



# Primary Care and Surgical Collaborations in Addressing Breast Cancer: A Comprehensive Review

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## Abstract

**Purpose of Review** This review explores the collaboration between primary care physicians (PCPs) and surgical specialists in breast cancer management. It outlines their evolving roles focusing on early detection, treatment decisions, and patient-centered care. It also addresses challenges, emphasizes interdisciplinary communication, and discusses opportunities for improved breast cancer care.

**Recent Findings** Recent research highlights the expanded role of PCPs in comprehensive breast cancer care, from diagnosis, treatment, survivorship, and prevention. Surgeons play a crucial role in decision-making and personalized treatment planning. Collaborative approaches, including multidisciplinary teams, show improved diagnoses and outcomes. Advances in breast cancer research, such as targeted treatments and immunotherapy, offer promising avenues for enhanced care.

**Summary** This article advocates for a transformative landscape in breast cancer care, with PCPs and surgeons leading collaborative efforts. Future research lies in the exploration of targeted treatments and the commitment to a holistic, patient-centered approach.

**Keywords** Breast cancer · Primary care · Surgical collaboration · Comprehensive · Collaboration

## Introduction

Breast cancer remains a significant global health challenge. In the USA, it accounts for nearly 29% of newly diagnosed female cancer patients and is the second leading cause of cancer-related deaths among women [1–3]. The management

of breast cancer is multidisciplinary, interdisciplinary, and complex and necessitates a comprehensive, team-based approach to care [4••]. It is a collaborative effort that brings together a core team of primary care physicians, radiologists, pathologists, medical oncologists, radiation oncologists, and surgeons, all dedicated to the patient's well-being.

Nonetheless, the truth is that cancer patients frequently face the challenge of moving through a disjointed health-care system, a task further complicated by the intricacies of cancer treatment. This is where the strength of collaborative care shines. Extensive research emphasizes the pivotal role of primary care physicians and the incredible advantages of coordinated care in improving patient outcomes [5]. Recognizing the substantial challenges patients face and the promise of enhanced supervision, our review explores the vast body of research focused on the vital partnership between primary care physicians and surgical specialists in comprehensive breast cancer care.

The goal is to highlight collaborative efforts that address different aspects of patient care and ultimately lead to better patient outcomes. This narrative review will discuss not only the clinical aspects but also the significant impact these

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partnerships have on the well-being, hope, and quality of life of individuals confronting the challenges of breast cancer.

## Breast Cancer: An Overview

Breast cancer is a pressing global health concern. It represents nearly 29% of all newly diagnosed cancers among women in the USA [1, 2, 6]. Furthermore, it stands as the second leading cause of cancer-related deaths among women, making its impact profound [3].

Globally, the incidence of breast cancer varies, influenced by a complex interplay of genetic, environmental, and lifestyle factors. This intricate interplay creates a multifaceted risk landscape, encompassing modifiable and non-modifiable elements. Modifiable risk factors include lifestyle choices such as alcohol consumption, smoking, obesity, and physical activity [7, 8]. On the other hand, non-modifiable risks encompass genetic predispositions, including BRCA1 or BRCA2 mutations, a family history of breast cancer, and familial breast cancer syndromes [8]. Most diagnosed breast cancers are invasive ductal cancer, accounting for about 80% of breast cancers [9•]. About 10% of diagnosed are invasive lobular carcinoma. Invasive ductal cancers are typically easier to detect on mammography because they grow in distinct masses, unlike intraductal lobular carcinoma, which evades detection until advanced. After all, it permeates the breast in a single-file nature [9•].

The significance of early detection cannot be overstated in effective breast cancer management [10, 11]. It is the cornerstone of improving survival rates and enhancing the quality of life for patients. Primary care physicians are pivotal in this crucial endeavor, serving as most patients' initial point of contact. They are not just medical practitioners but also educators, playing a vital role in educating patients about the importance of early detection, guiding them through screenings, and being the compassionate face that patients need in their breast cancer journey. Likewise, surgeons are one of the main pillars in the management of breast cancer, especially in the early phase.

This combination of global statistics, risk factors, and the human touch demonstrates the comprehensive understanding required to tackle breast cancer effectively. It is only the beginning of our journey through the intricate web of primary care and surgical collaborations in addressing breast cancer.

## The Role of Primary Care Physicians

Primary care physicians (PCPs) play a crucial role in the early detection of breast cancer through routine screenings, clinical breast exams, and patient education. Extensive

research, including a retrospective study conducted by Roetzheim et al., has demonstrated that PCP involvement is associated with earlier diagnoses, improved breast cancer outcomes, and reduced mortality rates [12]. Notably, women who maintained regular contact with their PCPs, with ten or more visits, exhibited a 50% lower likelihood of being diagnosed with late-stage cancer. Other studies have reported even higher reductions in the risk of death from breast cancer, with screening mammograms typically ordered by PCPs [13].

While historically PCPs were primarily involved in the diagnostic stage of care, recent evidence shows that their role has expanded beyond initial screening and diagnosis. PCPs are increasingly assuming a significant role in comprehensive breast cancer care, covering not only diagnosis but also treatment, survivorship, and preventive care [14]. A longitudinal study in Canada examined the role of PCPs from pre-diagnosis to four years post-management and found that PCPs were most actively involved during the treatment phase, with many patients consulting them about treatment decisions [5].

During the treatment phase, PCPs oversee the monitoring and management of the immediate physical and psychological consequences of cancer therapy and concurrent health conditions. In the survivorship phase, they are responsible for ongoing follow-up to detect potential cancer recurrence and delayed adverse events [15]. Collaborative efforts, such as a randomized controlled trial to enhance coordination between family physicians and oncologists, have shown statistically significant improvements in patient management continuity.

Despite these advancements, challenges persist. Effective communication between PCPs and other members of interdisciplinary teams remains a concern [16, 17]. Additionally, studies have highlighted challenges like PCP burnout, time constraints, patient anxiety, and the need for reassurance from oncologists [5, 18, 19].

In the ever-evolving landscape of breast cancer care, primary care physicians are emerging as key players, not only in early detection but throughout various phases of breast cancer management. Their contributions signify a paradigm shift in breast cancer care, reflecting improvements in patient well-being. This narrative review will delve into collaborative efforts that advance patient care and contribute to ongoing developments in breast cancer management.

## The Role of Surgeons

Breast cancer management is a multifaceted process encompassing various phases. These phases range from diagnosis and staging to selecting appropriate therapies for local disease control and prevention of recurrence. Surgeons play

a pivotal role across these phases, with surgery being the cornerstone of treatment in early localized breast cancer. The concept of surgical resection of breast cancer utilizing radical mastectomy was initially pioneered by William Stewart Halsted [20]. The evolution of surgical techniques over the years has seen a shift towards less radical and more breast-conserving approaches, yet surgery remains a fundamental component of breast cancer management [21].

Surgery is often used in combination with radiation, chemotherapy, or immunotherapy. The National Surgical Adjuvant Breast and Bowel Project (NSABP) B-06 trial, which compared patients diagnosed with stage I or stage II breast cancer who underwent mastectomy versus lumpectomy with or without radiation as definitive management, found no survival advantages in the former [22]. However, it should be noted that the recurrence of breast cancer in the other breast was decreased in patients who underwent lumpectomy with radiation, once again highlighting the importance of interdisciplinary collaborative efforts in the management of breast cancer. It should also be noted that breast-conserving methods are not appropriate for every patient and should be tailored. This is where PCPs come in, as many patients cannot meet with a medical oncologist or radiation specialist before undergoing surgical management [23]. PCPs, armed with knowledge, can guide their patients through decision-making.

While surgery is undeniably central to breast cancer care, it is not the entire story. Collaboration between surgical specialists and other healthcare fields, especially primary care physicians, becomes indispensable. Remarkably, when making critical decisions about the most appropriate surgical approach for individual patients, this decision-making process should be grounded in patient-centered care, involving shared decision-making and personalized treatment planning.

As skilled specialists in breast cancer surgery, surgeons bring their expertise. They collaborate with primary care physicians, who possess comprehensive knowledge of the patient's medical history. Together, they forge a robust interdisciplinary partnership that not only addresses the physical aspects of cancer but also acknowledges the emotional and psychological well-being of the patient. This collective expertise results in a holistic and tailored approach to breast cancer treatment, ensuring that patients receive care that is not only medically sound but also aligned with their values and preferences.

## Collaborative Approaches

The concept of collaborative approaches to healthcare, or the multidisciplinary team approach, is a concept that has been introduced previously. The idea has existed since the 1980s

and was initially used for complex medical cases. Still, it is being used regularly for all medical cases and is becoming the standard of care in healthcare [24•]. The idea is to bring each specialty “on board” on each patient case to help facilitate decision-making and have concentrated medical knowledge in one place. Specifically, in the hematology/oncology area, multidisciplinary teams, also known as tumor boards, consist of oncologists, radiologists, pathologists, surgeons, nurses, and other ancillary teams, such as physical therapy/occupational therapy and case management, who meet on a regular schedule either in person or virtually. The advantages of having collaborative approaches to breast cancer are multifold. First, when experts in different fields focus on one case at a time, accurate diagnoses and outcomes are improved. Second, face-to-face conversations facilitate better communication and improved teamwork, resulting in better patient outcomes. Multiple studies have been done on the efficacy of multidisciplinary teams regarding breast cancer, and all have stated that there is an improvement in survival in patients with breast cancer [24•, 25, 26].

## Improving Breast Cancer Care Through Collaboration

The collaboration between primary care physicians and surgeons plays a pivotal role in the comprehensive management of breast cancer. This partnership becomes even more critical during the initial phases of treatment when patients face crucial decisions about their treatment options. An observational study revealed that 34% of primary care physicians reported discussing surgical options with patients following a diagnosis instead of immediately involving a surgical specialist [5].

One of the critical challenges in this regard is that many primary care physicians may need to be more adequately educated to participate in these discussions. This situation presents an opportunity for improvement in breast cancer care. Primary care physicians should be equipped with the necessary knowledge about different surgical options, enabling them to engage in more informed discussions with their patients. Since primary care physicians are typically well-versed in their patients' medical history and comorbid conditions, their involvement ensures seamless continuity of care, addressing all aspects of their health [27]. This includes providing vital supportive care throughout the various phases of cancer treatment, as highlighted in studies by Decker et al. (2019) [14].

## Patient-Centered Care

Despite significant medical advancements in cancer treatment, breast cancer remains the second most prevalent and lethal malignancy among women [28]. Receiving a cancer

diagnosis, particularly breast cancer, can be emotionally devastating for patients and their families. Women often grapple with fear, anxiety, and a profound sense of isolation, fearing that breast cancer may jeopardize their lives. These women diagnosed with breast cancer have responsibilities to their families, friends, and careers, making the prospect of a chronic illness and an inability to fulfill these roles a source of profound hopelessness and fear. In this challenging landscape, patient-centered care becomes more critical than ever, as medical teams frequently fall short of providing the necessary emotional support for these women.

Patient-centered care repositions the patient at the core of their care, considering their physical well-being and emotional and social circumstances rather than focusing solely on the “disease” [29]. The patient-physician relationship evolves into a complex interaction where the conversation extends beyond the disease’s pathophysiology to encompass the patient. Physicians should assess the patient’s understanding of the diagnosis, dedicate time to address any questions comprehensively, and actively involve the patient in every decision regarding the treatment plan. Equally vital is for physicians to grasp the patient’s care objectives and respect any decisions made by the patient in this regard [30]. In a study conducted by Morris et al., patients with early-stage breast cancer were offered choices regarding surgical options, including either mastectomy or wide excision plus radiotherapy, or they were not presented with such choices but instead assigned to a surgical group [31]. The study indicated that patients who actively participated in the selection of surgery experienced positive psychosocial outcomes, irrespective of the actual type of surgery.

## Advances in Breast Cancer Research and Treatment

Breast cancer is a formidable adversary that continues to affect countless lives. In 2020, over 300,000 women in the USA received the daunting diagnosis of breast cancer, with a heartbreaking 42,273 women losing their lives to this disease [32]. Looking ahead to 2040, the forecast is equally sobering, with expectations of over 3 million new breast cancer cases each year. Our unwavering commitment to breast cancer research and innovation becomes paramount as these numbers keep rising.

In the realm of breast cancer treatment, remarkable progress has been made in the last decade. Traditionally, treatments like chemotherapy, surgery, and radiation have been the go-to strategies. However, with an evolving understanding of the disease, there has been a shift towards more precise and practical approaches. Breast cancer is a diverse condition characterized by specific molecular markers and an overexpression of the human epidermal growth factor

receptor (HER2) [33]. These discoveries have paved the way for targeted treatments that zero in on the molecular characteristics of each patient’s cancer. For instance, identifying tumor-infiltrating lymphocytes (TILs) has been groundbreaking in the fight against HER2-positive and some triple-negative breast cancers. Clinical trials exploring these novel treatments are underway. Immunotherapy is another game-changer, enabling our immune systems to recognize cancer as a foreign invader and protect healthy cells. Combining these immune checkpoint blockers with standard cancer treatments shows excellent promise. There are also therapies designed to disrupt vital cellular functions in cancer cells, such as inhibiting ribonucleic acid production, blocking cancerous growth factors, and attacking cyclin-dependent kinases 4 and 6 (CDK4 and CDK6) [28]. Significantly, these targeted treatments are often associated with milder side effects than traditional chemotherapy and radiation.

However, it is crucial to acknowledge that there are still challenges, especially in cases of metastatic or aggressive triple-negative breast cancer [34]. Despite these advances, primary care physicians and surgeons play central roles in breast cancer care. They are the guiding stars for patients navigating these complex and evolving treatment landscapes. Breast cancer is a dynamic field where science, compassion, and patient care intersect. As researchers and healthcare professionals continue to push the boundaries of knowledge, there is a united front in the fight against this formidable disease, with the well-being of each patient at the forefront of the collective mission.

## Future Directions

Primary care physicians continue to play a pivotal role in the early detection of breast cancer, underscoring the importance of preventive medicine. As a result of this ongoing commitment, significant strides have been made in breast cancer research, diagnosis, and treatments over the past decade. The resurgence of multidisciplinary teams, combined with an enhanced understanding of the pathogenesis and behavior of breast cancer, has led to improved emotional, physical, and medical outcomes for patients [35].

Nonetheless, the battle against cancer is far from over. One area that continues to present a significant medical burden and high mortality rates is triple-negative breast cancer and metastatic disease. These patients often display resistance to conventional medical interventions, such as chemotherapy and radiation. In addressing these challenges, the future of breast cancer research is envisioned. Ongoing studies are exploring new therapies targeting triple-negative breast cancer and focusing on preventative measures [36].

Looking ahead, the collaboration between primary care physicians and surgical specialists, along with advancements in understanding the complexities of breast cancer, promises a future where even better care can be provided, ultimately aiming to lessen the impact of this disease on individuals and their loved ones.

## Conclusion

Breast cancer, a global health challenge, stands as the leading cause of death among women worldwide and the second leading cause of death for women in the USA. Despite the existence of risk stratification tools and preventive measures for early detection, the numbers continue to rise. This comprehensive review not only highlights the indispensable role of multidisciplinary teams in breast cancer treatment but also illuminates the groundbreaking potential of innovative treatments and future medical advancements. It underscores a crucial call to action for primary care physicians to maintain a steadfast commitment to preventive screening.

The review also underlines the critical need for early surgical involvement in a patient's treatment plan, a strategy that can markedly improve outcomes. Breast cancer, a condition that inflicts both physical and emotional distress, requires a response that transcends clinical proficiency. It demands a holistic approach where compassion and empathy are as integral as medical expertise. Standing in solidarity with patients, offering both professional medical guidance and unwavering emotional support, becomes not just necessary but imperative in the journey towards healing and recovery.

In this ever-evolving landscape, there is collective hope and determination. The battle against breast cancer is far from over, but as medical professionals, researchers, and a global community, there is the power to make a lasting impact. Continued collaborative work, investment in research, and striving for a future where breast cancer is no longer a leading cause of mortality among women are crucial. Together, a brighter, healthier future for all can be ensured.

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## Declarations

**Statement of Consent** None.

**Competing interests** The authors declare no competing interests.

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- Of major importance

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