Review Article on New Frontiers in Breast Reconstruction

Where advocacy meets patient-centered care—cost considerations in breast reconstruction decision-making

Whitney Lane[1], Brett T. Phillips[1], Anaeze C. Offodile II[2,3,4]

[1]Division of Plastic Surgery, Duke University Medical Center, Durham, NC, USA; [2]Department of Plastic Surgery, [3]Department of Health Services Research, MD Anderson Cancer Center, Houston, TX, USA; [4]The Baker Institute for Public Policy, Rice University, Houston, TX, USA

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Correspondence to: Anaeze C. Offodile II, MD, MPH. Department of Plastic Surgery, MD Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX 77030, USA. Email: acoffodile@mdanderson.org.

Abstract: Cancer care in the United States is unquestionably expensive. In 2017, annual costs related to cancer-related treatment reached $180 billion. There is clear evidence that the increased cost of cancer care translates to financial hardship. This hardship is widespread, impacting as many as 75% of patients and their families with associated adverse sequelae. Growing recognition of the negative impact of cancer-related treatment costs on patients and their families led to the creation of the term "financial toxicity". The present editorial is borne out of the need to bring this problem to the attention of practicing surgeons, as to the best of our knowledge is still underreported in our specialties.

Keywords: Financial toxicity; breast reconstruction (BR); cost

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Introduction

Cancer care in the United States is unquestionably expensive. In 2017, annual costs related to cancer-related treatment reached $180 billion (1). Advances in treatments and diagnostics such as targeted therapies and oncotype sequencing have to a large extent lead to this trajectory. The insurance marketplace has responded by shifting increasing portions of cancer treatment costs onto patients in the form of rising deductibles ("high deductible health plans") and a dependence on cost-sharing insurance design (i.e., premiums, co-payments, and co-insurance) (2). Currently, average out-of-pocket expenditures for cancer patients approach $5,000 per year and 25% of cancer patients now report using all or most of their savings to pay for their cancer care (3). Even among insured patients, healthcare expenses can be unaffordable (4). A recent review of a nationally representative sample of American households, noted that only 45–50% had finances immediately available to pay a median-to-high health care deductible (5).

There is clear evidence that the increased cost of cancer care translates to financial hardship. This hardship is widespread, impacting as many as 75% of patients and their families (6) with associated adverse sequelae. Examples include income interruption, poor health quality-of-life, treatment non-adherence, poor physical and mental well-being, and disconcertingly early death among cancer survivors (6). Growing recognition of the negative impact of cancer-related treatment costs on patients and their families led to the creation of the term "financial toxicity". The present editorial is borne out of the need to bring this problem to the attention of practicing surgeons, as to the best of our knowledge is still underreported in our specialties.

Financial toxicity

Conceptually, financial toxicity can be broken down into

objective costs and the subjective experience of hardship. Objective costs include direct costs (e.g., medical bills from hospital visits, clinic visits, medications, imaging) and indirect costs (e.g., travel expenses, lost wages, and caregiving). Although some patients may be able to afford the objective costs of cancer care, they may still experience financial toxicity driven by unplanned lifestyle changes, depletion of savings, and concerns over future financial health (7).

The financial distress related to the high direct costs-of-care is exacerbated by the time off from work or lost productivity due to cancer therapies. This creates a *vicious cycle* or deleterious feedback loop. Individuals with cancer were noted to be at four-fold greater risk of work absenteeism relative to matched controls (8). Further, more aggressive treatment, including chemotherapy and invasive surgery, has been associated with a significant risk of disrupted employment (9).

Financial hardship in the context of breast cancer and the role of cost conversations

In light of its policy salience and a prevalence of risk factors for financial toxicity (i.e., gender, younger age at time of diagnosis, and existing racial disparities) breast cancer has become the archetypal condition for much of the public discussion around high treatment costs (10). Nationally, breast cancer treatment costs are estimated to reach $20 billion by 2020 (8) and these patients experience a substantial portion of this financial burden. It has been reported that between 30–50% of women are at least somewhat worried about their finances due to breast cancer treatment (11). In a recent national survey of female breast cancer patients, that reflected a well-insured population, 43% of respondents considered cost when making treatment decisions (4). Of note, progressively more women prioritized costs in their surgical decision-making process as respective annual income fell. In the hierarchy of preferences for women with a household income <45,000/year, costs of care surpassed loss of sensation, breast preservation, breast appearance, avoidance of radiation and need for long term surveillance (4). Furthermore, although there was wide variation by insurance status and treatment modality in out of pocket costs, 50% of breast cancer patients report objective financial burden related directly to the cost of their care (4,11). In fact, women undergoing treatment for breast cancer reported cutting down on spending including utilities and food directly as a result of their cancer treatment and up to 15% of women reported significant loss of wages due to time away from work (11).

Patient centered interventions to reduce financial toxicity

For decades hospitals have utilized financial counselors to assist patients in getting access to charity care or signing up for Medicaid. However, these resources are often not readily available at the time of the initial clinic encounter and have limited utility for the majority of cancer patients with insurance. Furthermore, patients rarely see financial counselors pre-emptively to avoid financial harm. More often than not, this occurs, after the determination that there is an inability to cover the costs of care (12). Newer models of financial navigators specific to oncology have been promising (12). These programs have been shown to reduce rates of financial toxicity by proactively guiding patients through available health insurance options, optimizing their coverage, and informing patients about implications of treatment plans on cost.

Regardless of the type of financial support available at each healthcare institution, patients at risk for financial harm need to be identified early in their care continuum. This best ensures the effective implementation of any proactive steps to mitigate financial toxicity. Therefore, all members of the care team including plastic surgeons, should discuss the costs associated with their treatment recommendations openly and honestly with patients. In fact, in 2009, the American Society of Clinical Oncology recommended that oncologists discuss the costs of care with patients prior to treatment (13). More recently, the Institute of Medicine proposed that patient-provider shared decision-making models that include cost be considered as metrics for quality cancer care (14). Empirical evidence exists for the association between cost discussions with care providers and an increased likelihood for the following: a referral to financial assistance, utilization of less expensive medications, and decreased frequency of lab tests (15). These cost-conscious measures can dampen the incidence and severity of financial toxicity.

Breast reconstruction (BR), preference-sensitivity and cost discussions

Long-term clinical trial data and modern observational studies have consistently shown that the surgical options for early-stage breast cancer (lumpectomy with radiation

vs. mastectomy) are equally effective with respect to long-term survival (16). Thus, decisions for breast cancer surgery treatment are highly preference-sensitive. Women consider many factors when weighing each surgical choice, including their desire for breast preservation, options for reconstruction, aesthetic results, expected surveillance, risk of recurrence, and peace of mind (17). Furthermore, up to 60% of women who choose to undergo mastectomy opt for BR (18). Although BR has been shown to improve overall satisfaction and quality of life (19), there has been no demonstrated survival benefit. Thus, choices surrounding BR are also highly preference sensitive including both the timing and type of reconstruction. Decisions regarding autologous *vs.* implant-based reconstruction are largely driven by aesthetic result, time to recovery, scarring in other parts of the body, avoidance of foreign material, and risk of complications (20). Lack of awareness may contribute to plastic surgeons not routinely considering how these decisions may ultimately impact costs of care. Notably, the various BR subtypes vary widely in both overall costs and complication profile. The latter is relevant because it represents an *unplanned* and often protracted treatment expense.

There is currently a dearth of information on financial distress directly attributable to BR. BR patients are generally financially better off, more likely to be married and have higher rates of private insurance relative to patients who do not undergo reconstruction (21). However, women undergoing BR are also likely to undergo more than one operative intervention, with reported average of 2.4 surgeries per patient (22). And 1 in 10 women undergo more than 3 major operative procedures directly related to BR (22). This increases the risk of complications and need to take time off from work. In fact, one study found that patients undergoing bilateral mastectomy with reconstruction were at highest risk of taking >1 month off of work or stopping work all together (9). Therefore, although the BR population may be better off financially prior to their diagnosis, hardship related to BR is likely to look different in this population. Thus, qualitative research is much needed in this area to determine (I) what types of financial hardship do patients typically experience related to BR, (II) patient perspectives on cost conversations as they relate to BR, and (III) the optimal timing of these conversations. Further it remains unclear if cost conversations in this patient population will ultimately translate into reduced financial strain for patients and alter BR decision-making.

Cost conversations and shared decision-making

Plastic surgeons are already accustomed to effectively navigating preference-sensitive topics in both reconstructive and cosmetic practice. However, the literature demonstrates that only 30% of physicians treating cancer patients include cost transparency as part of their routine clinical practice (23). One study found that one-third of women considered costs when making surgical decisions for breast cancer, yet the overwhelming majority (78%), never discussed costs with their medical team despite their reported desire for transparency (4). If the goal of a shared decision-making process is to maximize the likelihood of preference-concordant care, then more cost-conversations are inarguably called for. Unfortunately, many providers report discomfort with cost conversations as a major barrier to effective inclusion of cost into shared decision making for cancer (23). Because the implications for clinical practice are significant, this presents a strong case for increased administrative support (i.e., financial navigators, patient assistance programs) and provider training on financial distress assessment. Plastic surgeons as part of the multidisciplinary cancer care team, should incorporate cost of care discussions, and to the extent possible, financial toxicity assessment as part of their clinical practice. Lastly, protecting patient welfare (physical, emotional) is one of the central tenets of medical professionalism and ethical practice (24). Ensuring that BR does not engender financial harm, via meaningful cost conversations, is deeply aligned with this.

Conclusions

Financial hardship is an increasingly recognized problem among breast cancer patients that is still poorly characterized within the context of BR. Although this article is not an exhaustive systematic review, we attempted to present a summary of existing knowledge and make a case for the incorporation of financial hardship risk assessment in contemporary BR. Rigorous scholarship is clearly needed to unpack (I) the relationship between financial hardship and BRs outcomes and (II) suggest appropriate interventions. Notwithstanding, we posit that the time to have cost conversations become a part of evidence-based BR practice is already upon us.

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Footnote

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