
thesecondopinion: An Exploratory Prospective, Study of a Patient-Centered Second Opinion Service for Cancer Patients

thesecondopinion (TSO) conducted this study to explore why cancer patients seek a second opinion and what benefits they gain from it. The study aimed to understand patients' motivations for seeking a second opinion and to evaluate the outcomes of the consultation process. By using a patient-driven approach, where patients provided questions about their diagnosis and treatment to a panel of specialists, the study sought to assess improvements in patient education, reassurance about their disease and treatment, reduction in anxiety, and the overall consultation experience.

The study also aimed to identify the specific support features of the TSO experience that fulfill

these motivations, using innovative methods like exploratory factor analysis to uncover hidden dimensions of patient motivations. Ultimately, the study aimed to demonstrate the value of second opinions in empowering patients with actionable information about their health and medical options, thereby enhancing their decision-making process and contributing to better health outcomes.

We sincerely thank all the patients who trusted **thesecondopinion** and participated in this study.

Without you we wouldn't be here.

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Abstract

Purpose

To report the motivations for seeking a cancer second opinion along with the outcomes after receiving a patient consultation.

Methods

The second opinion was patient-driven with the patients providing questions about their diagnosis and treatment to the consultant panel prior to the consultation. Patients completed an online questionnaire (Pre-Q) about their motivations for seeking TSO help. Exploratory Factor analysis was used to identify relationships regarding motivations. After the consultation, patients received a second online questionnaire (Post-Q) regarding their consultation experience. Outcomes studied included self-reported improvements in education, reassurance about their disease and treatment, reduction in anxiety, consultation service, and respectful consultation experience. Qualitative analysis of theme-based open-ended comments compared motivations to positive consultation outcomes.

Results

Responses were received from 80 of 108 Pre-Q patients (74%) and 58 of 80 Post-Q patients (73%). Pre-Q motivations centered largely on treatment issues while Post-Q responses focused on reassurance and decreasing anxiety, having questions answered, and having a summary letter about their diagnosis and treatment plan. Exploratory factor analysis was used to analyze Pre-Q data and suggested a desire to learn more about their treatment plan. Forty-three comments supported five themes and corroborated motivation and satisfaction response data.

Conclusions

The findings indicate that patients' motivations for obtaining a TSO second opinion were largely satisfied as expressed through reassurance, a reduction in anxiety and stress, and a respectful TSO experience.

Practice Implications

Cancer second opinions are beneficial for patients uncertain about their diagnosis or treatment. They empower patients with actionable information about their health and medical options.

Innovation

The innovation demonstrated in this study is using prospective (Pre-Q) and retrospective data (Post-Q) to assess the support features (which we call the special features) that are built into the TSO experience. Our analysis confirms that these support features fulfill the motivations for seeking a second opinion: reduction in anxiety and education about a patient's diagnosis and treatment. This research also shows that we used an innovative approach in providing cancer second opinions, and in addition to the consultation, that it is important to include personalized services that assist patients in obtaining a second opinion in an efficient manner.

Another innovation is that we used exploratory factor analysis (EFA) as a method to "translate" hidden dimensions and latent constructs. In addition to factor analysis being useful for data reduction, it provided the added benefits of being immune to scaling issues and allowed us to readily identify hidden dimensions or latent constructs that are generally not apparent using other methods. The latter advantage was the primary reason for conducting factor analysis in this study. □

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AN EXPLORATORY STUDY OF A SECOND OPINION SERVICE FOR CANCER PATIENTS DRIVEN BY PATIENT MOTIVATIONS AND PREFERENCES

Methodology	Key Themes	Patient Comments	Conclusion
 <p>Patient-driven questions</p> <p>Online Questionnaires</p> <ul style="list-style-type: none"> • Pre-Q: Assessed motivations • Post-Q: Evaluated consultation outcomes <p>Exploratory Factor Analysis</p> <ul style="list-style-type: none"> • Identified underlying motivational factors <p>Consultation Details</p> <ul style="list-style-type: none"> • Multispecialty physician panel with summary letter provided post-consultation 	<p>80 of 108 pre-Q patients (74%) and 58 of 80 post-Q patients (73%) provided usable responses.</p> <p>Five overarching themes emerged:</p> <ul style="list-style-type: none"> • Understand My Situation • Relieving Anxiety and Stress • Reassurance regarding Healthcare and Treatment Plan • Value for the Patient • Interactions with Staff 	<p><i>"I have a much clearer understanding of my situation...and clarity on things that I didn't know I had been misunderstanding."</i></p> <p><i>"The panel greatly helped me in dealing with my situation and the extreme stress...they helped me understand my cancer and how to move forward with the choices I had to make and my daily life."</i></p> <p><i>"Pre-session conversation was so helpful, because it's hard to know and remember all the questions to ask at such a stressful time."</i></p> 	<p>These findings can guide future efforts to improve patient education, helping patients make informed health decisions and generating hypotheses for further research on second opinions in cancer care.</p>  <p style="text-align: right;">  The second opinion San Francisco, CA, USA </p>

Introduction

thesecondopinion (TSO) is an independent, community-based 501(c)3 nonprofit corporation that was founded in 1969 (www.thesecondopinion.org). Its mission is to provide free, comprehensive second opinions to adults in California diagnosed with cancer using a multi-specialty physician panel. The consultation is initiated by patients and driven by the patient's concerns. Currently, 60-70 volunteer physicians in different cancer-related specialties participate. TSO does not diagnose or treat cancer patients and is independent of any medical institution. The service is free for patients; the organization relies on individual, foundation, and corporate support to provide its service. Identified were **five innovative special features** of the TSO program not often found in other second opinion programs:

- TSO staff request and **collect patient medical records**, imaging, pathology slides, ensuring the volunteer physicians have all the information they

need for a comprehensive review of each patient case.

- Patients and their family members meet with a **multi-specialty review panel** that consists of four to six volunteer physician panelists who are board-certified in cancer-related medical specialties needed to review each individual case. These panelists meet and discuss the case prior to the patient meeting.
- At the consultation, the panelists answer **questions submitted by the patient** prior to the consultation. Frequently asked questions include providing clarification on diagnosis, recommendations for treatment, symptom management, support services or further testing. During interviews and consultations, interpreters are provided for non-English speaking individuals.
- After the consultation, a **summary letter** is sent to patients and on patients' request, to their medical providers.

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- The TSO service is **free of charge to patients** and does not bill medical insurance or receive government funding.

A literature review found several representative second opinion studies that demonstrated benefits for patients both medically and psychologically and showed that SOs can offer reassurance and certainty to patients and physicians.^{1,2,3,4,5,6,7,8,9,10,11} Because of the large number and varied structure of SO studies, the focus was on two reports: a 2016 systematic review paper by Reuters et al⁵ and a 2021 systematic review paper by Greenfield et al.⁶ The 2016 Reuters study (13 papers reviewed) identified motivating factors but noted a **lack of in-depth reporting on patient satisfaction and outcomes**.⁶ The 2021 Greenfield study (33 papers) confirmed Reuters' observations on motivating factors while noting a **lack of prospective studies**, consideration of potential confounding variables, and other limitations.⁷ This TSO study attempted to address these two underreported areas.

Motivating factors identified in the Reuters study included but were not limited to: the quality of the information provided and/or the way information was provided, the manner of discussion and involvement in decision-making, dissatisfaction with the first consultation and communication in general.⁵ Loehberg and colleagues reported that patients wanted to “leave no stones unturned” or felt a “fear of making a wrong decision”.¹¹

The literature also documents that second opinions may lead to changes in diagnosis and treatment.^{5,6} A second opinion program, Best Doctors, Inc., allowed employee-beneficiaries to request free second opinions, which resulted in changes in cancer diagnoses about 5% of the time, and

changes in cancer treatment about 27% of cases. Most (95%) of 2,700 patients were satisfied with the experience, but fewer (61.2%) planned to follow the recommendations.¹⁰ Tattersall and colleagues found that 32 of 77 patients (42%) reported a change in treatment.⁸ They also found that patients felt that a cancer second opinion was very helpful and assuring and found the style of communication—which emphasized a compassionate approach to addressing patient needs and providing answers to patient questions—welcoming.⁸ This TSO study probed outcomes related to patients having their questions addressed and having a respectful experience. Overall, the TSO program focuses on education of the patient and their significant others regarding understanding their diagnosis and treatment plan.

It is noted that multispecialty tumor boards (MTBs) have emerged as another form of second opinions. MTBs were not included in the review of previous second opinions reports as they generally do not include patient initiation and/or participation. Although several of the reviewed studies addressed patients' dissatisfaction with their primary physicians, this factor for seeking a second opinion was not investigated in this TSO study. Although TSO has historically used in-person consultations, the COVID-19 pandemic caused a shift to Zoom Technology panels.

1.1 Purpose

A patient-driven, prospective method was used to access second opinions to cancer patients, their outcomes were studied based on self-reported improvements in education and reassurance about their disease and treatment plan, reduction in anxiety, consultation service design, and respectful consultation experience.

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2. Methods

2.1 IRB Approval

This study was approved by the Institutional Review Board of Touro University California, Vallejo, California.

2.2 Patient Selection

Entry into the study was open to patients who either self-referred or were recommended by their oncologist, family, or friends. Participation was entirely voluntary, with consent secured through the patient clicking the relevant box on the Pre-Consultation Patient Questionnaire (Pre-Q). The study was designed to respect patient autonomy, allowing any participant to withdraw at any point without facing any prejudice or penalty.

2.3 Questionnaire Construction and Conduct

Two patient questionnaires were developed using Qualtrics Software (Provo, UT and Seattle, WA): a Pre-Consultation Patient Questionnaire (Pre-Q) addressed motivations, and a Post-Consultation Patient Questionnaire (Post-Q) addressed consultation outcomes. After reviewing the literature on second opinions, TSO patient retrospective data and TSO staff experiences with patients in the program; the study team generated the items in both questionnaires. Published, peer-reviewed second opinion studies were used to create a list of possible, positive, post-consultation outcomes, including the five special features of the TSO program, and converted the list to questionnaire items. The study team discussed and finalized the items. For both questionnaires, the team established unique identification for each patient by collecting data on the patient's initials, TSO consultation dates, and questionnaire submission dates.

There were 14 Post-Q items that fell into three categories: those related directly to motivations, e.g., items improving my understanding of my diagnosis; those related to the five special features; and those outcomes that could only be measured after the consultation, e.g., respect shown to me. Also, the Post-Q included an item for open-ended patient comments. Qualitative analysis was used to identify themes from the open-ended comments. The comments were then mapped to the themes to show relative frequency.

Prior to the panel consultation, patients were emailed the Pre-Q which included 14 questions. The panel consultation utilized virtual technology (Zoom, San Jose, CA) that lasted about 45 minutes. The consultation focused on patient questions that were submitted and reviewed beforehand, along with medical record information. Following the consultation, a letter was generated by the panel chair summarizing the discussion and recommendations by the panelists. This letter was sent to the patient and, on the patient's request, to the patient's oncologist and/or primary care physician. Approximately two to three weeks after the TSO consultation, the Post-Q was emailed to the patients about their experience. The duration of the study was established from September 2020 to April 2022, or until 100 usable Pre-Qs had been collected. Throughout the study, TSO staff with patient contact only received aggregate response data for both questionnaires.

2.4 Data Analysis

Response data from the Qualtrics questionnaire files were exported to Microsoft Excel (Microsoft Corporation, Redmond WA) for analysis. Tables were prepared from the questionnaire responses.

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Two members of the research team identified themes (Table 5) from the patient comments received through the Post-Q. When there was a disagreement about a comment, a third team member was brought in to make the final decision.

Exploratory Factor Analysis (EFA) helps in understanding the relationship between motivations and outcomes by revealing hidden patterns that might not be visible with other methods. It breaks down complex reasons into clear, understandable factors, which are like hidden themes that explain why certain things are related. By grouping similar items together, EFA allows researchers to connect open-ended comments from participants to these factors, demonstrating a link between the motivations for seeking a second opinion and the outcomes experienced by the patients. This approach simplifies complex information, making it easier to see how different pieces of data are connected and to understand the overall picture.

Statistical analyses were completed using SAS v9.4 (Cary, NC). Exploratory Factor Analysis (EFA) was conducted to examine underlying factors related to Pre-Q motivations. In addition to factor analysis being useful for data reduction, it provides the added benefits of being immune to scaling issues and can readily identify hidden dimensions or latent constructs that are generally not apparent using other methods. The latter advantage was the primary reason for conducting factor analysis in this study. The EFA analysis utilized a Promax oblique rotation of usual least square estimations. The number of factors retained was determined based on the scree plot and minimum Eigenvalues (greater than 1.0 for retention). A value of 0.6

was chosen as a cutoff for factor loadings. The appropriateness of the data for factor analysis was determined pre-analysis by calculating the Kaiser Measure of Sampling Adequacy (KMO) on the raw data. As the data were dichotomous, factor analysis was conducted on the output of the polychoric correlation matrix.

The final analysis was to link the EFA data to the post-Q open-ended comments. Team members mapped the comments to latent factors from the EFA model to demonstrate the linkage between motivations and outcomes—a project goal and an underreported linkage in the TSO literature.

3. Results

Usable responses were received from 80 of 108 pre-Q patients (74%) and 58 of 80 post-Q patients (73%). The patient characteristics are shown in Table 1. Although this was a small pilot study, the patient demographics were like those of other SO studies in the literature (results not shown). Most patients were female. Breast cancer was the dominant diagnosis in females while prostate cancer was the dominant diagnosis in males.

Table 2 is a rank-ordering of self-reported pre-Q motivations and mainly focuses on treatment. Prior to performing factor analysis one of the motivational variables (Aiding in Making Treatment Decision) was removed before the creation of the polychoric matrix due to poor performance on the KMO statistic. The factor analysis model utilized usual least squares and the factors were allowed to rotate obliquely. Both the proportion criterion and the Eigenvalue greater than 1.0 threshold suggested four factors. Two rounds of exploratory factor analysis (EFA) were conducted on the polychoric matrix, removing

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a single item ('Know that the TSO service is Free to me') which failed to adequately load on any of the four retained factors. The Standardized Root Mean Residual Exploratory Analysis (RMSEA) for the overall model retaining four factors was calculated as 0.040, indicating a "good" model fit. The four retained factors were titled: future steps for better outcomes, better current understanding of my disease, better understanding of currently recommended treatments, and clarification on conflicting information. Together, these factors explain approximately 82% of the model variance. The loadings for the four-factor model are shown in Table 3.

Table 4 shows Post-Q questionnaire responses that are rank-ordered by the number choosing "definitely yes" for each consultation outcome. Four of the top five outcomes were related to special features of the TSO program.

Table 5 shows the themes and subthemes identified along with examples from the open-ended comments (n=43). Five overarching themes emerged: Understand My Situation, Relieving Anxiety and Stress, Reassurance in Healthcare and Treatment Plan, Value for the Patient, and Interactions with Staff.

Table 6 shows the distribution of patient comments made across the themes, demonstrating a focus on the TSO process and the patient's experience with the consultation. There were four negative comments (3%) citing that patients did not receive the information they desired.

Table 7 shows the results of the team mapping the open-ended comments (outcomes) to the four EFA latent factors (motivation). Counts for numbers

of comments mapped to each EFA latent factor demonstrated between motivation and outcomes. The top two comments, understanding of my disease and treatment, accounted for 75% of the responses. It was observed that although patient responses about motivation/expectations for outcomes in the Pre-Q questionnaire heavily favored issues surrounding treatment, Post-Q comments focused more emphasis on patients understanding their disease.

4. Discussion and Conclusion

4.1 Discussion.

While this was an exploratory study into the motivations for seeking a second opinion and the results of consultations, the findings can serve as a foundation for future initiatives to enhance patient education, ensuring patients have the necessary information to make decisions that align with their preferred health outcomes. The study outcomes demonstrated that patients valued the respect they received from the staff and doctors, the reduction in anxiety, and the reassurance they received from the panel regarding their diagnosis and treatment plan. The open-ended responses and associated themes from the Post-Q also corroborated these outcomes. Overall, this suggests these exploratory findings may help generate hypotheses for future research to enhance patient education and informed decision-making for those seeking a second opinion on cancer.

Another significant aspect of the TSO program was that patients could meet with at least four to six oncology specialists, including a pathologist and a radiologist, to discuss their case. Patients expressed that receiving opinions from multiple oncologists was a particularly valuable feature

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of the TSO program. Equally important was the ability for patients to drive the consultation with their questions to the panel for which they received answers. The summary letter sent post-consultation to patients, and their medical providers upon request enhanced communication with their healthcare teams. The organizational features of the TSO program, such as the process of obtaining medical records, likely contributed to the patients' feelings of respect, reassurance, and helped alleviate their anxiety.

Based on the literature search, this is the first prospective study in which second opinion (SO) patients completed questionnaires before and after their TSO consultation. This unique approach enabled the identification of patient motivations before the consultation experience. Most patients expressed a desire to learn about additional treatment options and sought assistance in making treatment decisions. Over two-thirds of the patients wished to gain a deeper understanding of their diagnosis and the stage and extent of their disease. However, less than half of the patients sought confirmation of their diagnosis.

There was an assumption that the cost of the free TSO second opinion would be a more critical factor for patients seeking a second opinion. However, only 39.5% of patients seeking 2nd opinion from TSO identified free consultation as a motivating factor in the Pre-Q questionnaire (34 of 86 respondents). In addition, the single item dealing with the TSO being free failed in the factor analysis model. When asked to make additional comments about TSO services in the Post-Q questionnaire, only one comment out of 42 mentioned that TSO service was free. In this study, data on patients' financial status was not collected, which may have

affected the responses to the Pre-Q question about the cost being free.

The data gathered suggest that cost was not a significant motivating factor for patients seeking a second opinion.

Amidst the COVID-19 pandemic, the TSO program made a significant transition to telemedicine for patient consultations. This innovative approach incorporated a multispecialty tumor board that included patients and their families. While this study did not specifically investigate the use of telemedicine for TSO consultations, it is believed that this area holds immense potential and warrants further exploration. The successful adaptation of the TSO program to telemedicine during these challenging times is a testament to the resilience and adaptability of healthcare systems.

4.2 Innovation

The innovation demonstrated in this study is using prospective (Pre-Q) and retrospective data (Post-Q) to assess the support features (which we call the special features) that are built into the TSO experience. Our analysis confirms that these support features fulfill the motivations for seeking a second opinion: reduction in anxiety and education about a patient's diagnosis and treatment. This research also shows that we used an innovative approach in providing cancer second opinions, and, in addition to the consultation, that it is important to include personalized services that assist patients in obtaining a second opinion in an efficient manner.

Another innovation is that we used exploratory factor analysis (EFA) as a method to "translate" hidden dimensions and latent constructs. In addition to factor analysis being useful for data

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reduction, it provided the added benefits of being immune to scaling issues and allowed us to readily identify hidden dimensions or latent constructs that are generally not apparent using other methods. The latter advantage was the primary reason for conducting factor analysis in this study.

4.3. Conclusion

The results indicate that TSO, using a patient-driven innovative approach to providing multispecialty second opinions to cancer patients, satisfied patients' motivations for obtaining a second opinion through reassurance, reduction in anxiety, and a respectful experience. TSO played both an educational and a counseling role in the care of these patients.

4.4. Practice Implications

Cancer second opinions are beneficial for patients uncertain about their diagnosis or treatment. They empower patients with actionable information about their health and medical options, reassuring them that they are proceeding with an appropriate plan and contributing to better outcomes.

Limitations

1. By design the Pre-and Post-Q individual responses were not compared.
2. The study did not investigate any discrepancies or disagreements in communication with patients regarding their diagnosis or treatment.

3. The patients in this study sought out TSO through various channels, including self-referral, recommendations from friends and family, caregiver suggestions, and support groups. This contrasts with other second opinion programs, which often necessitate insurance approval and physician referrals. However, it is unclear how this unique aspect of patient recruitment may have influenced the patient population or the generalizability of the findings.

4. Despite the study taking place during the COVID-19 pandemic, it did not address the numerous questions patients had regarding the potential impact of COVID-related issues on their treatment.

5. Although the study is small in scale, it lays the groundwork for generating hypotheses aimed at enhancing patient education and informed decision-making for those seeking a second opinion on cancer.

Declaration of Competing Interests

None of the authors report any conflicts of interest.

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Table 1. Characteristics of Pre- and Post-Q Patients

Participants by 10-Year Cohort by Age	Pre-Q Female N = 49	Pre-Q Male N =31	Total Pre-Q N =80	Post-Q Female N =37	Post-Q Male N = 21	Total Post QN = 58
20-29	0	1	1	0	0	0
30-39	6	1	7	2	0	2
40-49	2	1	3	2	1	3
50-59	14	3	17	9	2	11
60-69	15	13	28	14	10	24
70-79	10	11	21	8	8	16
80-89	2	1	3	2	0	2
Type of Cancer						
Breast	29	1	30	20	1	21
Prostate	0	17	17	0	13	13
Lung	2	4	6	2	2	4
Lymphoma	3	2	5	3	0	3
Gyn Cancers	5	0	5	5	0	5
GI Cancers	5	3	8	3	2	5
GU Cancers	3	2	5	2	1	3
Melanoma	0	1	1	0	1	1
Head & Neck	0	1	1	0	1	1
Unknown Moderately differentiated	1	0	1	1	0	1
Adenocarcinoma, stomach, unspecified	1	0	2	1	0	1

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Table 2. Pre-Q Motivations: Expectations of TSO Patients

Motivation/Expectation	Number Choosing this Reason	Percent (Total N=80)
Understanding what, if any, additional treatment options would be available in my situation	78	90.7
Aiding me in making my treatment decision	67	77.9
Understanding the risks, benefits and side-effects of treatments	62	72.1
Understanding the treatments recommended for me	61	70.9
Getting suggestions on any further tests available for my cancer	59	68.6
Getting a better understanding of stage and extent of the disease	55	64.0
Relieving anxiety about my situation	55	64.0
Getting a better understanding of my diagnosis	54	62.8
Learning about the availability of clinical trials for me	44	51.2
Confirming my diagnosis	37	43.0
Knowing that the <i>second</i> opinion service is free (no charge to me)	34	39.5
Helping my family/friends understand my cancer diagnosis	28	32.6
Obtaining clarity on conflicting messages from different doctors	28	32.6
Discussing next steps now that I have finished treatment	18	20.9

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Table 3. Exploratory Factor Analysis with Motivation Loadings

Motivation/Expectation	Factor Loading	Latent Factors
Understanding what, if any, additional treatment options would be available in my situation	0.82	Future steps for better outcomes
Getting suggestions on further tests	0.67	Future steps for better outcomes
Relieving anxiety about my situation	0.85	Future steps for better outcomes
Learning about the availability of clinical trials	0.62	Future steps for better outcomes
Discussing the next steps now that I've finished treatment	0.94	Future steps for better outcomes
Confirming my diagnosis	0.85	Better current understanding of my disease
Getting a better understanding of my diagnosis	0.78	Better current understanding of my disease
Help my family and friends understand my diagnosis	0.88	Better current understanding of my disease
Getting a better understanding of the stage and extent of my disease	0.61	Better current understanding of my disease
Understanding the treatments recommended for me	0.88	Better understanding of currently recommended treatments
Understanding the risks, benefits, and side effects of treatment	0.83	Better understanding of currently recommended treatments
Obtaining clarity on conflicting messages from different doctors	0.61	Clarification on conflicting information
Know that the TSO service is free (no charge to me)	<0.5	None

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TABLE 4: Post-consultation Questionnaire Responses Regarding Outcomes: Ranked by “Definitely Yes”

Consultation Outcomes	Type of Item	Definitely Yes (%)
The panel doctors were respectful to me and my family/caregiver	Only After Consult	92
Having the opinions from the different cancer specialists at my meeting was reassuring	Special feature	89
It was important to me that I was able to submit my list of questions to the physician(s)	Special feature	86
All my important questions were answered	Special feature	85
The meeting summary letter about my diagnosis and treatment plan was helpful	Special feature	78
The experience with thesecondopinion reduced my anxiety about my situation	Only After Consult	73
The panel meeting improved my understanding of my diagnosis	Motivation	64
The panel meeting improved my understanding of my treatment options	Motivation	64
It was important to have my family/friends with me during the meeting	Special feature	63
The panel meeting helped me make a decision on treatment	Motivation	61
It was helpful to have a Medical Information Specialist available for medical/nonmedical information and resources	Special feature	58
I discussed the findings from the meeting summary letter with my physician(s)	Only After Consult	47
Additional tests were recommended to me	Only After Consult	31

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Table 5: Themes Arising from Qualitative Analysis from Patient Post-Q comments

Overarching Themes	Selected Patient Comments to: “Is there anything else you would like us to know?”
1. Understanding my situation	
Diagnosis	“The panel helped me understand my diagnosis in great specificity.” “I have a much clearer understanding of my situation... and clarity on things that I didn’t know I had been misunderstanding.”
Pathology and imaging tests	“...it is the first time I ever saw any of my own scans, and to have the radiologist take me through those and explain what we were looking at.” “Having confirmation from the pathologist about the lack of ‘ink on margins’ and lymph node diagnosis was very reassuring.”
Drug treatment and side-effects	“...the doctor helped to explain the anatomy and how the particular drug category affected me. “The panel discussion relieved some of our concerns over the cancer and gave us hope in combating side effects.”
2. Relieving anxiety and stress	“The panel greatly helped me in dealing with my situation and the extreme stress...they helped me understand my cancer and how to move forward with the choices I had to make and my daily life.”
3. Reassurance in healthcare team and treatment plan	“Instead of introducing treatment differences, the panel confirmed my treatment path. It so helpful and validating...” “They made a vague and scary situation much clearer and more manageable.” “I came into the call feeling very apprehensive...will they understand my history, will they communicate in ‘patient language,’ will they make recommendations consistent with my current team or at odds, how will I resolve those differences with little time before treatment? I felt very different after the call ... content, well understood and well cared for.”
4. Value for the patient	
Service is free	“Thesecondopinion provides such a valuable service with industry retired professionals for zero service fee!!”
Patient-driven consultation	“Pre-session conversation was so helpful, because it’s hard to know and remember all the questions to ask at such a stressful time.”
Independent second opinion from a multispecialty panel	“I like the fact that this is a ‘neutral’ second opinion based on me specifically.” “It is helpful to have an additional unbiased info about my situation.”
5. Interactions with staff	“I was particularly appreciative of the kindness and understanding of all staff... and the lack of judgement about my fears...” “I am so thankful for the personal and timely help from your staff in making easy the signing up and scheduling for our panel visit. You certainly reduced my stress level.”

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Table 6. Counts of Post-Q Patient Comments Related to Themes

Theme	Comments (number, %)
Relieving anxiety and stress	23 (62%)
Reassurance of the healthcare team and treatment plan	7 (19%)
Understanding my situation	4 (11%)
Value for the patient	2 (5%)
Interaction with staff	1 (3%)
TOTAL ALL COMMENTS	37 (100%)

Table 7. Team Counts of Post-Q Comments Related to EFA Latent Factors

EFA Latent Factor	Count of Comments Related to Satisfaction(s)/ Outcomes Comments n=43 (100%)
Better current understanding of my disease	20 (47%)
Better understanding of currently recommended treatment(s)	12 (28%)
Obtaining Clarity on Conflicting information	3 (7%)
TSO service was free*	1 (2%)
Future steps for better outcomes	0 (0%)
No consensus or none of the latent factors	7 (16%)
TOTAL ALL COMMENTS	43 (100%)

*Not part of the EFA model

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