Guideline Discordance & Patient Costs

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A national Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines) are evidence-based, physician-recommended treatments increasingly used as a marker of high-quality care. When considering guideline-based treatment options for metastatic breast cancer (MBC), over 45 different guideline concordant regimens exist, providing room for treatment personalization.

Previous research investigated Medicare spending for women with MBC who received treatment discordant with NCCN Guidelines (J Natl Compr Canc New 2018;16(9):1084-1094; Cancer 2018;124(21):4231-4240). Researchers found higher monthly Medicare spending for patients receiving discordant compared to concordant treatment, without survival differences.

Due to the cost of new treatments, frequent clinic visits, and increasing survival, financial hardship is a growing concern for patients receiving cancer care. Given that guideline-discordant treatment was previously shown to result in higher Medicare spending, a study by Williams et al. published in JNCCN—Journal of the National Comprehensive Cancer Network (2019;17(10):1221–1228), investigated the patient-specific costs associated with receiving treatment discordant with the NCCN Guidelines in Medicare beneficiaries with MBC.

**Study Details**

In this study, researchers used the Surveillance, Epidemiology, and End Results Program (SEER)-Medicare linked database to identify women diagnosed with de novo (metastatic at diagnosis) MBC or a treated, secondary MBC who survived 1 year post-diagnosis.

Patient cost responsibility, also derived from the SEER-Medicare database, was defined as the patient payment to providers through deductibles, coinsurance, and copayments for all medical care received. Claims for the initial MBC treatment were also identified, which included single-agent or combination hormonal medication, chemotherapy, or human epidermal growth factor receptor 2 (HER2)-targeted therapy. Treatment regimens were then matched to the NCCN Guidelines published at the time of treatment to determine guideline discordance.

The final study sample included 3,709 patients with MBC. Almost 1 in 5 (18%) patients received a treatment discordant with the NCCN Guidelines. Patients who received discordant treatment were younger and had been eligible more often for both Medicare and Medicaid, hormone receptor-negative, and HER2-positive. In the year post-diagnosis, median care costs for patients receiving a guideline discordant treatment was $7,421, compared to $5,171 for patients receiving a guideline concordant treatment.

After accounting for patient demographic and disease characteristics, patients receiving guideline discordant treatment had $1,841 higher care costs in the year following their MBC diagnosis. When considering types of medical care costs, outpatient costs, physician visit costs, and prescription drug costs were all significantly higher for patients receiving guideline discordant compared to concordant treatment ($1,288, $326, and $95 higher, respectively).

Researchers also found that patient costs differed by the type of guideline discordant treatment received. Compared to patients receiving guideline concordant treatment ($8,659 in year post-diagnosis), patients receiving non-approved bevacizumab had the highest cost responsibility ($11,989 in year post-diagnosis) and those receiving therapy mismatched with their hormone or HER2 receptor status had the lowest cost responsibility ($4,748 in year post-diagnosis).

This study adds to the current literature about guideline discordant treatment, and provides some of the first evidence showing higher patient-specific cost responsibility for patients with MBC receiving guideline discordant compared to concordant treatment. Furthermore, this cost differed based on the type of discordant treatment received.

**Key Takeaways**

Overall, this study found that costs to the patient can be influenced by treatment choice and, therefore, individual patient costs should be considered when choosing between many available, guideline-based MBC treatments.

The higher costs found for patients receiving guideline discordant treatment may be attributed to a lack of data on the most effective way to treat older adults with MBC. The majority of our study sample was age ≥ 65, and these patients are potentially more complicated to treat due to issues with frailty or functional status. Therefore, the guideline discordance may be due to treatment modifications based on functional status or cancer severity, and the associated increased patient spending may have stemmed from more frequent interactions with the health care system or other medications to combat side effects associated with receiving cancer treatment.

Patient-provider communication during treatment decision-making could be a potential avenue to address not only direct medical care costs like those calculated in this study, but also indirect medical care costs, such as transportation to clinic based on fusion frequency or lost productivity due to missed work.

Guidelines exist to provide recommendations based on previous scientific evidence and expert opinion. Although there will always be circumstances where off-guideline treatment is warranted, physicians should aim to comply with current guidelines for the safety of the patient, both physically and psychologically, as well as to decrease adverse outcomes, such as financial hardship.

**Limitations & Future Directions**

The main limitation of this study is that researchers were unable to identify who actually paid for the costs patients were responsible for (self, supplemental insurance, charity, etc.). However, the cost estimates were likely underestimated, since SEER-Medicare does not include information on costs of indirect medical care costs, such as transportation to care, lodging, therapeutic items, or caregiver pay. Also, clinical characteristics which could potentially affect patient costs, such as illness severity and functional status, were unable to be assessed using SEER-Medicare data.

Financial hardship will continue to be a growing problem for patients with cancer due to the emergence of expensive new treatments and increases in survival for patients with cancer. The findings from this study can inform research efforts focused on improving patient-physician communications surrounding cancer treatment-related financial hardship. Further research should focus on developing effective solutions to regimensing treatments in order to avoid unnecessary and toxic costs to patients.