumor and/or a suspicious axilla who is going to receive neoadjuvant systemic therapy. Should BRCA testing be ordered for the patient below?


Age: 70 years

HR/HER2 status: ER/PR-negative, HER2-negative

Genetics: Relevant family history


Clinical Investigators

Yes  9

Yes, but I will defer to a medical oncologist  1

Community-Based Surgeons

Yes  19

Yes, but I will defer to a medical oncologist  2

Which guidelines do you consider, if any, to determine whether genetic testing should be ordered for a patient with newly diagnosed localized breast cancer?

| | Clinical investigators | Community-based surgeons |
|---|------------------------|--------------------------|
| NCCN Guidelines for Genetic/Familial High-Risk Assessment for Breast, Ovarian, and Pancreatic cancer | 8 | 16 |
| ASCO-SSO Germline Testing in Patients with Breast Cancer | 7 | 7 |
| American Society of Breast Surgeons Clinical Consensus Statement on Genetic Testing for Hereditary Breast Cancer | 8 | 14 |
| Other* | 0 | 1 |
| UpToDate® | 1 | 0 |
| I generally don't consider guidelines in this setting | 0 | 2 |

*Software program that determines testing eligibility based on noted society guidelines

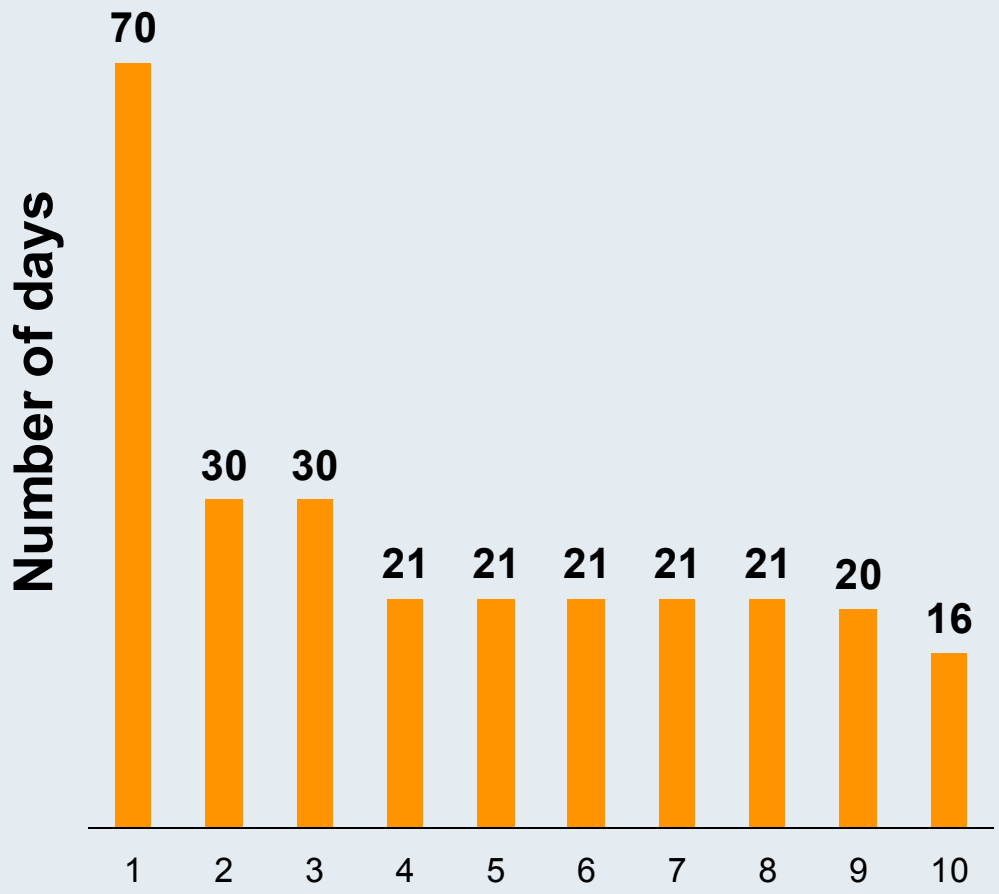
Which specific assays do you usually use when testing for germline mutations in your patients with localized breast cancer?

| | Clinical investigators | Community-based surgeons |
|--|------------------------|--------------------------|
| Myriad MyRisk[®] Hereditary Cancer Test | 6 | 11 |
| Myriad BRACAnalysis CDx[®] | 1 | 4 |
| Ambry CancerNext-Expanded[®] | 5 | 4 |
| Ambry CancerNext[®] | 2 | 5 |
| Ambry BRCAplus[®] | 1 | 3 |
| Invitae Multi-Cancer Panel | 5 | 3 |
| Invitae Hereditary Breast Cancer Guidelines-Based Panel | 3 | 4 |
| Invitae Hereditary Breast and Gyn Cancers Panel | 2 | 1 |
| Invitae Common Hereditary Cancers Panel | 2 | 3 |
| Invitae BRCA1 and BRCA2 Panel | 1 | 2 |
| Exact Sciences Corporation Riskguard[®] Panel | 0 | 1 |

At your institution, what is your estimate of the average wait time between a patient being diagnosed with localized breast cancer and receipt of surgery?

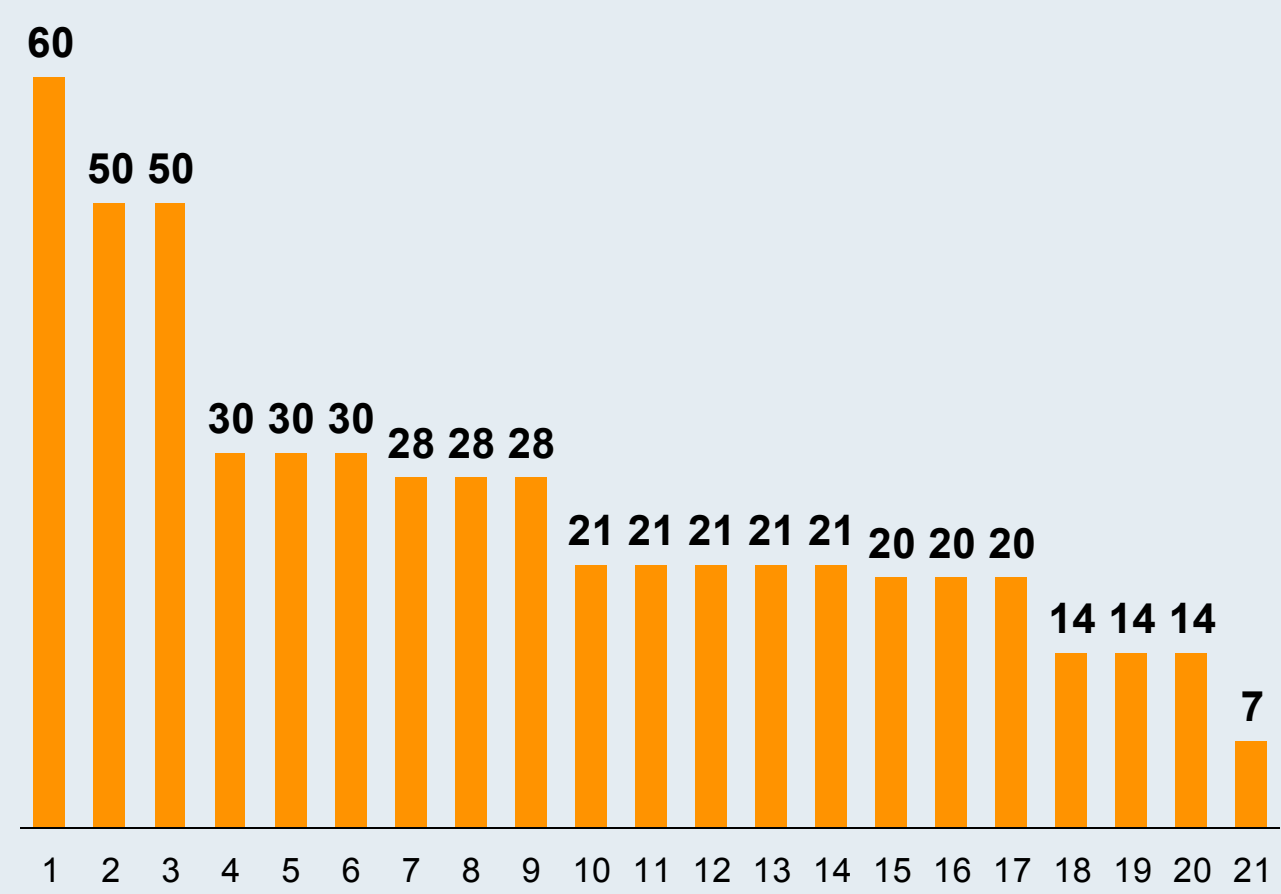
Clinical Investigators

Median: 21 days



Community-Based Surgeons

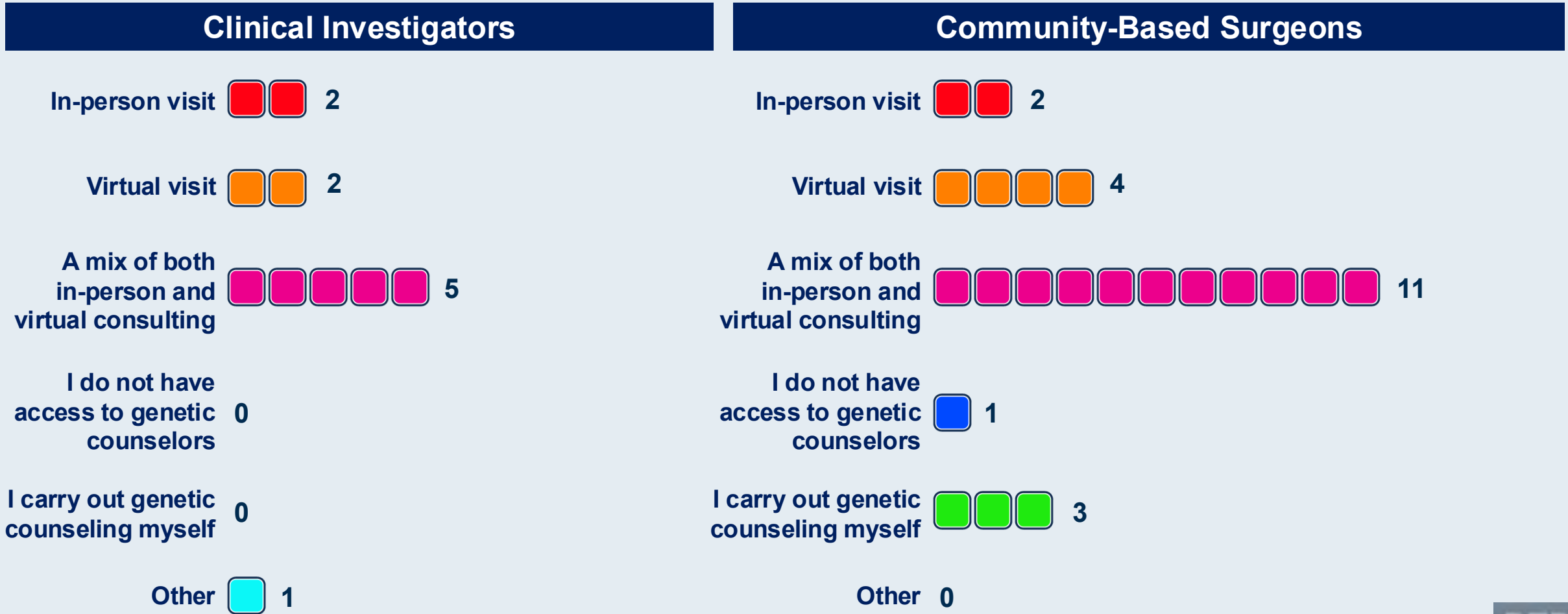
Median: 21 days



Survey respondent



In general, when you refer patients to genetic counseling, is your referral for an in-person or a virtual visit?



In the Phase III OlympiA trial evaluating olaparib versus placebo in the adjuvant setting for patients with localized breast cancer and a germline BRCA mutation, what was the duration of adjuvant olaparib?

Clinical Investigators

12 months  9

24 months 0

I'm not sure  1

Community-Based Surgeons

12 months  16

24 months  2

I'm not sure  3

Results from the Phase III OlympiA trial demonstrated an improvement in which of the following endpoints with olaparib?

Clinical Investigators

Progression-free survival (PFS) 0

Overall survival (OS) 0

Both PFS and OS  9

Neither PFS nor OS  1

I'm not sure 0

Community-Based Surgeons

PFS  1

OS  3

Both PFS and OS  13

Neither PFS nor OS  1

I'm not sure  3

Which of the following nonhematologic adverse events was commonly reported in the Phase III OlympiA trial?

Clinical Investigators

Peripheral neuropathy 0

Gastrointestinal toxicities (nausea and/or vomiting)  9

I'm not sure  1

Community-Based Surgeons

Peripheral neuropathy  1

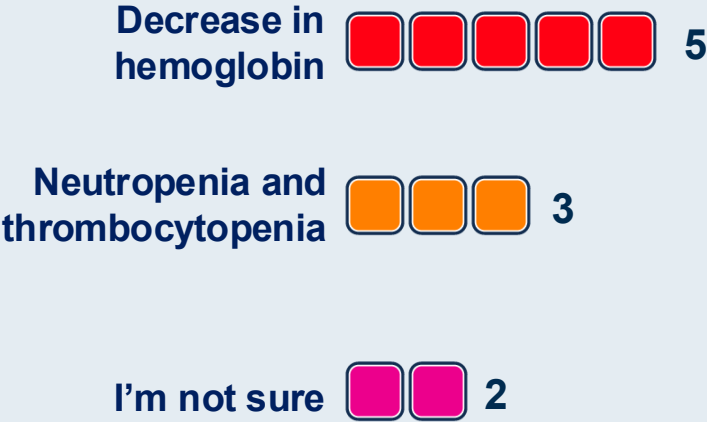
Gastrointestinal toxicities (nausea and/or vomiting)  14

I'm not sure  6

Which of the following hematologic or immunologic adverse events was commonly reported in the Phase III OlympiA trial?

Clinical Investigators

Community-Based Surgeons



In the Phase III OlympiA trial, the incidence of development of second cancers (AML/MDS) was higher with olaparib than with placebo.

Clinical Investigators

Community-Based Surgeons

Agree  3

Agree  1

Disagree  5

Disagree  13

I'm not sure  2

I'm not sure  7


Olaparib is approved as adjuvant treatment after prior neoadjuvant or adjuvant chemotherapy for patients with germline BRCA-mutated, high-risk localized breast cancer that is ...

Clinical Investigators

ER/PR-positive,
HER2-positive 0

ER/PR-positive,
HER2-negative 0

All of the above  5

Either ER/PR-positive,
HER2-negative or
ER/PR-negative,
HER2-negative  5


I'm not sure 0

Community-Based Surgeons

ER/PR-positive,
HER2-positive  1

ER/PR-positive,
HER2-negative  1

All of the above  6

Either ER/PR-positive,
HER2-negative or
ER/PR-negative,
HER2-negative  9

I'm not sure  4