Changing the Landscape for People Living with Metastatic Breast Cancer
**MBC Alliance members:**

From bottom right: Katherine Crawford-Gray, MBC Alliance Project Director; Christine Benjamin, SHARE; Elly Cohen, BreastCancerTrials.org; Jo Dulay, Genentech; Janine Guglielmino, Living Beyond Breast Cancer; Jane Levy, CancerCore; Elyse Spatz Caplan, Novartis Oncology; Michael Zincone, Pfizer; Musa Mayer, AdvancedBC.org; Julissa Viana, Cara Thompson, Celgene Corporation; Margaret (Peg) Mastrianni, Breast Cancer Research Foundation; Christine Wilson, Triple Negative Breast Cancer Foundation; Shirley Mertz, Metastatic Breast Cancer Network, Stacy Lewis, Young Survival Coalition; Katherine O’Brien, Virginia (Ginny) Knackmuhs, Metastatic Breast Cancer Network; Megan McCann, Young Survival Coalition; Catherine Ormerod, Living Beyond Breast Cancer, Lisa Schlager, Facing Our Risk of Cancer Empowered (FORCE); Kimberly Sabelko, Susan G. Komen; Marc Hurlbert, Avon Foundation for Women; Virginia (Ginny) Mason, Inflammatory Breast Cancer Research Foundation; Hayley Dinerman, Triple Negative Breast Cancer Foundation; Diane Rose, FORCE; Susan Brown, Susan G. Komen; Allison Harvey, Cancer Support Community; Stephanie Reffey, Susan G. Komen; Kerry Gruninger, SHARE; Jane Perlmutter, Consultant; Amy Bonoff, Dr. Susan Love Research Foundation

Photographer: Yasmeen Anderson Photography

Members absent from photo as of March 2014:
Christine Verini, Eisai; Kelly P. Hodges, Sisters Network® Inc.; Hope Wohl, Breastcancer.org; Elda Railey, Mary Lou Smith, Research Advocacy Network
Our Vision

MBC Alliance members are driven by a vision to transform and improve the lives of people living with metastatic breast cancer.

Our Mission

The MBC Alliance unifies the efforts of its members to improve the lives of and outcomes for those living with metastatic breast cancer and their families through increasing awareness and education about the disease and advancing policy and strategic coordination of research funding specifically focused on metastasis that has the potential to extend life, enhance quality of life, and ultimately to cure.
Breast cancer nonprofits join MBC advocates to discuss how to increase MBC awareness and improve the lives of people living with MBC; all agree that through collaboration, far more can be achieved than by individual organizations; MBC Alliance is formed with support from Celgene Corporation.

**Nov 2012**

**Feb 2013**

**Jun 2013**

**Aug 2013**


Mission and goals are adopted; governance approaches are considered; landscape analysis is identified as first initiative; Breastcancer.org, Breast Cancer Research Foundation, Genentech, and Pfizer join.

Avon Foundation for Women becomes the Alliance’s administrative home with Dr. Marc Hurlbert as project leader.
Oct 2013
MBC Alliance launches on National Metastatic Breast Cancer Awareness Day; members now include CancerCare, Dr. Susan Love Research Foundation, Sisters Network Inc., Eisai and Novartis

Dec 12, 2013
San Antonio Breast Cancer Symposium
Alliance members meet to review the landscape analysis methodology; working groups are formed

2014

Jan - May 2014
Landscape analysis work continues; membership reaches 26 with the addition of BreastCancerTrials.org, Inflammatory Breast Cancer Research Foundation, Nueva Vida, Sharsheret, and Triple Step Toward the Cure

Jun - Aug 2014
American Cancer Society Cancer Action Network, Patient Advocacy Foundation, and Eli Lilly join the MBC Alliance; all current 29 members meet to consider draft key recommendations for the Alliance and next steps; governance model is formalized

Oct 2014
Results of the landscape analysis are released along with actions for the MBC Alliance through 2016

Nov 2013
MBC Alliance project director is appointed; work begins on the landscape analysis; all members meet for the first time
Acronyms and Other Terms
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>advanced breast cancer</td>
<td>includes both metastatic breast cancer and locally advanced breast cancer (stage III) and locally recurrent breast cancer</td>
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<tr>
<td>Akt</td>
<td>a serine/threonine-specific protein kinase</td>
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<tr>
<td>BRCA mutation</td>
<td>mutation in the tumor-suppressor gene BRCA1 or BRCA2, associated with hereditary breast cancer</td>
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<tr>
<td>CSO</td>
<td>Common Scientific Outline (<a href="http://www.icrpartnership.org/CSO.cfm">www.icrpartnership.org/CSO.cfm</a>)</td>
</tr>
<tr>
<td>de novo MBC</td>
<td>breast cancer that is metastatic at the time of first diagnosis</td>
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<tr>
<td>ER−</td>
<td>estrogen receptor negative/hormone insensitive breast cancer</td>
</tr>
<tr>
<td>ER+</td>
<td>estrogen receptor positive/hormone sensitive breast cancer</td>
</tr>
<tr>
<td>ErbB</td>
<td>epidermal growth factor receptor (protein family)</td>
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<tr>
<td>gHRAsp</td>
<td>Grants in the Health Research Alliance Shared Portfolio (<a href="http://www.ghrasp.org">www.ghrasp.org</a>),</td>
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<tr>
<td>HCPs</td>
<td>HCPs</td>
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<tr>
<td>HER2</td>
<td>human epidermal growth factor receptor 2</td>
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<tr>
<td>hormone-sensitive MBC</td>
<td>MBC where tumor growth is promoted by estrogen and/or progesterone</td>
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<tr>
<td>HRA</td>
<td>Health Research Alliance</td>
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<td>ICRP</td>
<td>International Cancer Research Partnership</td>
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<tr>
<td>incidence</td>
<td>Rate of occurrence of new cases in the population (measure risk of developing a disease)</td>
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<tr>
<td>IOM</td>
<td>Institute of Medicine</td>
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<td>KOL</td>
<td>key opinion leader</td>
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<tr>
<td>MBC</td>
<td>metastatic breast cancer</td>
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<tr>
<td>MBC Alliance</td>
<td>Metastatic Breast Cancer Alliance (also called the Alliance)</td>
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<tr>
<td>mTOR</td>
<td>mechanistic target of rapamycin (serine/threonine protein kinase)</td>
</tr>
<tr>
<td>NCI</td>
<td>National Cancer Institute</td>
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<tr>
<td>PDQ</td>
<td>Physician Data Query</td>
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<tr>
<td>PI3K</td>
<td>phosphatidylinositol 3-kinase</td>
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<tr>
<td>prevalence</td>
<td>proportion of cases in the population (measures how widespread the disease is)</td>
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<tr>
<td>RECIST</td>
<td>Response Evaluation Criteria in Solid Tumors</td>
</tr>
<tr>
<td>SEER</td>
<td>Surveillance, Epidemiology, and End Results program of the National Cancer Institute (NCI)</td>
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<tr>
<td>stage IV breast cancer</td>
<td>another term for metastatic breast cancer</td>
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<tr>
<td>TBCRC</td>
<td>Translational Breast Cancer Research Consortium</td>
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<tr>
<td>TN MBC</td>
<td>triple-negative (hormone insensitive and HER2-negative) metastatic breast cancer</td>
</tr>
<tr>
<td>TNBC</td>
<td>triple-negative (hormone insensitive) breast cancer</td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
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CHAPTER 3: ANALYSIS OF QUALITY OF LIFE RESEARCH ON LIVING WITH MBC

Musa Mayer¹, Katherine Crawford-Gray²
¹AdvancedBC.org, ²Metastatic Breast Cancer Alliance

Abstract

Targeted treatment options and advances in supportive care are transforming MBC from a terminal illness with short survival into a disease many patients can live with over long periods. This lengthened survival of MBC patients has had an impact on quality of life research.

Methods: Over 150 published, peer-reviewed research articles relevant to the experiences and needs of people with advanced cancers, including quantitative and qualitative studies of patients living with MBC and their families, were read and reviewed to summarize research findings about the reality of living with MBC. In addition, 13 MBC patient surveys were analysed.

Results: The research base around MBC quality of life issues is extensive, permitting summary of findings into 6 categories: psychosocial distress; emotional support; information about the disease, its treatment, and resources; communication and decision making about care; relief of physical symptoms; and practical concerns: work, health insurance, and finances. Sources of emotional support, individual and group psychotherapy, and counseling, as well as adequate information about the disease, its treatments, and methods to alleviate symptoms and side effects have been shown to be useful in helping patients to cope with and adapt to MBC. However, MBC patients are typically not well informed in areas required for decision making about their care, and patient–clinician communication can be difficult to navigate. MBC symptoms and side effects of continuous treatment interfere with daily life and cause fatigue, sleeping difficulties, and pain as well as emotional distress for most patients; supportive and palliative care is often insufficient. Financial hardship is a fact of life for many families affected by MBC. Conclusions: The quality of life issues for patients with MBC and their caregivers are well understood; however, resources and intent to address them are still lacking.
**Introduction**

As patients live longer with MBC, quality of life becomes an increasingly important focus. Targeted treatment options and advances in supportive care are transforming MBC from a terminal illness associated with short survival into a disease many patients are living with over longer periods of time. Although median survival is still widely cited in the range of 2 to 4 years, many patients with ER+ and HER2+ MBC are living much longer. The most recent published data from SEER registries report 5-year survival of newly diagnosed de novo MBC (breast cancer that is already metastatic at the time of first diagnosis) to be 24.3% (ranging from 13.7% for black women over 50 years of age to 32.9% for white women under 50 years of age)\[30\]. Because of trends toward longer survival, some have used the word “chronic” to apply to MBC, but many patients and advocates take exception to this overly-optimistic term, believing that it trivializes the nature of what remains a deadly disease.

The lengthened survival of MBC patients has had an impact on quality of life research. Psychosocial researchers are now concerned with more than just end-of-life issues, and “palliative care” has been repurposed earlier in the course of disease, to be initiated with metastatic diagnosis\[31\].

**Background on Quality of Life Research**

Quality of life is a multidimensional concept, consisting of physical, emotional, social, and cognitive functioning, including the impact of disease symptoms and treatment side effects\[32\]. Over the past decade, MBC patients' voices are being heard more frequently through support and advocacy organizations, through surveys, and in quality of life research that increasingly incorporates patient-reported outcomes.

Historically, the field of psycho-oncology, which addresses the mental, social, and emotional burden of cancer, has been hindered by long-standing societal attitudes relating to not only fear of cancer, especially metastatic disease, but also the stigma associated with mental illness\[33\]. Beginning in the 1970s, behavioral medicine began to develop models of how patients cope with and adapt to living with serious physical illness and disability and to quantify psychosocial issues so that they could be reliably measured. This paved the way to broader use of symptom assessment, studies of unmet patient needs, and screening for psychosocial distress—not only in research but also in standards of care for patients. For example, National Comprehensive Cancer Network guidelines now recommend the incorporation into standard care of an instrument that measures “distress,” a term chosen because it is believed to be less stigmatizing than terms like “depression” and “anxiety” associated with mental illness\[34\].

In 2007, an Institute of Medicine (IOM) panel examined psychosocial issues for cancer patients and issued recommendations\[35\], noting the presence of anxiety and depression, the lack of information available to patients to help them manage their illness, and an absence of resources to address these issues. Better communication between patients and providers, routine assessment of needs, patient engagement, and development of care plans were among the IOM recommendations.

Oncology researchers and key opinion leaders have issued a strong call for treating the patient as a whole person, rather than merely as a disease or a cluster of symptoms.
Over the past 2 decades, a number of quality of life assessment tools and patient-reported outcome measures have been widely used and validated, and about one third of phase III clinical trials in MBC, according to 1 report\[36\], now incorporate quality of life measures. This has been strongly encouraged by US regulators, who have determined that valid quality of life endpoints can serve as meaningful indicators of clinical benefit when assessing drug efficacy and safety. In 2009, the US Food and Drug Administration issued guidance for industry for incorporating patient-reported outcome measures into drug registration trials\[37\]. As in other areas of medicine, in oncology, researchers and KOLs have issued a strong call for treating the patient as a whole person, rather than merely as a disease or a cluster of symptoms. However, cost constraints and sobering recent assessments demonstrate that there is still a very long way to go before what has been learned is widely applied \[38\].

### Methods of the Quality of Life Landscape Analysis

Over 150 published, peer-reviewed research articles relevant to the experiences and needs of people with advanced cancers, including quantitative and qualitative studies of patients living with MBC and their families, were reviewed. The intent of this literature review was not to examine the methods used to measure quality of life but rather to summarize some of the more important recent research findings about the reality of living with MBC. Results of 13 surveys completed by 7939 respondents living with MBC were reviewed (see Appendix 5). The surveys are from 2006–2014; most were designed by breast cancer organizations, usually with the financial support of pharmaceutical partners or research grants (see Table 6).

**Table 6: 13 Surveys Completed by Respondents Living With MBC**

<table>
<thead>
<tr>
<th>Date</th>
<th>Survey Name</th>
<th>Sponsor</th>
</tr>
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<tbody>
<tr>
<td>2006</td>
<td>Silent Voices: Advanced (Metastatic) Breast Cancer Needs Assessment Survey</td>
<td>Living Beyond Breast Cancer</td>
</tr>
<tr>
<td>2009, 2010</td>
<td>BRIDGE Survey: Identifying the Unmet Needs of the MBC Community</td>
<td>Pfizer with various support organizations</td>
</tr>
<tr>
<td>2011</td>
<td>A pan-European Survey of Patients with MBC</td>
<td>Eisai; Imperial College, London</td>
</tr>
<tr>
<td>2011</td>
<td>Key Support and Lifestyle Needs of MBC Patients</td>
<td>METAvivor</td>
</tr>
<tr>
<td>2011</td>
<td>Preferences of Patients with MBC</td>
<td>Research Advocacy Network (RAN), Department of Defense, Breast Cancer Research Program Center of Excellence</td>
</tr>
<tr>
<td>2011</td>
<td>HER2+ MBC Patient Experiences on Treatment in the Biologic Era</td>
<td>Genentech with various support organizations</td>
</tr>
<tr>
<td>2012</td>
<td>Informational Needs and QOL in 1st Year MBC</td>
<td>Dana Farber Embrace Trial</td>
</tr>
<tr>
<td>2012</td>
<td>Impact of Toxicity on Patient Treatment Choices for MBC</td>
<td>RAN, Genentech</td>
</tr>
<tr>
<td>2013</td>
<td>Count Us, Know Us, Join Us International Survey</td>
<td>Novartis with various breast cancer organizations and Harris Interactive</td>
</tr>
<tr>
<td>2013</td>
<td>Control of Symptoms and Side Effects in MBC</td>
<td>AdvancedBC.org</td>
</tr>
<tr>
<td>2013</td>
<td>Surveying Young Women with MBC</td>
<td>Young Survival Coalition</td>
</tr>
<tr>
<td>2014</td>
<td>Cancer Experience Registry</td>
<td>Cancer Support Community</td>
</tr>
</tbody>
</table>

MBC = Metastatic Breast Cancer, QOL = Quality of Life
The survey data have some limitations. Two of the larger surveys had an international focus, 1 involving face-to-face interviews with patients referred by their oncologists in both developed and developing countries. Otherwise, the 13 surveys may not have captured data representative of the entire MBC population. First, all but 1 survey was completed online. Consequently, the demographic information collected reflects Internet users, who tend to be affluent, educated, and white and data from population-based registries show that poor and black patients have worse breast cancer outcomes. And because these surveys were promoted in online patient MBC communities, it is likely that some motivated patients responded to more than 1 survey. Finally, overall, the survey respondents had a mean age of 55 years (younger than the median age of invasive breast cancer diagnosis in the US, 61 years), were well educated, had health insurance, were married or partnered, and were predominantly white, and nearly half had children still living at home.

Not available for review and analysis are the upcoming results from the Novartis Oncology “Make Your Dialogue Count” survey in the US, conducted during the summer of 2014. This survey included 234 caregivers, along with 359 women living with MBC and 252 licensed oncologists to better understand potential gaps in treatment goals among patients and oncologists, experiences dealing with treatment side effects, and related emotional dynamics. Survey responses will be reported in December 2014 at the San Antonio Breast Cancer Symposium.
Results of the Quality of Life Landscape Analysis

The following 6 interrelated aspects of living with MBC are covered in the analysis:
1. Psychosocial distress

Psychological health is a major focus of quality of life assessment, and for good reason. As one researcher points out: “When a person has an incurable disease, optimizing quality of life and meeting the woman’s psychosocial and information needs must be central to excellent care”[39]. Yet studies have shown that the majority of patients with MBC experience significant emotional distress[40-42]. Some estimates are that as many as one third of MBC patients suffer from mood disorders such as major depression and anxiety, and one quarter experience mild depression[39, 42-44]. The scores on validated quality of life tests are much worse among MBC patients than in the overall population or even among patients with other serious illnesses[4]. Even more troubling, professional follow-up and mental health referrals for MBC patients from providers are often lacking[45].

Researchers have applied differing theoretical constructs to examine sources of emotional distress. An analysis of 26 quantitative and qualitative studies of MBC patients[46] found uncertainty and lack of control to be an overarching theme. Other sources of distress were fear of disease progression and death, grief over impending losses, worry over the impact on family members, and the sense of the disease as a “ticking time bomb,” with patients waiting for treatment to fail and the MBC to progress.

The theme of loss is pervasive, from the loss of femininity, sexuality, and attractiveness to loss of roles in family and community to loss of dignity and independence as the disease progresses. Many women with MBC mourn the loss of their ability to actively care for their families and experience acute anguish about leaving their children without mothers and their spouses without partners. Those who are nurturers may find the pain their cancer inflicts on the people they love hard to bear.

Surveys also confirm that MBC patients have significant emotional distress and indicate that access to mental health services is often either lacking or is not pursued by patients who could benefit[57]. Although most surveyed patients believe they are coping well[58], a substantial minority report symptoms of depression and anxiety, which often go untreated. Emotional distress tends to worsen with disease progression, as symptoms and side effects increase[57].

Patients and family members struggle with anticipatory grief and making end-of-life plans, often feeling alone[59]. Loss of control is part of the distress most patients feel[46]. A patient’s sense of control can be enhanced in a number of ways: by becoming well-informed about the illness and its treatments; through immersion in meaningful tasks, including continuation of work that offers satisfaction and financial support; through realistic planning for the future; by seeking social support; and by caring for one’s family. Many patients speak of having discovered a new sense of meaning, having a new appreciation of how their time is precious, cherishing time with their loved ones, and looking forward to significant events.
In examining different coping strategies, studies indicate that patients’ attempts to cope by avoidance turn out to be far more distressing than direct and active discussion and problem solving, a finding in many serious diseases.[47]

Numerous studies have found that better emotional functioning is strongly linked with fewer physical symptoms.[48-52] These multiple symptoms interact with one another in unknown ways. As one notable example, 56 consecutive newly diagnosed MBC patients in one hospital-based study[51], when scored for health-related quality of life and coping capacity using a series of validated measures, reported “multiple, concurrent and interrelated” symptoms, with two thirds reporting 10 to 23 symptoms. In another study, clusters of symptoms tended to be associated with one another: for example, fatigue, drowsiness, nausea, decreased appetite, and breathlessness.[53]

Adjustment to illness, write Brennan et al.[54], involves “ongoing psychological processes that occur over time as the individual, and the individuals in their social world, manage, learn from, and adapt to the multitude of changes which have been precipitated by the illness and its treatment.” Fortunately, many patients and families become quite knowledgeable about MBC and how to live with the disease. Time passing since recurrence or diagnosis can moderate psychosocial distress[55]. Coping and adjustment are extremely complex processes, however, and not all MBC patients are equally resilient.

Longer-term adaptation after MBC diagnosis has not been widely studied. However, in 1 survey, nearly half of patients with HER2+ breast cancer surviving more than 6 years after MBC diagnosis still reported symptoms of anxiety and depression, despite decreased physical symptoms.[56]

In surveys, most patients’ overall satisfaction with their HCPs is good, and they generally believe they are coping well despite the challenges they face[57, 58, 60]. They attribute the coping to their own resilience and spiritual beliefs and to the kindness and generosity of others[61]. A number of small qualitative studies across diverse socioeconomic and racial populations of women with MBC have reported that maintaining hope is a critical factor in coping.[62]

Psychiatrist David Kissane describes the challenge of living with MBC as a confrontation of existential suffering.[63]. Feelings of hopelessness and futility, loss of faith and transcendence, loneliness, shame, fear of dependency, profound sadness, and death anxiety are all part of a universal and fundamentally human struggle as patients deal with their mortality. Each challenge contains within it the seeds of transformation and adaptive adjustment. And “physicians can do much,” says Kissane, “to nurture courage and maintain each person’s sense of meaning, value, and purpose.”

In conclusion, interventions for anxiety and depression in MBC patients represent a crucial service that health care workers can add to the patients’ and families’ own set of coping tools. Appropriate referrals to mental health professionals, for medical and nonmedical treatment and other interventions, are important, whether the referral is for pharmacological, behavioral, or psychological intervention or some combination thereof. An extensive literature exists on the efficacy of various methods of helping cancer patients confront psychosocial issues, symptoms of disease, and side effects of treatment. Sources of emotional support, individual and group psychotherapy and counseling, as well as adequate information about the disease, its treatments, and methods to alleviate symptoms and side effects have all been shown to be useful in helping patients to cope with and adapt to their disease.[64].
2. Emotional Support

For MBC patients, emotional support from family, friends, community, other people living with MBC, and HCPs plays a crucial role in decreasing psychosocial distress. Research across many diseases indicates that emotional support is strongly associated with improving health outcomes and even extending life. Between married and single patients with MBC who feel hopeless, the single patients are more vulnerable to depression\textsuperscript{[65]}.

In surveys, MBC patients generally report receiving adequate emotional support from friends, family, community sources, and HCPs. However, survey respondents are more likely than other MBC patients to be partnered and have sufficient financial and social resources, and they may therefore be less isolated overall.

Chronic, debilitating illness such as MBC often leads to increasing social withdrawal\textsuperscript{[66]}. Sometimes described as “a marathon, not a sprint,” life with MBC involves challenges that last for months and years, not days and weeks. Over time, sources of support can erode. Friends and family may not comprehend the toll that continuous treatment takes or the inevitability of disease progression. Even patients who feel well supported initially or in times of medical crisis may find that support from friends, family, and community tends to wane with time and as the disease progresses\textsuperscript{[57, 61]}.

Nearly half of surveyed MBC patients report a sense of stigma, of feeling like outcasts or feeling isolated, especially within the larger social context of the breast cancer community. Symbolized by ubiquitous pink ribbons, support for patients with early breast cancer is highly visible and widespread\textsuperscript{[58-60]}. MBC patients can feel silenced by the “triumphant, happy and healthy” rhetoric of breast cancer organizations\textsuperscript{[67]}.

Access to online peer support is important to many MBC patients who are Internet users. Surveys and studies have reported great benefit from contact with other MBC patients\textsuperscript{[3, 58, 59]}. Most MBC patients say they highly value information and support from patients like themselves and that it helps them to cope and to feel less alone. However, few of these patients’ HCPs recommend support groups or other contact with peers\textsuperscript{[57]}.

A cost of spending time with other MBC patients is the inevitable disease progression, which may be perceived as “too depressing” and may heighten emotional distress to the point where the sense of camaraderie and support is outweighed by grief and fear\textsuperscript{[68, 69]}. Studies of hospital-based groups do not tend to be nearly as positive regarding peer support as are studies of online support groups\textsuperscript{[70, 71]}.
Surveys indicate that although almost all patients value emotional support, the preferred form of that support varies greatly: from meeting individually with mental health professionals, to participating in in-person support groups (whether professionally led or not), to semi-anonymous interactions with online patient communities. In addition, relatively few MBC patients report being involved with these sources of support, suggesting that many are either not aware of organized professional and peer support or simply prefer to rely on informal support networks within their families and communities[3]. There are certainly some patients who cope in isolation, either by choice, by circumstance, or because of cultural beliefs; some view their disease as shameful or as a punishment[62].

Support for partners or spouses also matters to MBC patients, who are often keenly aware of the impact of their illness on their families. Some studies indicate that spouses may suffer more emotional distress than patients, perhaps because of feelings of uncertainty, hopelessness, and helplessness. Moreover, spouses are likely to receive significantly less emotional support from family and friends than patients[62]. Not surprisingly, mutual spousal support plays a key role in coping with MBC for both partners[52, 72].

3. Information

In 2013, an IOM committee reviewing the current state of cancer care described a system in crisis and issued an urgent call for change[38]. Patient engagement in healthcare decision-making was identified as a top priority. Such engagement cannot occur, according to the IOM, without patients being adequately informed: “The cancer care team should provide patients and their families with understandable information on cancer prognosis, treatment benefits and harms, palliative care, psychosocial support, and estimates of the total and out-of-pocket costs of cancer care.” Moreover, the committee stipulated that this information should be personalized, leading to care plans that reflect the patient’s needs, values, and preferences, considering palliative care needs and psychosocial support across the entire continuum of cancer care.

Information is perceived as a primary need by about 75% of MBC patients, as reported in several large surveys, regardless of nationality[44, 59, 73]. The role of information in helping patients and families cope has also been well documented in the health care literature[74]. Information that facilitates decision making about treatment may help patients cope with uncertainty and loss of control, thus reducing anxiety and depression[46]. Information-seeking
is an important component of self-efficacy, enabling patients to regain a sense of control.

In 1 survey, feeling informed was statistically associated with lower levels of anxiety, depression, and fatigue as patients reported a greater sense of control, despite uncertainty[3].

At least three quarters of surveyed patients say they seek information about MBC and treatment options “very frequently”[3, 59], a finding confirmed in face-to-face interviews with a broader, international patient population[60]. Information on coping with and managing side effects and symptoms is also strongly desired by most patients. Almost all MBC patients surveyed say that being informed about treatments and the progression of disease helps their quality of life[61].

Nearly half of MBC patients surveyed say they find the information they need difficult to locate and confusing and that what they do find does not fully address their needs. In fact, informational needs of patients change throughout the course of MBC. There are significant times when patients and family members seek information from HCPs and elsewhere: initial MBC diagnosis, treatment failure, symptom crisis, disease progression, and end of life. Patients also vary in their response to the information formats available—websites and webinars, teleconferences, videos, print materials, meetings, presentations, and conferences. Thus, information is probably best delivered in several of these formats. In addition, the type of information sought varies. For example, young MBC patients express concerns related to genetic testing, fertility, dating, children, career, and other issues and want resources and support dedicated to their specific needs[59]. In addition, information and support are not distinct from one another. MBC patients find information to be supportive and seek information from their support systems; thus, services for MBC patients should offer both[3].

Access to information is not only associated with patients’ ability to cope but also affects clinical trial enrollment. Surveys show that MBC patients who seek out information are more likely than others to participate in clinical trials[60, 61]. Patients are often motivated to participate in trials because they believe that access to new treatments is vital to extending life; treatment choices may be limited by cost, insurance coverage, and delays in trial completion. However, patients say they are rarely informed about new treatments or clinical trials available and even more rarely about those beyond their hospital or oncology practice[61]. When they do enroll in clinical trials, MBC patients most commonly cite encouragement from their HCPs as the reason for their participation[75].
4. Communication and Decision Making

It would seem obvious that realistic goals and expectations of treatment, specifics about the potential harms and benefits of cancer therapies, and timely feedback regarding scans and other tests to ascertain current disease status would all be essential components of informed decision making for MBC patients. Nevertheless, research indicates that patients are often not well informed in any of these areas. Many MBC patients persist in believing a cure is likely, when it is not. According to 1 study\(^76\), two thirds of patients with metastatic cancers were not informed of the likely impact of a given treatment on their quality of life, and nearly one third were unaware of the uncertainty around the described benefit.

One problem with patient–clinician communication is that, although almost all patients say they wish to receive all possible information around their diagnosis, good or bad, not all truly wish to know the details\(^77\). The available research strongly suggests that patients are less anxious and depressed when their role in making treatment decisions is congruent with their wishes, suggesting that communication of at least patients’ desires is critical.

Busy oncologists do not always have the time, skills, or inclination to offer details in a form that patients or family members can easily grasp, especially when treatment choices are unclear and the prognosis may be poor. According to one review, “time constraints in busy clinics, and physicians’ belief that they know the amount and kind of information that is best for their patients to receive, may contribute to consultations that are physician-directed and physician-dominated, leaving patients with unmet communication needs and feelings of dissatisfaction”\(^78\). Some research suggests that even when communication is clear, patients and families may overestimate the likely prognosis and benefits from treatments, which may in turn interfere with good decision making. This is especially likely to occur toward the end of life, when an approach that emphasizes palliative care may enhance quality of life and even extend survival.

A recent, large survey of MBC patients\(^61\) demonstrates the magnitude of the problem, even in an educated, insured, and advantaged population. The survey found that nearly all patients received information about their type of cancer but two thirds did not receive any guidance or tools to assist in decision making. As a consequence, nearly half of those who didn’t write down their questions before consultation with their physician felt unprepared to make treatment decisions.
Surveys indicate that MBC patients strongly desire better communication with their HCPs. They would like to feel cared for and respected as persons, not just patients, and to have their concerns heard and the challenges they face understood. Areas much in need of improvement are continuity and coordination of care; patient-friendly office procedures and hours, including less waiting time, timely test results, and better access to staff when the office is closed. Also needed are higher-quality patient education and disclosure to facilitate treatment decision making, more time with providers to address patient concerns, and referrals to second opinions and specialists[57,78].

An overwhelming majority of surveyed patients with MBC are either currently undergoing an anticancer treatment or are in the process of changing treatments after disease progression. When asked, very few survey participants say they prefer to “live out the time they have peacefully, without treatment”[3,57].

When asked, MBC patients have many concerns about the treatment they receive, some of which could be addressed through better communication with HCPs. They express frustration at the trial-and-error nature of treatment, seek less toxicity, and are eager for biomarkers predictive of treatment benefit. When asked about the risk-to-benefit “trade-off” of treatment, MBC patients show a willingness to tolerate significant toxicity in exchange for possible benefit, such as longer survival or even a modest delay in progression of their disease[79-81]. However, symptom severity is also of concern to them, and treatment choices may vary by stage of life—for example, whether or not children are still at home[80].

We did not review the extensive literature on communication issues with physicians, patients, and families surrounding end-of-life choices, as the focus of our analysis is living with MBC. But it is never too soon for MBC patients to establish lines of frank and open communication with their treating physicians, as a full discussion of the goals of treatment is central to quality of cancer care as well as quality of life.
5. Relief of Physical Symptoms

Since the goal of MBC treatment is to control the disease for as long as possible while preserving functional status and quality of life, a major task for the health care team is palliating symptoms that may interfere with daily life, causing emotional distress, and the fatigue, sleeping difficulties, pain, and many other symptoms typically experienced. As mentioned previously, physical symptoms are intertwined with psychosocial distress. As the disease progresses, symptoms tend to become more debilitating and interfere more with normal functioning, resulting in greater distress. One consecutively sampled community-based study[82] found significant physical impairments in almost all 163 MBC patients, yet only one third were receiving appropriate remediation with occupational or physical therapy. Racial and socioeconomic disparities in provision of care were clearly present.

Physical symptoms of MBC may be generalized, such as fatigue or insomnia, or organ-specific, according to the site of tumor-cell spread. Organ-specific examples include dyspnea (breathlessness), which may be associated with lung metastases or pleural effusion, and anemia, which may be related to bone marrow metastases or to low red blood cell counts from chemotherapy.

The prevalence of chronic pain in patients with metastatic cancers is estimated at 70–90% and is among the most distressing physical symptoms[83]. Pain may be associated with tumors exerting pressure on or displacing nerves. A common source of pain is bone metastases, although bone-modifying agents have significantly decreased bone pain and fractures in recent years. Some drugs used to control the cancer cause worrisome and in some cases permanent side effects, such as taxane-related peripheral neuropathy.

Nausea and vomiting may be related to involvement of the gastrointestinal tract, such as liver or peritoneal metastases or ascites, or to brain or other central nervous system metastasis or side effects from chemotherapy or other anticancer agents. Significant progress has been made in developing supportive medications that can decrease the frequency and severity of nausea and vomiting.

Fatigue is by far the most common physical symptom reported by MBC patients, occurring in 80% or more of those undergoing treatment[84], as confirmed in patient surveys[57]. Fatigue is frequently associated with depression or anxiety as well as with treatment toxicities and MBC itself[51]. Other contributing factors may include tumor burden, pain, difficulty sleeping, anemia, poor diet, inactivity, and other coexisting conditions[51, 85–88]. Fatigue is also one of the most difficult symptoms to treat[89].
Up to 75% of patients with advanced cancer have problems either falling or staying asleep, with a lesser number meeting the strict criteria for insomnia\[90\]. In a recent survey, more than half of surveyed patients report difficulty sleeping, gastrointestinal issues, pain, and problems with memory, organization, and concentration. Nearly half of patients report hot flashes, neuropathy, changes in weight, sexual and self-image issues, and emotional upset and stress\[57\].

Not surprisingly, MBC patients also say that living with the disease and undergoing continuous treatment has a significant impact on quality of life. For most, symptoms and side effects of treatment disrupt daily life and interfere with normal activities. As the disease progresses and symptoms intensify, treatments become even more disruptive, and emotional distress increases.

Nearly half of patients say their providers don’t ask them about the symptoms and side effects they are having, leaving it up to them to ask for help when they need it\[57,61\]. Yet nearly as many worry about “bothering” their doctors, or express concern about being seen as “complainers,” and are hesitant to bring up their concerns, especially about topics such as emotional distress and sexuality. One large survey found that 35% of MBC patients seen in comprehensive cancer centers, and 50% seen in community oncology practices, did not mention sources of distress to their providers\[57,59,61\]. Clearly, communication difficulties exist on both sides of the physician–patient relationship.

The past 2 decades have seen major improvements in supportive care, but many MBC patients fail to receive adequate palliation for their symptoms that could improve their quality of life. Very few patients are referred to palliative care or pain specialists during their treatment. In fact, only one quarter of patients are given a symptom checklist as part of their routine office visits, as recommended by National Comprehensive Cancer Network guidelines\[57\].

A common perspective among oncologists is that “managing symptoms to maintain an optimum quality of life is the major goal of care in the metastatic setting because all therapy is palliative”\[64\]. However, the emphasis on palliation as the primary goal in MBC may not conform to the cancer-controlling strategies many oncologists discuss with their patients, nor may it reflect patient wishes, as detailed in surveys where MBC patients clearly prioritize remote chances of treatment efficacy even at the cost of significant toxicity\[81\]. The dynamic tension underlying this “treat or palliate” duality of choice runs throughout the literature on metastatic cancer and plays an important role in disputes about health care policy and allocation of resources. However, treatment and palliation need not be in conflict but may instead represent different points on the continuum of care during the course of the disease, driven by the wishes of an informed patient in consultation with the treatment team.
6. Practical Issues: Work, Insurance, Finances

The practical issues MBC patients and their families face are monumental. Surveys reveal that financial hardship is a fact of life for many families, driven by inability to work, for both patient and family caregiver; travel expenses; and high out-of-pocket co-payment and treatment costs\textsuperscript{[58, 59, 61]}.

Merely having health insurance may fail to insulate patients from the financial impact of expensive and ongoing treatments\textsuperscript{[91]}. In patients with early stage breast cancer, compliance with treatment decreases as the amount of co-payment increases, suggesting that patients may be forced to choose between treatment and other expenses\textsuperscript{[93]}. As the cost of new treatments escalates to levels far exceeding the annual income of most families, it’s easy to imagine patients having to make difficult choices, especially during the 2-year lapse between Social Security Disability determination and Medicare coverage, when many families’ savings are depleted\textsuperscript{[93]}. High rates of bankruptcy have been documented, particularly among MBC patients under 65 years of age, in a population-based study\textsuperscript{[94]}.

The majority of MBC patients are in the workforce at the time of diagnosis. Within the first year of treatment, at least half have quit or lost their jobs, which often results in greater financial problems and a lower standard of living than before diagnosis\textsuperscript{[57, 61, 95]}. Most patients report being unaware of available resources that help address financial need. For example, one quarter of the MBC patients completing an online survey in the US were not aware that MBC patients with a certain amount of work history qualify for Social Security Disability benefits. Although few of the more advantaged patients who completed the surveys had to forgo treatment because of financial circumstances, many missed vacations, celebrations, and social events and depleted their savings\textsuperscript{[58, 95]}.

Other practical needs that MBC patients report as problematic include accessing transportation to health care facilities; managing the home, child care, and shopping; getting help with applications for disability or insurance benefits; obtaining medical referrals; and finding help with work-related issues, such as Americans with Disabilities Act protections and medical leave\textsuperscript{[3]}.

Despite the challenges they face, most people with MBC and their families demonstrate considerable resilience, adaptation, and courage as they continue to live with the disease.
Conclusions

Despite the challenges they face, most people with MBC and their families demonstrate considerable resilience, adaptation, and courage as they continue to live with the disease. But what they do, they cannot do alone. They need everyone involved in breast cancer advocacy and support calling for improved treatment and services.

Although cures cannot yet be offered to MBC patients, health care and support organizations already know how to guide patients and their families toward better quality of life. This review demonstrates that the research is clear, but the application is poor. We know how to help patients cope, how to inform them, and how to perform the services they need. But the resources to do so and the broader recognition of those needs are still lacking.
References


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Appendices

**Appendix 1:** Clinical Trials Analyzed

**Appendix 2:** Key Opinion Leader Interviewees

**Appendix 3:** Molecular Pathways, Cellular Targets and Therapies Being Studied in the MBC Grants Dataset

**Appendix 4:** Examples of How Grants in the MBC Grants Dataset Were Further Categorized into the Metastasis Stage

**Appendix 5:** 13 Surveys Completed by 7939 Respondents Living with MBC

**Appendix 6:** Executive, Program and/or Volunteer Leadership Interview

**Appendix 7:** Survey Participants in Help/Hotlines Survey
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<tr>
<td>Silent Voices: Advanced (Metastatic) Breast Cancer Needs Assessment Survey[^1,^2]</td>
<td>2006</td>
<td>Living Beyond Breast Cancer</td>
<td>Online and, later, on paper</td>
<td>618</td>
<td>✓</td>
<td>✓</td>
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<td>BRIDGE Survey: Identifying the Unmet Needs of the MBC Community[^3,^4]</td>
<td>2009, 2010</td>
<td>Pfizer, with various support organizations</td>
<td>Interviews; Harris Interactive, in 13 countries</td>
<td>1342</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Preferences of Patients with MBC[^7,^8]</td>
<td>2011</td>
<td>Research Advocacy Network (RAN), Department of Defense, Breast Cancer Research Program Center of Excellence</td>
<td>Online</td>
<td>400</td>
<td>✓</td>
<td>✓</td>
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<td>HER2+ MBC Patient Experiences on Treatment in the Biologic Era[^9]</td>
<td>2011</td>
<td>Genentech with various support organizations</td>
<td>Online</td>
<td>185</td>
<td>✓</td>
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<tr>
<td>Impact of Toxicity on Patient Treatment Choices for MBC[^12]</td>
<td>2012</td>
<td>RAN, Genentech</td>
<td>Online</td>
<td>551</td>
<td>✓</td>
<td>✓</td>
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<td>Count Us, Know Us, Join Us International Survey[^13]</td>
<td>2013</td>
<td>Novartis with various breast cancer organizations and Harris Interactive</td>
<td>Online International</td>
<td>1273</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Control of Symptoms and Side Effects in MBC[^14]</td>
<td>2013</td>
<td>AdvancedBC.org</td>
<td>Online</td>
<td>585</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Surveying Young Women with MBC[^15]</td>
<td>2013</td>
<td>Young Survival Coalition</td>
<td>Online</td>
<td>329</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Cancer Experience Registry[^16,^17]</td>
<td>2014</td>
<td>Cancer Support Community</td>
<td>Online</td>
<td>909 so far</td>
<td>✓</td>
<td>✓</td>
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*Needs Assess.* = needs assessment for services

*QOL/S/SE* = Quality of life, symptoms, and side effects

*Work* = employment, disability, financial support

*Psychosocial* = emotional distress, mental health services

*Finance/Insurance* = financial issues and health insurance coverage

*Support/Coping* = sources of emotional support/coping mechanisms

*Tx Choices* = treatment decision making, access issues

*Tx Info* = information seeking, patient education

*Med. Comm.* = communication and relationship with health care providers

*Stigma* = experience of social isolation, avoidance, stigma

*Clinical Trials* = clinical trials participation
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