

### 5 Correlation Between Visual Impairment and Breast Cancer: A Cross-Sectional Study Based on the National Health Interview Surveys

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#### Background/Significance

Previous studies suggesting a negative correlation between breast cancer and visual impairment are limited by small sample sizes, underscoring the need for larger-scale analyses to clarify this relationship and its clinical implications.

#### Materials and Methods

To better understand this correlation, we conducted a cross-sectional study using data from 39,439 individuals from the

National Health Interview Surveys, ensuring sufficient sample sizes across all degrees of visual impairment.

#### Results

Our results showed an increase in breast cancer among all degrees of visual impairment, with the highest prevalence of breast cancer being among women who were completely blind. These results show that the melatonin hypothesis may not be applicable outside of animal models, and that lifestyle challenges faced by visually impaired women may increase the risk of developing breast cancer.

#### Conclusion

Further studies should be conducted to draw definitive conclusions, keeping in mind the possibility that there may be a positive correlation between breast cancer and visual impairment in spite of conclusions established by past studies.

### 6 Peer Support Programming Among Women At-Risk for Surviving Breast Cancer: Facilitators and Barriers to Community-Based Patient Navigation and the Role of Quality of Life

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#### Background/Significance

Peer support programs offer care to women at-risk for and surviving breast cancer to improve their quality of life. This study evaluated a national, cancer-focused community-based organization's (CBO) 1-on-1 and no-cost peer support program to identify its uptake and outcomes.

#### Materials and Methods

A secondary data analysis was conducted among 1054 women who contacted the CBO for information and support: patient-reported outcomes were assessed 30 days later. Associations between demographic and clinical characteristics and the offer, uptake, and outcomes of peer support were analyzed in a multivariable manner.

#### Results

In the evaluation sample of women, 49.2% were aged 46 to 64 years, 17.6% were non-White, 78.0% were mothers, and 88.2% were breast cancer survivors. Peer support was offered to 814

(76.7%) women, of whom 305 (37.5%) utilized it. Women offered peer support were younger ( $t = -2.86$ ,  $df = 1050$ ,  $P = .004$ ), and reported higher CBO care ( $t = -4.57$ ,  $df = 317$ ,  $P < .001$ ) and patient navigation quality ( $t = -3.64$ ,  $df = 345$ ,  $P < .001$ ). Among those utilizing peer support, they were more likely to be mothers ( $\chi^2 = 5.15$ ,  $P < .05$ ) and breast cancer-free ( $\chi^2 = 4.24$ ,  $P < .05$ ), but experienced lower quality of life ( $t = 2.23$ ,  $df = 800$ ,  $P < .05$ ). Among all women, barriers to utilizing peer support included time constraints (17.5%), feeling uncomfortable discussing personal issues (9.8%), and having concerns about peer support meeting their needs (5.7%). Positive outcomes among peer support users ( $M = 44.37/50$ ,  $SD = 6.7$ ) were associated with younger age ( $P < .10$ ), and higher CBO care and patient navigation quality (both  $P < .001$ ). In logistic regression modeling, the odds of being offered peer support were greater for younger women (OR, 1.26; 95% CI, 1.05-1.50) and those with higher CBO care quality (OR, 1.20; 95% CI, 1.08-1.32); the odds of utilizing peer support were greater for mothers (OR, 1.57; 95% CI, 1.10-2.24), those without a breast cancer diagnosis (OR, 1.59; 95% CI, 1.02-2.47), and lower quality of life (OR, 1.18; 95% CI, 1.02-1.37). In an age-adjusted model, higher-quality CBO care ( $B = 1.71$ ,  $P < .001$ ) and patient navigation quality ( $B = 0.58$ ,  $P < .001$ ) both contributed significantly to an enhanced peer support experience.

#### Conclusion

CBO-led peer support programs are well-received by women at risk for and diagnosed with breast cancer, and especially those who are younger and with lower quality of life. High-quality CBO care and patient navigation are important components of peer support as well, and barriers to utilizing peer support could be lowered to extend its reach and impact.

## 9 Body Mass Index, Cancer Risk Behaviors, and Readiness for Dietary Change Among Women Surviving With Breast Cancer

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### Background/Significance

Breast cancer survivors are at increased risk of recurrence and poorer outcomes if they are overweight (body mass index [BMI], 25-29.9) or obese (BMI, 30+) compared with those with a healthy weight; nutrition counseling is a key component of their secondary prevention and supportive care. The Stages of Change continuum, part of the Transtheoretical Model, conceptualizes dietary behavior change as a progression from not yet considering change (Precontemplation) to sustained change (Maintenance). We studied breast cancer survivors readiness to change their diet, along with other cancer risk behaviors, in relationship to BMI.

### Materials and Methods

A secondary data analysis was conducted among 936 breast cancer survivors who contacted a community-based cancer control organization for information and support services during and after cancer treatment. Data (demographics, cancer prevention awareness, BMI, tobacco and alcohol use, physical activity) were collected 30 days later, including breast cancer survivor dietary stages of change.

### Results

Among breast cancer survivors, 37% were  $\leq 45$  years of age, 18.3% were non-White, 22.3% rated their general health as fair or poor, and 46.9% carried a pathogenic variant in *BRCA*. The mean (SD) BMI was 27.1 (6.4), and 56.1% were overweight/obese. Among the risk behaviors assessed, 27.9% of breast cancer survivors were current or former tobacco users, 33.5% had consumed 2+ drinks containing alcohol in the past 30 days (16.5% consumed 4+ alcohol drinks in 1 sitting), and 30% were not physically active: a majority were aware of cancer prevention guidelines for alcohol (92.7%), physical activity (95%), and nutrition (92.7%). Regarding the Transtheoretical Model's Stages of Change, Maintenance consistently had the largest percentage across all dietary behaviors: avoiding red meat (65.6%) and increasing fiber consumption (63.6%) showed the highest maintenance. The Preparation and Action stages varied, with the highest proportion (29.8%) increasing fruit/vegetable consumption. The Precontemplation and Contemplation stages were relatively low for all behaviors ( $<20\%$ ). In bivariate analyses, breast cancer survivors who were overweight/obese ( $t = -4.23$ ,  $df = 728$ ,  $P < .001$ ), and engaged in less physical activity ( $t = 6.8$ ,  $df = 781$ ,  $P < .001$ ), reported less dietary change readiness.

### Conclusion

Effective dietary interventions may depend on breast cancer survivors readiness for change (eg, raising awareness for those in Precontemplation). The Transtheoretical Model can help tailor behavior change strategies to enhance breast cancer survivor motivation, especially for overweight/obese and less physically active breast cancer survivors at the greatest risk for recurrence.

## 12 Gut Microbiome Composition and Pathological Complete Response After Chemotherapy in Breast Cancer: Insights From a Pilot Study

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### Background/Significance

The human microbiome, consisting of approximately three trillion bacteria and other microorganisms, is critical in regulating physiological processes, including immune responses and chemotherapy efficacy. Given the potential influence of microbiome composition on therapeutic outcomes, this pilot study investigated microbiome variations in breast tissue, skin, and stool samples and their associations with pathological complete response (pCR) in breast cancer patients undergoing neoadjuvant chemotherapy.

### Materials and Methods

Eleven breast cancer patients receiving neoadjuvant

chemotherapy were included in this single-institution study. Treatment regimens were docetaxel, carboplatin, trastuzumab, and pertuzumab (n = 5); pembrolizumab-based immunotherapy (n = 5); and doxorubicin, cyclophosphamide, and paclitaxel (n = 1). Following therapy, breast tissue, skin, and stool samples were collected for microbiome analysis. Breast tissue 16S rRNA sequencing data were cross-referenced with skin microbiome data to exclude potential contaminants, removing taxa with >0.01% average skin abundance and ≥10% positivity. Whole-genome shotgun analysis excluded 295 taxonomic members, and microbial profiles were re-normalized to calculate the mean relative abundance.

## Results

Six patients (55%) achieved pCR following neoadjuvant chemotherapy. Breast tissue microbiome analysis revealed no significant differences between patients with and without pCR. However, stool microbiome composition differed between these groups. Patients without pCR exhibited elevated levels

of *Eubacterium* (0.85 vs 0.39;  $P < .01$ ), *Bifidobacterium* (0.19 vs 0.05;  $P = .01$ ), *Alistipes shahii* (1.65 vs 0.37;  $P = .01$ ), and *Dorea* (0.42 vs 0.21;  $P = .02$ ) compared with those with pCR. Conversely, patients achieving pCR had higher levels of *Clostridiales* (0.84 vs 1.83;  $P = .02$ ), suggesting a potential correlation between the presence of specific bacterial taxa and therapeutic response.

## Conclusion

This study highlights significant associations between stool microbiome composition and pCR in breast cancer patients undergoing neoadjuvant chemotherapy. *Clostridiales*, in particular, may enhance chemotherapy effectiveness through immune modulation and production of lithocholic acid, an antitumor metabolite. While limited by sample size, these findings suggest the need for larger studies to explore how gut microbiota influence treatment outcomes, potentially offering new strategies to optimize therapy.

## 13 Preliminary Analysis of Change During Treatment of Financial Toxicity and Quality of Life in Breast Cancer Patients

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## Background/Significance

Financial toxicity is the burden faced from out-of-pocket costs, which affects quality of life and possibly survival. Maimonides Medical Center serves a diverse population, including patients from marginalized groups who may be vulnerable to financial toxicity. Here, we present a preliminary analysis of change in financial toxicity over the first 6 months of breast cancer treatment.

## Materials and Methods

Female breast cancer patients receiving curative-intent treatment at Maimonides Medical Center self-reported

financial toxicity and quality of life via the Comprehensive Score for Financial Toxicity (COST) and EORTC Quality of Life Core-30 (QLQ-C30) questionnaires at time of diagnosis (baseline) and after 6 months of treatment. Financial toxicity was measured by mean COST score and the score given on question 28 of QLQ-C30. Overall quality of life was scored via questions 29 to 30 of QLQ-C30, per the official scoring guide. The primary outcome was change in financial toxicity over 6 months. Statistical analysis used univariable linear regression to assess associations between characteristics and changes in financial toxicity.

## Results

Twenty-six patients completed questionnaires at both baseline and 6 months. Mean age was 60 years (SD, 11). Twenty patients (76%) identified with minority groups (46% Black, 15% Asian, 15% Hispanic) and 8 (31%) reported a primary language other than English. Seventeen (65%) had private insurance. Twelve patients (47%) reported household income less than \$40,000 annually, 11 (42%) \$40,000-\$100,000, and 3 (11%) greater than \$100,000. Twenty-one (81%) patients had stage I (pT1-2N0) breast cancer, with 1 (4%) having ductal carcinoma in situ and 4 (15%) node positive breast cancer.

Mean COST score was 20.5 (SD, 10.5) at baseline and 25 (SD, 10) at 6 months. Mean overall quality of life was 5.2 (SD, 1.3) at baseline and 5.3 (SD, 1.3) at 6 months. Fourteen (54%) patients gave a score of 1 at baseline on Q28 of QLQ-C30, meaning “not at all” experiencing financial

toxicity; 16 (62%) did so at 6 months.

Univariable regression did not identify any statistically significant associations between patient characteristics and change in COST over 6 months. We also did not identify any significant predictors of financial toxicity via QLQ-C30 or overall quality of life at 6 months.

## Conclusion

This preliminary analysis suggests that financial toxicity did not worsen over the first 6 months of curative-intent breast cancer treatment. This finding may suggest that patients encounter less financial toxicity than expected, possibly due to supports available at Maimonides Medical Center. However, small sample size limits our ability to reach firm conclusions. Further analysis when our study is complete will provide additional insights.

## 16 A Miami Hospital's Infrastructure to Help Decrease Late-Stage Breast Cancer Diagnosis and Improve Health Equity

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### Background/Significance

We previously demonstrated, using the National Cancer Database, that lower income and education levels are associated with a higher stage at diagnosis of breast cancer. Expanding on this work, we analyzed publicly available data in mortality rate, focusing on Homestead Hospital's service area in Miami-Dade County where predominantly Hispanic and Black neighborhoods face significant socioeconomic challenges.

### Design and Methods

Using Miami-Dade Matters and US Census data, we evaluated the age-adjusted death rate in Miami-Dade County ZIP codes while analyzing hospital baseline data to identify opportunities to enhance screening rates. A ZIP code in Homestead Hospital's service area has the county's highest age-adjusted breast cancer mortality rate at 39.1 deaths per 100,000 females. In addition, the lowest percentage of high school graduates (65.5%), lowest percentage of bachelor's degree (6.6%), highest percentage of health uninsurance

(33.3%), and highest percentage of people living in poverty (32.6%) compared with the rest of Miami-Dade County. In Fiscal Year1 (FY1) 24, only 23% of Homestead Hospital's screening mammograms were performed in Black, Hispanic, and multiracial women, despite these groups comprising 93% of the local female population. In FY1 24, there were a total of 4336 screening mammograms and diagnostic mammograms at Homestead Hospital. Of these, 16.5% (n = 716) needed additional work-up. While White had 77% of the total tests, they represented 19.6% of the tests that needed additional work-up. Minority demographic groups had 23% of the total tests but represented 80.4% of those in need of additional work-up.

### Status

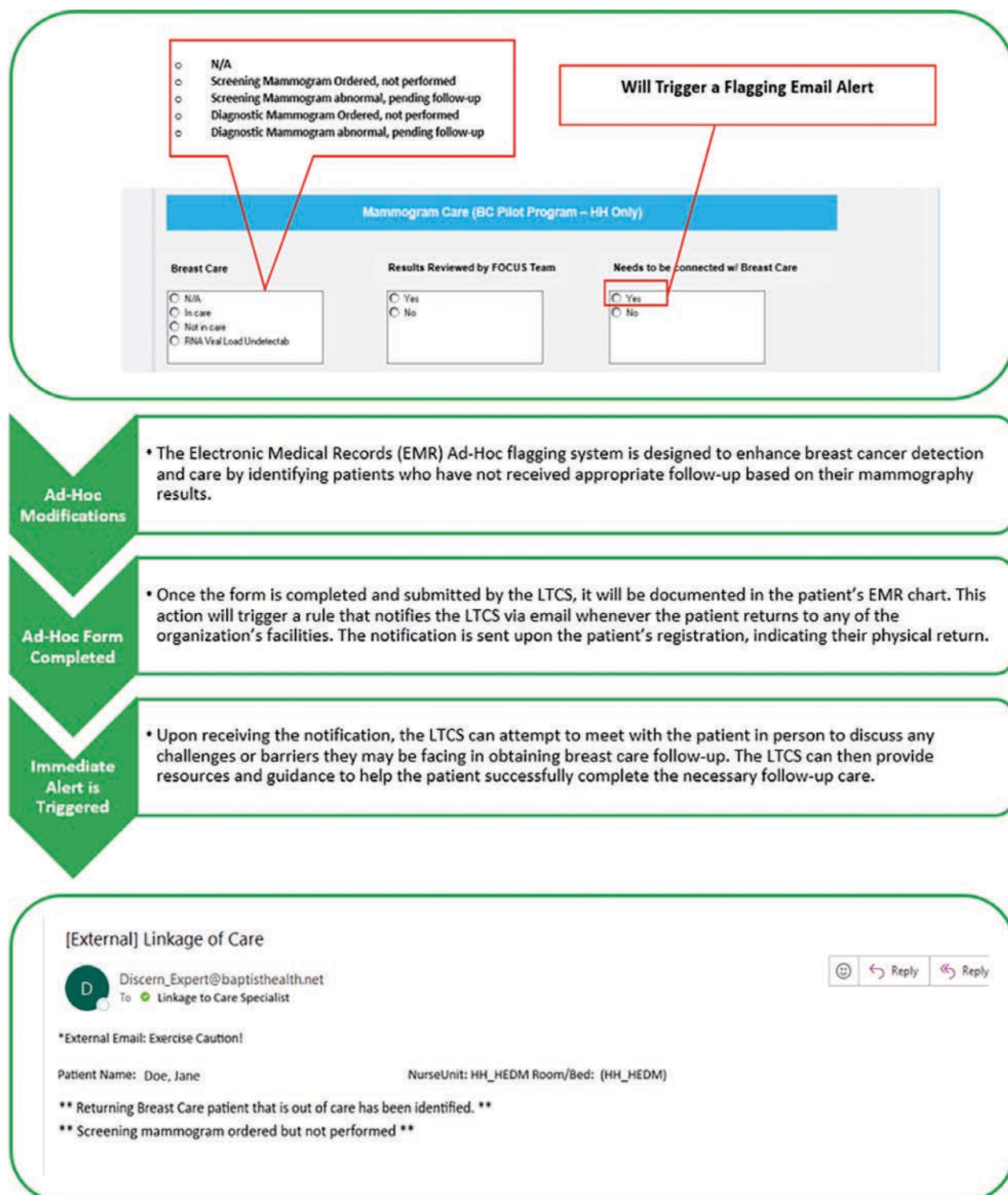
Our findings highlight significant disparities in breast cancer screening and diagnostic follow-up among minority populations in Miami-Dade County. We are developing an infrastructure to improve screening rates and a safety net for our patient population to mitigate barriers for accessing care. We educated providers at a local federally qualified health center on identifying high-risk patients. We are integrating a prediagnostic Linkage Navigator to enhance diagnostic test completion by addressing barriers and ensuring seamless linkage. We are enhancing an existing electronic flagging alert system as a safeguard, building on lessons from infectious disease screening, to identify patients needing follow-up in real-time upon returning within the health system (**Figure**). We are developing a dashboard to track the impact of our interventions, displaying early data from our health system transformation to reduce late-stage breast cancer diagnoses in our community.

Figure on p. 76



# Multidisciplinary

**Figure.** Flagging Alert System



## 29 A Real-World Exploratory Analysis to Identify Disparities in Breast Cancer Tumor Biopsy Practice at Community Oncology Clinics in the United States

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### Background/Significance

The National Comprehensive Cancer Network (NCCN) guidelines recommend that all breast cancer patients have tumor phenotyping performed for estrogen receptor, progesterone receptor, and HER2 at the time of diagnosis. If patients experience recurrent disease or progression, an additional biopsy should be considered. This study evaluated metastatic breast cancer patients treated at community oncology practice sites across the US to measure the frequency, timing, regional variations, and predictors of repeat biopsies over the course of disease.

### Materials and Methods

A weighted random sample of 911 metastatic breast cancer patients were selected from 15 practices within the ONCare Alliance cancer network. Data collection consisted of patient demographics, disease, and clinical characteristics at metastatic breast cancer diagnosis. Biopsy-related data collection included the total number performed over the course of disease, types of biopsies, and overall

findings. Negative binomial regression with an adjustment for disease duration was used to identify factors associated with overall biopsy frequency.

### Results

42.2% of patients have prior diagnosis of early-stage disease (ie, stage 0 to IIIC), and 57.8% were diagnosed de novo metastatic breast cancer. Performance status and disease-related parameters at metastatic breast cancer diagnosis were similar between the 2 groups. The mean number of biopsies in patients initially diagnosed with early-stage disease was 3.9 (95% CI, 3.7-4.0) compared with 2.2 (95% CI, 2.1-2.3) in the de novo metastatic breast cancer patient group ( $P < .001$ ). Significant predictors of fewer biopsies included de novo metastatic breast cancer at diagnosis (risk ratio (RR), 0.76;  $P < .001$ ), non-Black and non-Asian minorities (RR, 0.80;  $P < .001$ ), a longer time to metastatic disease (RR, 0.93;  $P < .001$ ), and poor performance status. There was substantial regional variation, with the Midwest having significantly higher mean biopsies per patient than all other regions ( $P < .001$ ). Patients with HER2 immunohistochemistry  $\geq 1+$  were also 42% less likely to receive a second biopsy (OR, 0.58;  $P = .016$ ).

### Conclusion

After adjusting for disease duration, repeat biopsies at disease progression are not performed on a substantial proportion of patients, particularly those with de novo metastatic breast cancer or HER2 immunohistochemistry  $\geq 1+$ . Potential disparities in access to repeat biopsies were also identified in non-Black and non-Asian minorities. This exploratory analysis may show the significance of biopsy guideline-concordant care initiatives in the community oncology setting.

## 36 Expert Perspectives in the Management of Breast Cancer Brain Metastases: A Survey of 32 International Specialists

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### Background/Significance

The management of HER2-positive breast cancer brain

metastases is rapidly evolving as data with novel targeted therapies emerge, requiring clinicians to reevaluate their clinical approaches. This survey aimed to document current practices of breast cancer specialists regarding breast cancer brain metastases screening, monitoring, and treatment in this population to assess how these data are shaping contemporary clinical decision-making.

### Materials and Methods

An international cohort of 32 clinicians with expertise in breast cancer brain metastases were invited via email to complete a 26-item survey from September to October 2024. Data were aggregated and analyzed to be utilized within a continuing medical education (CME) activity. Respondents were compensated for their participation.

### Results

The 32 respondents practiced in the US (56%) and European Union (43%). Sixty percent of EU respondents reported their institution supports routine brain metastases screening in some or all patients with metastatic breast cancer compared with 0% of US-based institutions. However, more than half of all respondents (65%) agreed with EANO-ESMO guidelines that support brain metastases screening for all newly diagnosed patients with HER2-positive metastatic breast cancer. When presented with a case study examining a patient with newly identified HER2-positive breast cancer brain metastases after 12 months of trastuzumab, pertuzumab, and docetaxel (THP) therapy for which the extent of intracranial disease precluded use of local therapy other than whole-brain radiation, the top therapeutic selections were trastuzumab deruxtecan (53%) and whole-brain radiation followed by continued THP (16%) or a switch in systemic therapy (16%). Only 3% of respondents selected tucatinib plus capecitabine and trastuzumab. Nearly all respondents (91%) reported that they

would be more inclined to offer systemic therapy in lieu of local therapy for a patient with newly diagnosed, HER2-positive breast cancer brain metastases. However, in patients with more significant disease burden, participants were divided between stereotactic radiosurgery and trastuzumab deruxtecan as their first step. Half of respondents (50%) indicated that their institutions have a specific care coordination program for patients with breast cancer brain metastases and/or caregivers.

### Conclusion

While survey results reveal heterogeneity among specialists regarding the risks/benefits of early brain metastases screening in patients with breast cancer, more respondents favored the EANO-ESMO approach. Experts also were likely to consider novel systemic therapies over local treatment in patients with newly diagnosed HER2-positive breast cancer brain metastases. Further assessment of expert preferences is needed as data evolves.

## 39 Development and Validation of a Questionnaire to Assess Motivation and Satisfaction in Mastectomy Patients With or Without Reconstruction

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### Background/Significance

Postmastectomy breast reconstruction provides several options, including immediate or delayed and autologous or implant-based approaches. Decisions surrounding postmastectomy breast reconstruction are influenced by factors such as age, cultural beliefs, recovery priorities, and access to care. Although autologous reconstruction often results in higher long-term satisfaction, disparities exist with minority patients more likely to receive this approach, potentially due to systemic or cultural factors. Current tools like BREAST-Q assess satisfaction but fail to capture the complex motivations behind reconstruction decisions. Understanding these influences is critical for improving shared decision-making and tailoring care to enhance quality of life.

### Materials and Methods

A questionnaire was developed to assess motivation and patient satisfaction among those choosing autologous, implant-based, or no reconstruction. Retrospective chart reviews identified eligible patients (females aged 18+ with stage 0–III breast cancer, undergoing mastectomy with or without reconstruction between July 1, 2015 and May 1, 2022). Exclusion criteria included stage IV disease, prior bilateral breast surgery, or prophylactic mastectomy. English or Spanish speaking patients were contacted to complete a telephone questionnaire assessing satisfaction, decision-making, regret, and motivations. To validate the survey, initial respondents were re-contacted after 3 weeks to repeat the questionnaire.

### Results

Twenty-three female patients participated in the validation study, with a mean age of 56.4 years. Among them, 56.5% reported a family history of breast or ovarian cancer. Regarding the initial surgical procedure, 39.1% underwent simple mastectomy, 30.4% had a nipple-sparing mastectomy, and 30.4% had a skin-sparing mastectomy. For the retest phase, responses were obtained from 20 patients, 70% (14 individuals) of whom had undergone reconstruction. Test-retest reliability analysis showed a percentage agreement of 88.51%, with a Cohen  $\kappa$  of 0.435.



## Conclusion

This study validates a novel questionnaire aimed at understanding factors influencing postmastectomy breast reconstruction decisions and postoperative satisfaction. Further implementation of this measure will allow for

research that will highlight the importance of patient-centered care, shared decision-making, and help address disparities to optimize breast-related quality of life for mastectomy patients.

## 40 Frequency of Documented IHC Score in Patients With HER2-Negative Breast Cancer in the US: An Observational Study Using Guardian Research Network Data

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### Background/Significance

For patients with breast cancer, HER2 expression based on immunohistochemistry (IHC) and In Situ Hybridization (ISH) test scores has been interpreted as negative (IHC0, IHC1+, and IHC2+/ISH-) or positive (IHC2+/ISH+ and IHC3+). Data from the DESTINY-Breast04 and DESTINY-Breast06 trials indicate clinical relevance in identifying patients with low (IHC1+ and IHC2+/ISH-) and ultralow (IHC0 with membrane staining) HER2 expression because they could benefit from HER2-directed therapy. The objective of this study was to investigate how frequently HER2 IHC expression is documented in patient medical records and to quantify the proportion of patients with HER2-negative breast cancer who exhibit low and ultralow levels of HER2 expression.

### Materials and Methods

This retrospective cohort study utilized electronic medical record data from the Guardian Research Network, which includes data from 7 community health care organizations throughout the US.

Patients were eligible for inclusion if they were aged 18 years or older, diagnosed with breast cancer (ICD10 code C50), which was classified as HER2-negative, and had 1 or more clinical evaluation related to their cancer from January 1, 2018, to November 15, 2023. A natural language processing algorithm was applied to structured and unstructured medical record fields to identify HER2-negative patients and documentation of their IHC discrete scores. Patients were classified into subgroups based on the highest IHC score documented during the study period and their breast cancer stage at the time of this score.

### Results

The analytic cohort comprised 13,100 patients whose breast cancer was classified as HER2-negative; 10,746 (82.0%) had early-stage breast cancer, 355 (2.7%) locally advanced, and 1,999 (15.3%) metastatic. Most patients (11,174, 85.3%) had documented IHC scores, of which 37.0% were IHC0, 41.3% IHC1+, 20.5% IHC2+, and 1.3% IHC3+. Only one of the 7 health care organizations with patients in the analytic cohort documented the percentage of HER2 IHC staining. Of 514 HER2-negative patients with IHC0 at this center, 51 (9.9%) had 0% staining, 140 (27.2%) had membrane staining (>0% ≤10%), and 323 (62.8%) did not have documented percentage staining.

### Conclusion

Results from this study indicate that, despite clinical recommendations at the time of the study, 1 in 6 HER2-negative patients do not have a documented discrete IHC score, and very few have granular information on the observed percentage of HER2 expression.

## 41 Provider Preferences and Practices in Testing and Reporting HER2 Immunohistochemistry in Patients With Breast Cancer: A Survey and Interview Study Among US Pathologists and Oncologists

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### Background/Significance

The 2023 ASCO-CAP guideline update emphasized accurate HER2 testing and reporting for HER2-low metastatic breast cancer. This study seeks to better understand providers' (oncologists' and pathologists') perceptions and practices for HER2 testing in the community setting and characterize



facilitators and barriers to HER2 testing, documentation, and treatment.

### Materials and Methods

A web-based survey was developed using Qualtrics software with inputs from subject matter experts; the survey was piloted and deployed (February 26, 2024, to May 8, 2024) to US community-based pathologists and oncologists who test or treat patients with breast cancer within the Guardian Research Network or IQVIA's health care professionals panel to assess preferences and practices for HER2 testing. A self-selected subset of respondents participated in semistructured 1:1 virtual interviews to contextualize their survey responses. Providers were compensated for their time. Responses were analyzed using MAXQDA.

### Results

There were 63 survey responses (to 100+ invitations) and 27 interviews among US community-based pathologists (31 surveys, 14 interviews) and oncologists (32 surveys, 13 interviews). While most pathologists (93%) report discrete immunohistochemistry (IHC) scoring on pathology reports, 20% do not distinguish IHC 0

and IHC 1+, and 32% do not report percentage staining. Barriers to discrete IHC reporting were background staining, poor interpretation standards, and staining variability. Increased interpretation time and workflow disruptions were barriers to reporting percentage staining, and pathologists were awaiting further evidence of clinical utility. Both pathologists and oncologists agreed that oncologists' requests drive testing changes. Oncologists report lack of reimbursement of tests and treatment as major barriers to treatment decision-making for HER2-directed therapies. Digital pathology (digital imaging/scanning, scoring algorithms, and other tools) was viewed favorably by oncologists (92%) and by pathologists (50%), with improved accuracy, efficiency, and reduced subjectivity as advantages, and high costs and lack of practice standards as barriers to adoption.

### Conclusion

These findings characterize community providers' preferences and practices for HER2 IHC testing results and treatment for metastatic breast cancer patients. While innovative testing tools are viewed favorably, cost and need for additional training are barriers to broader adoption.

## 72 Breast Cancer After Breast Augmentation: A Multicenter Collaborative Study Of Patient Management and Outcomes

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### Background/Significance

Breast augmentation is the most commonly performed cosmetic surgical procedure worldwide. Challenges to the management of breast cancer in this subgroup include management of native breast tissue, the implant, contralateral breast, the capsule, and the role of radiotherapy. Studies looking at breast conserving surgery, mastectomy, and reconstruction in this subgroup are limited. We

aimed to assess current UK practice in managing breast cancer in this subgroup and to evaluate the safety and outcomes compared with national standards.

### Materials and Methods

A national multicenter collaborative model was employed involving 24 UK units. Women diagnosed with invasive cancer or ductal carcinoma in situ from January 2012 to January 2024 with preexisting implant augmentation were included. Clinicopathological data collected included type of surgery, management of the implant and capsule, contralateral surgery, complications, and adjuvant treatments.

### Results

Data was collected on 212 women (median age, 51 years; IQR, 44-58). A total of 177 (83.5%) patients presented symptomatically, while 30 (14.2%) were detected through breast screening. Of the patients, 143 (67.5%) underwent breast-conserving surgery, with 28 (19.6%) requiring further margin reexcision and 4 (2.8%) needing completion mastectomy. In the breast-conserving surgery group, 108 (75.5%) patients retained or exchanged their implants and 111 (77.6%) did not have manipulation of the implant capsule. Implant or capsule exchange/surgery was lower in patients with implants in the subpectoral plane. Ninety-three percent of breast-conserving surgery patients received adjuvant radiotherapy. Some 73 (34.4%) patients underwent mastectomy, of which 39 (53%) had reconstruction, predominantly implant-based (94%). Implant-related complications (infection, reoperation, implant loss) in the

mastectomy groups were comparable or lower than in published national reconstruction audits.

## Conclusion

This is the largest reported series of patients with breast cancer and prior cosmetic augmentation worldwide. Surgical management is diverse, with breast-conserving surgery and re-excision rates

comparable to national standards but may be higher in patients with T2 tumors. In mastectomy patients, prior augmentation may be protective against complications such as implant loss. Prospective studies with long-term outcomes, including patient-reported outcome measures, are required to determine the optimal management for this subgroup of patients with breast cancer who still pose specific challenges.

## 84 EQUALS: Vaginal/Sexual Health in Patients With Estrogen Receptor-Positive/HER2- Metastatic Breast Cancer

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## Background/Significance

Vagina/sexual health issues are common but under-recognized and understudied in women with breast cancer being treated with endocrine therapy. The EQUALS (ELAINE ESR1 QUALity of Life Survey) explored quality of life and symptoms, biomarkers, treatment adverse effects (AEs), and patient-medical team communication of women with estrogen receptor (ER)-positive/HER2-negative metastatic breast cancer. Here, the vagina/sexual health aspects from 3 EQUALS were summarized.

## Materials and Methods

EQUALS 1, 2, and 3 (EQ1, EQ2, EQ3) were sent to/posted for ER-positive/HER2-negative metastatic breast cancer patients from Cure Media Group, Facebook and Twitter groups, patient advocacy groups, authors' contacts, and breast cancer clinic patients in June 2022 (EQ1, 42 questions), March/April 2023 (EQ2; 50 questions; mostly on vulvovaginal atrophy), and June/September 2023 (EQ3, 55 questions). Survey answers were summarized descriptively. Patients received a \$10 gift card at survey completion.

## Results

887 patients completed 3 EQUALS. Respondents were 19 to 83 years old; and one-third to one-half were non-White in EQ1/3, and mostly White (85%) in EQ2. Half to three quarters lived in urban/suburban settings; three-quarters had higher

education. Patients had 1 to 4 treatment lines for metastatic breast cancer.

Vaginal symptoms were reported by 61% of patients and associated with breast cancer treatment for a mean of 4.8 years (EQ2). The most bothersome symptoms were vaginal dryness (33%), painful intercourse (14%), and vaginal itching (10%). AEs impacting quality of life were vaginal atrophy/dryness (36% to 47%) in EQ1/3, and sexual dysfunction (45%) in EQ3.

Sexual intimacy worried 64% of patients in EQ1; vaginal/sexual AEs concerned 80% in EQ2; and sexual dysfunction concerned 27% in EQ3. More than half (60%) of patients said metastatic breast cancer or its treatment negatively impacted intimate/sexual relationships in EQ1. In EQ2, vaginal/sexual AEs negatively impacted sexual intercourse frequency (61%) and self-esteem (64%), and made 51% feel isolated. Commonly reported effects of vaginal/sexual AEs were limited enjoyment of sexual activity (39%), painful intercourse (33%), and vaginal burning/itching (32%). Half (54%) of patients never/almost never felt sexual desire/interest in the past month, especially when prior endocrine therapy negatively impacted their sexual health (61%); low sexual desire bothered 56%.

In EQ1/2, 31% to 61% of patients were uncomfortable discussing vaginal/sexual AEs with their medical team. In EQ2, approximately one-third felt poorly informed by their medical team (38%) and poorly equipped to improve these AEs (33%). More patients in EQ1/2 were comfortable discussing these AEs, and in EQ2, more felt well informed by their medical team, if their oncologist was female.

Most (93%, EQ2) were interested in an FDA-approved, well-tolerated, breast cancer treatment that improved vaginal/sexual health.

## Conclusion

Women treated for ER-positive/HER2-negative metastatic breast cancer experienced and were concerned about vaginal/sexual AEs, which negatively impacted their intimate/sexual relationships. Many were uncomfortable discussing these symptoms with their medical team and felt poorly informed/equipped to manage them.

### 103 Leveraging Digital Technology to Improve Breast Cancer Patients' Understanding of Treatment Recommendations

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#### Background/Significance

Use of digital visual tools for communicating highly complex cancer treatment algorithms with patients may result in better understanding and improved patient experience. MyCareGorithm LLC developed a digital visual tool for communicating patient-specific explanations of treatments and procedures to cancer patients. The aim of this prospective pilot study is to assess the impact of digital visual tools on breast cancer patients' understanding of their disease and treatment recommendations when used at the time of initial radiation oncology consultation.

#### Materials and Methods

In this IRB-approved study, we used the MyCareGorithm web-based digital visual tools that provides an interactive digital interface incorporating breast cancer specific diagrams, animated visuals and videos on diagnosis and staging, treatment options and treatment recommendations including simulation procedures, treatment planning, and treatment delivery. MyCareGorithm LLC provided the tool at no cost for this pilot study.

Breast cancer patients and their companions willing to participate in a study evaluating this novel visual communication tool were enrolled. Forty English speaking breast cancer patients and 12 patient companions had an initial radiation oncology

consultation with the MD/NP team. In addition to our standard verbal consultation format, we provided patients and their companions individualized disease-specific information using the digital visual tools. After consultation, patients and their companions completed a 6-question study survey. The survey responses are summarized to assess the impact of utilizing digital visual tools for radiation oncology consultation.

#### Results

The median age of this cohort is 57 years (range, 28-86). Race distribution is 15 White, 12 Black, and 13 Others. Survey responses from all (n = 40/40) breast cancer patients noted that their consultation experience was enhanced by using the MyCareGorithm digital visual tools. Almost all 97.5% (n = 39/40) patients noted that the visual images improved their ability to understand their medical situation and enhanced understanding of their treatment options. Seventy-seven percent (n = 31/40) of patients would look back and refer to digital visual tools information if available online, and 95% (n = 38/40) would recommend using this tool for other patients. On the survey, the 12 companions responded to all 6 questions in favor of using the digital visual tools.

#### Conclusion

Supplementing verbal communication at initial radiation oncology consultation with individualized digital visual content enhances the breast cancer patient's consultation experience and improves understanding of the disease and complex treatments for both patients and their companions.