

## Financial toxicity of oral chemotherapy in patients with primary brain tumors

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### Abstract

**Background.** Cancer treatment costs continue to rise with the development of new agents. Financial toxicity is defined as the quantifiable costs associated with cancer and cancer treatment in addition to the patient's associated distress. This study's rationale is to better understand the financial burden of oral chemotherapies from the perspective of patients with primary brain tumors.

**Methods.** After one cycle of oral chemotherapy, we requested patients to complete the financial toxicity-functional assessment of chronic illness therapy (COST-FACIT) survey and additional questions relevant to insurance and cost. We summarized responses with descriptive statistics within strata defined by on-label or off-label oral therapy.

**Results.** Sixty surveys were completed, with most patients ( $n = 53$ , 88%) receiving on-label therapy; only 7 patients (12%) received off-label oral agents. The mean overall financial toxicity score was 23.1 (SD = 11.3). When asked if their provider discussed treatment cost before initiation, 21 patients (35%) stated that they did, and 39 patients (65%) said they did not discuss cost or did not recall. However, in the off-label cohort, all 7 patients stated that their provider discussed the cost before prescribing. Most patients (70%) had copays. Nine (17%) in the on-label group and 3 (43%) in the off-label group had chemotherapy-associated costs that negatively affected their quality of life. A higher percentage of financial distress occurred in the off-label group.

**Conclusions.** Discussing medication costs with patients is an essential part of chemotherapy initiation and may mitigate undue psychosocial and financial distress.

### Keywords

brain tumor | financial toxicity | glioma | oral chemotherapy | quality of life

Costs associated with cancer treatment in the United States continue to rise as new therapies are approved. In an analysis of cancer care costs in the United States over a 10-year period, investigators noted that the national cost of cancer care is significant and projected to rise based on the aging population alone.<sup>1</sup> Financial toxicity is a term that describes both the quantifiable costs associated with cancer care along with the accompanying impacts on a patient's quality of life (QoL).<sup>2</sup> de Souza and colleagues developed a validated tool, financial toxicity-functional assessment of chronic illness therapy (COST-FACIT) for cancer patients to measure financial toxicity in patients with stage 4

solid malignancies.<sup>2</sup> Financial burden, with both objective and subjective repercussions, can contribute to poor health-related QoL. While the specific monetary implications of cancer therapies can be managed through patient assistance programs, foundation support, and grant programs, the ubiquitous stress of these therapies on everyday life is more complex to resolve. Financial toxicity is connected to multiple patient outcomes, including health-related QoL, symptom burden, medication adherence as well as survival.<sup>2</sup>

Regardless of the tumor grade and type for primary brain tumors, life expectancy is often limited, with the treatment

## Key Points and Importance of the Study

Patients with primary brain tumors may experience financial toxicity. This burden can come from utilization of oral chemotherapy agents. It is imperative that

providers are aware of this concern and discuss it with patients and their care partners.

objective being prolonged survival. Lowering overall patient distress during the illness trajectory is an integral part of clinical care.<sup>3</sup> Previous studies have shown that QoL can be prognostic for overall survival (OS), supporting the importance of maintaining QoL in this patient population. In a descriptive study by Leeper et al.,<sup>4</sup> primary brain tumor patients were evaluated regarding their employment status and association with symptom burden and QoL. In this study of 277 patients, higher symptom burden and poorer QoL were linked to unemployment.

In a 2020 commentary on the financial toxicity of cancer treatment, the authors reasoned that increased awareness of financial toxicity is crucial for both providers and patients.<sup>5</sup> However, in reviewing published literature, it is unclear how frequently these conversations transpire between the provider and patient. Carrera and colleagues describe the important role of clinicians in managing financial toxicity and identify the oncologist as crucial in the difficult and urgent matter of discussing treatment costs with the patient.<sup>6</sup> While we recognize the importance of having these challenging discussions with patients, we acknowledge that financial toxicity and its detrimental effects still occur despite these initial conversations. The rationale for our study was to better understand, from the primary brain tumor patient's perspective, the financial burden as well as the effects on QoL created by oral chemotherapy prescribing.

## Methods

### Study Design and Patient Population

This study was a prospective, single-center, correlational survey study. Patients were identified after dosing one cycle of oral chemotherapy prescribed between January 01, 2023 and April 30, 2023. This protocol was approved by the Duke Institutional Review Board (Pro00111878). Eligibility criteria were as follows: Adult patients ( $\geq 18$  years old) diagnosed with a primary brain tumor of any grade, able to speak, read and write English, and must have started on an oral chemotherapy regimen. The ambulatory oncology clinical pharmacist identified these patients during routine oral chemotherapy follow-up phone calls to assess adherence and toxicity. Patients were asked if they would be willing to participate in a 20-question survey about the financial impact of oral chemotherapy. Once informed consent was obtained, the survey questions were sent electronically to the patient to be completed in a single session. Study data were collected and managed using REDCap (Research Electronic Data Capture), an electronic data capture tool hosted at Duke University Health System.<sup>7</sup>

### Survey Instruments

The survey included a validated component, the COST-FACIT survey,<sup>2</sup> as well as additional investigator-initiated questions to gain more granular data on insurance and costs associated with specific therapies (Figure 1). The COST-FACIT portion of the survey included 11 statements that respondents rated on a 5-point Likert scale. The respondent chose the option that best corresponded with their opinion about each statement, such as strongly disagree to strongly agree. The lower the score, the more significant the financial toxicity for the patient; ranging from 0 to 44. Additional questions were included to glean insights into cost discussions, prescription insurance coverage, and associated copays, as well as employment information.

### Statistical Analysis

The primary objective of this study was to assess the patient's perception of the financial burden of oral chemotherapy in primary brain tumor patients, as measured by COST-FACIT.<sup>2</sup> Exploratory objectives included the evaluation of differences in financial toxicity between on-label and off-label therapies as well as an exploration of sociodemographic factors that might be predictive of financial toxicity. Descriptive statistics were used to summarize overall survey responses. Survey data were reviewed and stratified to either on-label (usage based on the FDA labeling for a specific disease state) or off-label (therapy being used for an indication that is not listed per FDA labeling for that medication) therapies. The survey responses were also summarized within strata defined by on-label or off-label use of the oral medication. Regression models were used to explore the impact of on-label versus off-label use on patient-reported outcome subscales.

## Results

A total of 62 patients were assessed for eligibility over a 4-month time period from January 01, 2023 to April 30, 2023. Of the 58 patients consented, all patients completed the survey questionnaire. Two patients completed the survey instrument for 2 different therapies over the study period. We elected to treat the repeats as independent patients given that the repeat surveys related to different chemotherapy treatments with different out-of-pocket costs and that they were not done at the same time, resulting in a total of 60 completed surveys. Of the 2 patients who completed the survey instrument 2 times, both were initially on temozolomide therapy, then later initiated on lomustine therapy. As expected, most surveys ( $n = 53, 88\%$ ) reflected

Additional Questions	
Did your doctor talk to you about the cost of the chemotherapy before ordering your oral chemotherapy?	a. \$0 - \$100 b. \$101 - \$200 c. \$201 - \$500 d. \$501 - \$1000 e. \$1000
a. Yes b. No c. Don't remember	Are the costs associated with your chemotherapy causing undue stress or negative effects on your quality of life?
What oral chemotherapy did you get prescribed?	a. Yes b. No
a. Temozolomide (Temodar) b. Lomustine (CCNU, Gleostine) c. Etoposide (VP-16, Vepesid) d. Ivosidenib (Tibsovo) e. Other _____	What is your highest level of education that you completed? (include a drop down list)
What is your prescription insurance coverage?	a. 8 <sup>th</sup> grade or less b. Some High School, no diploma c. High School Diploma or GED d. Vocational e. Some College, no degree f. College degree g. Graduate School/Professional Degree
a. Private insurance (ie. BCBS, Aetna, Cigna, etc) b. Government funded (Tricare, Medicare, Medicaid, etc) c. No insurance d. Other _____	Are you actively employed?
Did you have a copay for your oral chemotherapy? A copay is the fixed cost you pay at the Specialty Pharmacy at the time of prescription pickup.	a. Yes (including: short-term disability, leave of absence, FMLA) b. No
a. Yes b. No	If no, indicate status
If so, what was your copay? If you have more than one strength, please list total copay for multiple prescription strengths (i.e., temozolomide 20 mg copay is \$45 + temozolomide 140 mg copay is \$125 = total copay cost is \$170 per month).	i. Out of work ii. Retired iii. Permanent disability
	What is/was your occupation? (free text)

**Figure 1.** Additional investigator-initiated questions (in addition to COST-FACIT).

on-label therapy (including: temozolomide, lomustine, and belzutifan) compared to the disparate off-label therapy (including: ibrutinib, ivosidenib, olaparib, and etoposide) cohort ( $n = 7, 12\%$ ). Sociodemographic and clinical characteristics of study participants who received on-label versus off-label treatment were similar with regard to gender (53% male vs. 57%, respectively) and race (87% Caucasian vs. 86%; [Table 1](#)). The majority of patients in both groups were either married or living with a partner (81% vs. 100%). The median age of patients at the time of survey completion in the on-label group was slightly higher than that in the off-label group (57 vs. 41).

The mean overall financial toxicity score was 23.1 (range 1–44), with a lower score indicating greater financial distress of patients. When comparing those participants who received on-label versus off-label therapies, there was a higher percentage of financial distress in the off-label group ([Figure 2](#)). The on-label patients were slightly older than the off-label patients, though the difference was not statistically significant ( $P = .11$ ). Furthermore, the on-label patients tended to have higher-grade tumors than the off-label patients (43 of the 53 patients [81%] in the on-label group had grade 4 tumors compared to 2 of the 7 patients [29%] in the off-label group [ $P < .001$ ]).

Study participants were asked if their providers discussed treatment-related costs with them before therapy initiation. Our overall results found that 21 patients (35%)

did recall this discussion with their provider; however, 65% reported that they did not discuss cost with their provider or that they did not recall a discussion about cost. When considering the off-label therapy cohort, patients reported that the provider discussed cost before prescribing for all participants (100%) compared to only 26% in the on-label group ( $P < .001$ ).

Participants were also asked about insurance and copays (a fixed cost a patient pays at a Specialty Pharmacy at the time of prescription pick-up) associated with these specialty medications. Results revealed that most patients had insurance coverage for prescription medications, with 39 private insurers (65%) and 15 government-funded plans (25%). The remaining surveys included 1 uninsured patient (1.7%) and 5 surveys with insurance data omitted. Most surveys ( $n = 42, 70\%$ ) noted that patients did have copays. Of the 42 patients with a copay, 40 responded regarding approximate out-of-pocket costs; \$0–\$100 copay group included 19 patients (47.5%), \$101–\$200 copay group included 6 patients (15%), \$201–\$500 copay group included 7 patients (17.5%), \$501–\$1000 copay group included 5 patients (12.5%), and greater than \$1000 copay group included 3 patients (7.5%). When comparing cohorts, 9 patients (17%) in the on-label therapy group and 3 patients (43%) in the off-label therapy group had chemotherapy-associated costs that caused negative effects on quality of life.

**Table 1.** Consented Patient Demographics by Drug Label Status

Characteristic	On-label, N = 53	Off-label, N = 7	P-value
Financial toxicity score (range 0–44, higher score = better financial well-being)			.5
Mean (SD)	23.5 (11.7)	20.4 (7.0)	
Median (IQR)	24.0 (13.0, 33.0)	23.0 (21.0, 23.5)	
Range	1.0, 44.0	5.0, 26.0	
Age (years) at time of survey			.11
Mean (SD)	56.3 (16.1)	46.0 (14.3)	
Median (IQR)	57.0 (44.0, 69.0)	41.0 (36.5, 49.5)	
Range	28.0, 86.0	34.0, 75.0	
Sex			>.9
Male	28 (53%)	4 (57%)	
Female	25 (47%)	3 (43%)	
Race			.7
White	46 (87%)	6 (86%)	
Black or African American	3 (5.7%)	1 (14%)	
Not reported	2 (3.8%)	0 (0%)	
Asian	1 (1.9%)	0 (0%)	
Native Hawaiian or other Pacific Islander	1 (1.9%)	0 (0%)	
Ethnicity			>.9
Non Hispanic or Latino	46 (87%)	7 (100%)	
Not reported	4 (7.5%)	0 (0%)	
Hispanic or Latino	2 (3.8%)	0 (0%)	
Unknown	1 (1.9%)	0 (0%)	
Tumor grade			<.001
4	43 (81%)	2 (29%)	
3	10 (19%)	2 (29%)	
2	0 (0%)	3 (43%)	
Diagnosis			.3
Glioma	51 (96%)	6 (86%)	
Hemangioblastoma	1 (1.9%)	0 (0%)	
Medulloblastoma	1 (1.9%)	0 (0%)	
Primary CNS lymphoma	0 (0%)	1 (14%)	
Marital status			>.9
Married	41 (77%)	7 (100%)	
Single	4 (7.5%)	0 (0%)	
Divorced	3 (5.7%)	0 (0%)	
Widowed	2 (3.8%)	0 (0%)	
Partnership/living with significant other	2 (3.8%)	0 (0%)	
Unknown	1 (1.9%)	0 (0%)	

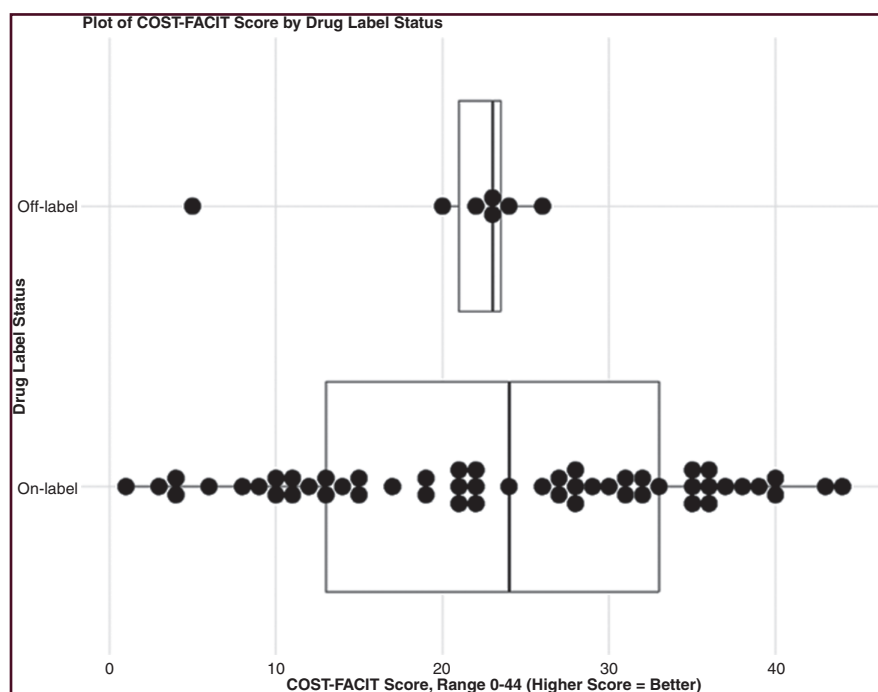
\* Continuous variables summarized using multiple statistics; Categorical variables summarized by *n* (%).

\*\* Wilcoxon rank sum test; Fisher's exact test.

## Discussion

Financial toxicity has become a more prevalent and well-studied term in cancer care, especially over the past decade. However, data specific to primary brain tumor patients continues to be scarce. In the United States, oral

chemotherapy agents are commonly covered under a patient's pharmacy benefits compared to intravenous cancer therapies which are routinely covered under a patient's medical benefits, resulting in a lack of parity in reimbursement.<sup>8</sup> Since many of the therapies prescribed for the management of primary brain tumors are oral, gaining a better understanding of the financial burden of oral



**Figure 2.** Plot of COST-FACIT Score by Drug Label Status.

chemotherapy specifically is paramount. In our prospective survey analysis, we identified primary brain tumor patients on oral chemotherapy and used the COST-FACIT tool to understand patients' perceptions of financial burden. This tool was used to determine the financial toxicity score of survey participants, with a higher score being correlated to better financial well-being.

The majority of the 60 completed surveys reflected on-label therapies ( $n = 53$ , 88%). In a study by Liu and colleagues,<sup>9</sup> investigators describe a real-world analysis of patients receiving off-label cancer therapies. They found that 18.6% of patients ( $n = 165\ 912$ ) received at least one therapy considered off-label. This analysis supports our study results, which show that a large majority of patients receive on-label therapies rather than off-label therapies. The NCCN Clinical Practice Guidelines for Central Nervous System tumors now include recommendations for the use of targeted therapies, some of which are considered off-label therapies; for example, the use of ivosidenib for IDH-mutated tumors.<sup>10</sup> Given the small percentage of patients receiving oral chemotherapy off-label, formal comparisons of the 2 groups relative to financial toxicity score were not performed. The mean financial toxicity score in the off-label cohort was 20.4 (SD = 7.0) compared to 23.5 (SD = 11.7) in the on-label cohort ( $P = .5$ ). A higher percentage of financial distress occurred in the off-label therapy group. The scores for both of our cohorts are similar to patients with stage 4 solid tumors described in the de Souza study in which the median score was 23.<sup>2</sup> This observation reflects the common financial burden and subsequent impairment in QoL of our brain tumor population similar to other advanced cancers.

In a study by Koenig et al., investigators identified patients with brain and spine metastases undergoing radiosurgery at a large academic medical center.<sup>11</sup> They found that 60% of these patients were primary income earners and that 46% had a change in their employment status as a result of their cancer diagnosis. These researchers suggested that even well-insured patients experience significant financial toxicity during their treatment. Though, only 30% of their patients reported meeting with a financial care counselor and a majority of patients (87%) reported that they had not discussed their finances with their provider. Additionally, numerous oncologists may not feel well-suited to discuss costs associated with these oral chemotherapies, due to either a lack of accurate knowledge on insurance copayments or a lack of education on introducing these delicate conversations. This study highlights the many reasons that these discussions do not occur at the point of therapy initiation.

In trying to further understand the association of employment status to symptom burden and potential financial difficulty, Leeper et al. comment that the ability to maintain employment after diagnosis with a CNS tumor may be significantly impacted.<sup>4</sup> If unemployment occurs, patients can lose access to employer-sponsored health insurance coverage further compounding financial toxicity.<sup>4</sup> McLoone and colleagues completed a national survey of Australian health professionals to understand challenges and solutions to cancer-related financial toxicity.<sup>12</sup> The authors designated financial toxicity as a "blind spot" within their model of healthcare due to the shortage of resources and training recognized as obstacles. The authors posited that these discussions should be viewed as a cross-disciplinary responsibility and that additional resources,

including advocacy and financial support, are needed without delay. Although cost conversations between providers and patients may have been viewed negatively in the past, in a recent study by Brick DJ et al., investigators try to gain a better understanding of the impact of these discussions.<sup>13</sup> Brick et al utilized hypothetical medical scenarios to understand better patient's attitudes toward physicians who provide cost information versus those who do not. They found that patients prefer cost discussions up front, especially in scenarios of high out-of-pocket costs, such as in cancer treatments.<sup>13</sup> In this scenario, the patients may perceive that the physician has their best interest in mind and understands that cost can have negative effects on their QoL.<sup>13</sup> This study further supports that cost discussions are imperative and should occur upfront as patients are considering treatment decisions. In addition to having conversations about cost transparency up front, referral to additional sources of assistance including a financial counselor, a specialty pharmacist or a patient advocate can be advantageous to mitigate financial toxicity by connecting patients to available resources.<sup>14</sup> While our investigation showed that we consistently discuss the cost of off-label therapies with patients, many patients receiving on-label therapies may also benefit from these upfront discussions to minimize delays in therapy initiation as well as mitigate undue financial distress which may impact QoL.

We tried to determine if any sociodemographic factors were predictive of financial toxicity. However, we did not find any of these factors to be predictive in our cohort and this may be due to the small sample size. Further studies are needed to elucidate better which sociodemographic factors may be prognostic of financial toxicity. We acknowledge that these observations are simply a snapshot of a single, academic, tertiary medical center for patients with primary brain tumors. For our particular center, the majority of patients utilize private insurance and government-sponsored plans. Expanding these efforts to other institutions across the US could allow us to understand better the financial strains of our patients.

## Conclusions and Future Directions

Chemotherapy-associated costs affect patients with primary brain tumors and may negatively impact their quality of life. In our cohort, primary brain tumor patients using off-label medications disproportionately experienced financial distress. Cost discussions associated with oral chemotherapies (including off-label medications) are essential to address proactively and with every patient to minimize associated anxiety and stressors. Patients may not be comfortable initiating these discussions as they perceive that it may be a barrier to accessing therapy. Khan and colleagues describe patients on oral chemotherapies as being particularly susceptible to high out-of-pocket costs, due to either copayments, coinsurance, or tiered formulary plans.<sup>15</sup> Other contributory causes include costs related to travel to appointments, as well as meals and childcare associated with these visits, loss of income due to decreased productivity and job loss, and missed opportunities for career advancement and promotions.

Access to off-label therapies can be costly, causing financial toxicity. While our survey found that we consistently had candid cost discussions upfront, our sample size was small. Providers may not feel comfortable initiating these discussions due to a lack of understanding about specific cost metrics and complicated insurance plans or a lack of training. While cost discussions are challenging, they remain an integral step in therapy initiation that may decrease undue stress. Future directions include validating our findings in a larger patient cohort, improving training and education for healthcare professionals to feel comfortable initiating cost discussions, and aiming to improve advocacy for decreased out-of-pocket costs associated with oral cancer therapies.

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## References

- Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, Brown ML. Projections of the cost of cancer care in the United States: 2010-2020. *J Natl Cancer Inst.* 2011;103(2):117-128.
- de Souza JA, Yap BJ, Wroblewski K, et al. Measuring financial toxicity as a clinically relevant patient-reported outcome: The validation of the COmprehensive Score for financial Toxicity (COST). *Cancer.* 2017;123(3):476-484.
- Dirven L, Koekkoek JAF, Reijneveld JC, Taphoorn MJB. Health-related quality of life in brain tumor patients: As an endpoint in clinical trials and its value in clinical care. *Expert Rev Qual Life Cancer Care.* 2016;1(1):37-44.
- Leeper HE, Vera E, Christ A, et al. Association of employment status with symptom burden and health-related quality of life in people living with primary CNS tumors. *Neurology.* 2023;100(16):e1723-e1736.
- Desai A, Gyawali B. Financial toxicity of cancer treatment: Moving the discussion from acknowledgement of the problem to identifying solutions. *EClinicalMedicine.* 2020;20:100269.
- Carrera PM, Kantarjian HM, Blinder VS. The financial burden and distress of patients with cancer: Understanding and stepping-up action on the financial toxicity of cancer treatment. *CA Cancer J Clin.* 2018;68(2):153-165.
- Harris PA, Taylor R, Thielke R, et al. Research electronic data capture (REDCap)--a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform.* 2009;42(2):377-381.
- Cheema PK, Gavura S, Migus M, et al. International variability in the reimbursement of cancer drugs by publically funded drug programs. *Curr Oncol.* 2012;19(3):e165-e176.
- Liu R, Wang L, Rizzo S, et al. Systematic analysis of off-label and off-guideline cancer therapy usage in a real-world cohort of 165,912 US patients. *Cell Rep Med.* 2024;5(3):101444.
- National Comprehensive Cancer Network. Central nervous system cancers (Version 1.2023). [https://www.nccn.org/professionals/physician\\_gls/pdf/cns.pdf](https://www.nccn.org/professionals/physician_gls/pdf/cns.pdf). Accessed March 25, 2024.
- Koenig JL, Sandhu N, Sborov K, et al. Financial toxicity in patients with brain and spine metastases. *World Neurosurg.* 2021;151:e630-e651.
- McLoone J, Chan RJ, Varlow M, et al. Challenges and solutions to cancer-related financial toxicity according to Australian health professionals: Qualitative results from a national survey. *Support Care Cancer.* 2023;31(7):441.
- Brick DJ, Scherr KA, Ubel PA. The impact of cost conversations on the patient-physician relationship. *Health Commun.* 2019;34(1):65-73.
- Smith GL, Banegas MP, Acquati C, et al. Navigating financial toxicity in patients with cancer: A multidisciplinary management approach. *CA Cancer J Clin.* 2022;72(5):437-453.
- Khan HM, Ramsey S, Shankaran V. Financial toxicity in cancer care: Implications for clinical care and potential practice solutions. *J Clin Oncol.* 2023;41(16):3051-3058.