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ORIGINAL ARTICLE

Identifying the drivers of overall rating of cancer care: Insights from the second wave of the Swiss Cancer Patient Experiences study

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Abstract

Background: Patient experience surveys gather information on various aspects of care via numerous survey items. Identifying the most critical areas of patient experience to prioritize for quality care improvement can be challenging. The objective of this study was to determine which care experience items are the drivers influencing patients' overall rating of cancer care.

Methods: Data from 2750 adult patients with cancer from the second wave of the Swiss Cancer Patient Experiences study were analyzed. This cross-sectional survey was conducted in eight Swiss hospitals from September 2021 to February 2022. Stepwise logistic regression examined the relationship between overall care rating and 29 patient experience items covering different patient-centered care dimensions while adjusting for sociodemographic and health variables.

Results: Overall, patients rated their cancer care experience at 8.9 out of 10. Stepwise regression identified seven drivers contributing to overall care rating. The strongest drivers were "professionals worked well together" (odds ratio [OR], 4.81) and "tests were not repeated" (OR, 2.09) from the coordination and integration dimension, "offered support for symptoms during treatment" (OR, 2.11) from the physical comfort dimension, followed by "hospital staff ensured available home support" (OR, 1.99), "offered to see health professional for concerns" (OR, 1.91), "treatment options were explained" (OR, 1.75), and "involved in treatment decisions as desired" (OR, 1.68).

Conclusions: This study evaluated the care experiences of patients with cancer with a comprehensive tool that identified seven key factors independently associated

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with overall care rating. By concentrating on these areas, hospitals can not only improve the patient care experience but also efficiently allocate resources to quality improvement initiatives.

KEYWORDS

cancer care, care pathway, drivers, overall rating, overall satisfaction, patient-centered care, patient experience, patient satisfaction, patient survey, quality of care

INTRODUCTION

Patient experience with care has largely become recognized as a key aspect of the quality of health care, equally important as clinical effectiveness and safety. Research has shown that positive experiences with care are "positively associated with a range of health, resource use and safety outcomes."[1,2] Measuring patient experience and satisfaction is thus essential for integrating patients' perspectives into the assessment of care processes.[3,4] Information about which experiences with care are negatively evaluated by patients can help to guide decision-making and prioritize actions aimed at enhancing the quality of care.[5,6] This is particularly important given that patient experiences may relate to health behaviors, such as treatment adherence, as well as to health outcomes.[7–11]

Diagnosis and treatment of cancer can entail "a long and complicated process, involving multiple stages of investigation and treatment, and multiple encounters with a variety of health care professionals and services."[12] Given the complexity of care needs and patient diversity, it is essential to evaluate patients' experiences with care specifically and thoroughly.[3] Patient experience surveys in cancer care often include numerous questions addressing different aspects of the care pathway, from the prediagnosis stage to treatment, hospital discharge, and follow-up.[13] A significant challenge for clinicians and policymakers lies in determining which areas of the care experience should be prioritized for improvement. Because these surveys usually contain questions about the overall satisfaction with care, one approach is to identify the specific aspects of the care experience most strongly associated with the overall care rating.[13–17] Quality improvement initiatives can target these "drivers" of overall satisfaction, and thereby address the most significant elements of the care experience for patients.

Previous research has identified key health care factors driving the overall rating of care among patients with cancer, such as the coordination of care,[18] information,[17,19–21] waiting time,[17,22,23] and interpersonal relationships between health care personnel and patients.[17,24–26] These studies have highlighted that patients who report negative experiences related to waiting time, information, coordination, continuity, and health care staff communication skills are less likely to rate their overall care positively. Other studies have highlighted the association of overall care rating with patient characteristics, including age, sex, cancer diagnosis, education level, self-perceived health status, and the presence of metastasis.[27–29] For instance, older age, being female, reporting poorer health, and having comorbidities were often found to be associated with a worse overall care experience.

Nevertheless, few studies have adopted a "drivers' approach" that simultaneously considers the influence of different aspects of patient care and patient characteristics on the overall rating of care to identify the key factors (i.e., drivers) that most significantly affect the outcome of interest (i.e., the overall rating of care).[13] For example, this approach could involve analyzing how patient experience items, such as effective communication, timely appointments, and symptom management, are associated with overall satisfaction with care, while also accounting for patient characteristics such as age, sex, and health status. This method allows for examining the independent effects of different drivers on the overall care rating while controlling for the confounding effects of these drivers and patient characteristics. Moreover, past studies have mostly focused on patients' experiences at specific care trajectory stages, such as during follow-up and hospital stays, or among patients with certain types of cancer. Hence, further research is needed to better understand the specific aspects of cancer care that matter most to patients and affect their overall rating of care. Additionally, identifying these key drivers is important for improving cancer care quality, refining patient experience measurement and reporting methods, guiding the selection of relevant patient experience indicators for quality assessments, and finally ensuring a more patient-centered approach in care delivery.

The aim of the present study was to identify retrospectively which specific items of the cancer care experience are the key drivers associated with patients' overall rating of cancer care across different care stages and dimensions of patient-centered care.

MATERIALS AND METHODS

Study design, population, and data

This study analyzed data from the second wave of the Swiss Cancer Patient Experiences (SCAPE-2) study. Conducted as a cross-sectional, multicenter survey, the SCAPE study gathered data from patients with cancer in Swiss hospitals. The first survey wave (SCAPE-1) was implemented from October 2018 to March 2019 in four hospitals in the French-speaking region. The SCAPE-2 study took place from September 2021 to February 2022, which expanded the study to include eight hospitals—four in the French-speaking region and four in the German-speaking region. Eligible participants were adults aged 18 years and older, residing in Switzerland, diagnosed with any type of cancer, and who had experienced at least one cancer-related hospital stay or outpatient visit between January and June 2021 at any of the participating hospitals. The patient selection

process was overseen by hospital teams and collaborators from the respective tumor centers via either manual examination of patient lists or electronic databases.

The SCAPE-2 questionnaire was used to collect the data. This questionnaire was based on the English Cancer Patient Experience Survey questionnaire.[30] It was culturally adapted and translated into French and German following international guidelines[31,32] via a rigorous process of professional forward and backward translation supervised by bilingual experts and a patient representative, and was followed by face-to-face interviews with people with cancer using the think-aloud protocol.[33] This self-reported questionnaire comprised 130 questions covering patient experiences as well as health-related and sociodemographic information. Participants could either fill out the paper version and send it back or complete it online. From the 6873 patients approached for the survey, 3220 participated, which resulted in a response rate of 47%.

Dependent variable

The overall rating of cancer care by patients was assessed via the question "How would you rate your overall cancer care?," with a scale ranging from 0 (worst) to 10 (best). We created a dichotomous variable to capture negative experiences, with ratings below 8 labeled as "low" (1) and ratings of 8–10 categorized as "high" (0), given the step shape distribution of responses shown in Figure 1 and following a "top-box" methodology used in similar studies on patient experience.[13,17,28,34,35]

Independent variables

From the 71 questions asking patients to rate their care experience, we selected the 29 questions that addressed care experiences (drivers) relevant to all patients. The other questions were not considered in this study because they were not applicable to all patients due to skip patterns (e.g., questions specific to chemotherapy or radiotherapy were only relevant for those who had undergone these treatments in the last 12 months). The 29 selected questions spanned the entire cancer care journey, from prediagnosis to home-based care, and evaluated the eight dimensions of patient-centered care.[36–38] Most of these questions used a five-point scale ("yes, absolutely," "yes, to some extent," "no," "not applicable," and "don't know/can't remember") for assessing patient experience. We computed a binary variable for each question to capture patients' problematic (nonpositive) experiences with care ("no" and "yes, to some extent") versus nonproblematic experiences ("yes, absolutely," "not applicable," and "don't know/can't remember").

We considered the following independent variables as control variables based on previous studies[28]: sex (female, male, or other), age (continuous variable), self-rated health (five-point scale), financial hardship (four-point scale), and health literacy (five-point scale). The self-rated health variable was derived from the question "In general, would you say your health is...," with possible answers being "poor," "fair," "good," "very good," or "excellent," which were coded on a scale from 0 (bad) to 100 (excellent). The financial hardship variable was created by combining three items into a score ranging from 0 (no financial hardship) to 3 (high financial hardship): "In the past 12 months, have you had difficulty paying your bills (taxes, insurance, telephone, electricity, credit card, etc.)?"; "In the past 12 months, have you skipped any medical care because of the cost?"; and "Have you or your family had to make financial sacrifices because of treatment or the long-term effects of cancer?" The health literacy variable was based on the question[39] "When you receive written information concerning a medical treatment or your health, do you have problems to understand it?," with possible responses being "always," "often," "sometimes," "occasionally," and "never," coded on a scale from 0 (always; low health literacy) to 4 (never; high health literacy).

Statistical analyses

After patients with missing data in the dependent variable ($n = 64$) and independent variables ($n = 406$) were excluded, the final sample
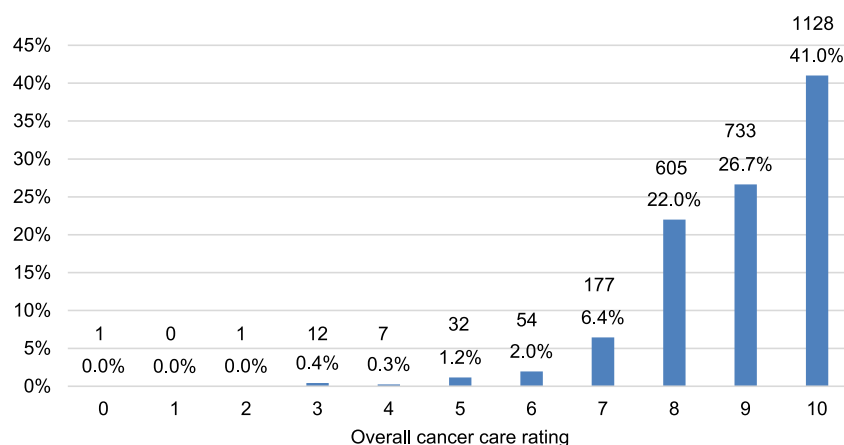

FIGURE 1 Overall rating of cancer care ($N = 2750$).

comprised 2750 individuals. The number of patients with missing data for the independent variables was higher than for the dependent variable due to the greater number of independent variables (five in total), some of which were of a sensitive nature (e.g., financial status). We first performed univariate analyses to characterize the study's dependent variable (overall rating of cancer care) and independent variables (sociodemographic, health, and patient experience items). Then, we analyzed the association between the overall rating of cancer care and the 29 patient experience items via logistic regression and forward stepwise selection. We specified a significance threshold of $p < .01$ for item inclusion in the model and $p \geq .2$ for exclusion. Patient experience items were grouped on the basis of the eight predefined dimensions of patient-centered care. First, we analyzed experience items within these separate groups to identify those significantly associated with the overall care rating (models 1–8). Second, the experience items retained in each dimension were incorporated into a final model (model 9). To adjust for confounding factors, we kept sex, age, self-rated health, financial hardship, health literacy, and hospital as control variables in all models. We reported the odds ratios (ORs) and p values for the items retained via stepwise selection and provided the Bayesian information criterion (BIC) to evaluate models' goodness of fit. A BIC decrease of at least 10 in a nested model with added parameters is considered very strong evidence in favor of the model with a lower BIC.[40]

In sensitivity analyses, we reassessed the experience items excluded by the stepwise procedure in models 1–8 (by-dimension models) by reintroducing them into the final model in separate models. An additional sensitivity analysis was performed, which added the type of cancer as a control variable in all models to ensure that it did not confound the association between patient experience items and the overall care rating. We examined multicollinearity among independent variables via variance inflation factors and found no indication of collinearity. We conducted all statistical analyses with Stata BE 17.0 and used the "stepwise" command to perform forward stepwise selection.[41]

Patient involvement

The SCAPE-2 survey involved two patients as research partners. Their roles encompassed assisting in the creation and preliminary testing of the questionnaire, organizing the materials handed to patients with the survey, addressing questions from patients during the data collection phase, examining free-text responses from the questionnaires, preparing lay summaries of findings for the participating patients, and promoting results both on social platforms and within the academic community.

Ethics approval and consent to participate

Study methods and analyses were implemented in accordance with the relevant guidelines and regulations. The ethics committee on research involving humans of the Canton of Vaud, which grants authorization for conducting research within the scope of the Swiss Law on Human Research, reviewed and approved the present study (2021-00986). All study participants provided written informed consent. Personally identifiable information was destroyed, and hence it is not possible to identify participants.

RESULTS

Table 1 presents sociodemographic and health characteristics of the study sample. Patients rated their overall cancer care at an average of 8.9 (SD, 1.2) on a scale from 0 to 10. Notably, 10.3% of patients reported a low rating (i.e., a score between 0 and 7; Figure 1).

TABLE 1 Patients' sociodemographic and health characteristics ($N = 2750$).

Sex, No. (%)	
Female	1394 (50.7)
Male	1356 (49.3)
Age (minimum, 18 years; maximum, 96 years), years	
Mean (SD)	63.9 (13.4)
Self-rated health (minimum, 0; maximum, 100)	
Mean (SD)	54.4 (20.4)
Health literacy (minimum, 0; maximum, 4)	
Mean (SD)	3.2 (0.1)
Economic status (minimum, 0; maximum, 3)	
Mean (SD)	0.5 (0.8)
Type of cancer, No. (%)	
Breast	631 (23.1)
Lung	290 (10.6)
Lymphoma	283 (10.4)
Colorectal	231 (8.5)
Prostate	214 (7.9)
Other	1078 (39.5)
Treatment stage, No. (%)	
Under treatment	923 (36.1)
<1 year after treatment end	622 (24.4)
1–5 years after treatment end	646 (25.3)
>5 years after treatment end	363 (14.2)
Time since diagnosis, No. (%), years	
<1	883 (32.7)
1–5	1238 (45.9)
>5	556 (20.6)
Don't know/can't remember	22 (0.8)

Regarding the 29 patient experience items detailed in Table 2, patients reported lower problematic care experiences in six items: received information on cancer impact on daily activities (10.4%), received information on support groups (8.5%), received enough care from health or social services after treatment (10.2%), general practitioner received sufficient information on health and treatment (6.2%), offered to see health professional for concerns after cancer announcement (9%), and received information on support options to manage emotions (9.1%). The highest levels of problematic experiences were observed in four items: informed on long-term side effects (40.2%), received a care plan (46.7%), informed that family/friend could attend diagnosis announcement (33.4%), and offered advice/support to deal with long-term effects (30.8%), whereas the remaining 12 items showed problematic experiences ranging from 11% to 20%. All items were associated with the overall rating of cancer care in separate models adjusted for control variables.

Table 3 presents the results from stepwise models on the association between the overall rating of cancer care and 29 patient experience items (see Table S1 for the full table showing control variables). Models 1–8 analyzed subsets of items according to the eight dimensions of patient-centered care. Namely, each model incorporated all the items relevant to a specific dimension into the stepwise procedure. The access to care dimension was the only one that contained a single item, whereas other dimensions had between two and nine items. Across models 1–8, 22 of 29 items were retained by the stepwise procedure and were independently associated with the overall care rating. The numbers of retained items are noted at the bottom of Table 3.

The final model (model 9) retained seven patient experience items that were significantly associated with the overall care rating (see Table 3). The strongest drivers of the overall care rating included "professionals worked well together for optimal treatment" (OR, 4.81; 95% CI, 3.49–6.62) and "tests and examinations were not repeated unnecessarily" (OR, 2.09; 95% CI, 1.46–3.00), both from the coordination and integration dimension, and "offered advice/support to deal with symptoms during treatment" (OR, 2.11; 95% CI, 1.53–2.92) from the physical comfort dimension. Additional drivers were related to the dimensions of information and education (treatment options were explained), continuity and transition (hospital staff ensured that support/equipment was available at home), respect for patients' preferences (involved in treatment decisions as desired), and emotional support (offered to see health professional for concerns after cancer announcement). None of the items from the access to care and involvement of family and friends dimensions were retained in the final model.

The final model's BIC (1445.1) was considerably lower than the BICs of the by-dimension models, which indicated strong evidence in favor of the final model in terms of goodness of fit. Among the by-dimension models (models 1–8), coordination and integration (BIC, 1521.5), information and education (BIC, 1616.4), and physical comfort (BIC, 1632.2) had the lowest BICs.

In sensitivity analyses, none of the seven patient experience items removed via models 1–8 and reintroduced in the final model were significantly associated with the study outcome. Additionally, when cancer type was added to the models the results remained robust, without changes in the items retained by the stepwise procedure or substantial changes in the predictors' OR and statistical significance (results are available on request to the corresponding author). Hence, cancer type was not included in the models in order to avoid overfitting.

DISCUSSION

By considering 29 patient experience items encompassing eight dimensions of patient-centered care and accounting for sociodemographic and health status variables, this article identified seven drivers significantly associated with the overall rating of cancer care among patients from eight hospitals in Switzerland. The drivers with the strongest effect were "professionals worked well together for optimal treatment" and "tests and examinations were not repeated unnecessarily" from the coordination and integration dimension and "offered advice/support to deal with symptoms during treatment" from the physical comfort dimension. Other drivers included "hospital staff ensured that support/equipment was available at home," "offered to see health professional for concerns after cancer announcement," "treatment options were explained," and "involved in treatment decisions as desired." None of the items from the access to care and involvement of family and friends dimensions appeared to drive the overall care rating of cancer care.

The rate of problematic experiences for the seven drivers of the overall care rating ranged from 9% to 25% and did not include items with the highest rates of problematic experiences, which were received a care plan (47%), informed on long-term side effects (40%), informed that family/friend could attend diagnosis announcement (33%), and offered advice/support to deal with long-term effects (31%). Although these are essential aspects of patient-centered care, we hypothesize that patients give more importance to immediate and critical factors, such as effective coordination and symptom management during treatment, when evaluating overall care. For example, communication about long-term aspects of care may be perceived as less proximate, with patients expecting these issues to be addressed over time or via different channels (e.g., follow-up care and support services). Consequently, their impact on the overall rating of care is less pronounced compared to factors that patients may perceive as more immediate and tangible.

Comparable to our results, Gomez-Cano and colleagues[13] identified coordination and administration of care items as key drivers of patient evaluations in cancer care. Specifically, their study pinpointed "people treating and caring work well together" as a key predictor, which aligns with our findings. Similarly, a scoping review by Foglino and colleagues[42] underscored the significance of care coordination for experiences of patients with cancer. Furthermore, a study from the Netherlands[43] highlighted that a crucial issue for patients with cancer was "your physician consults other physicians or refers you if additional expertise is required." Given the complexity of cancer care,

TABLE 2 Patient experience items, rates of problematic care experiences, and associations (odds ratios) with lower overall rating of cancer care (N = 2750).

Dimension	Patient experience item	Description	No. (%)	OR (95% CI)
1 Access to care	1_before_wait	Waiting time before seeing a specialist	356 (13.0)	1.90 (1.38–2.61)
2 Information and education	2_dx_explanation	Understood diagnostic explanations	705 (25.6)	1.55 (1.18–2.04)
	2_dx_information	Received written diagnostic information	776 (28.2)	2.87 (2.20–3.76)
	2_ttt_opt	Treatment options were explained	397 (14.4)	4.22 (3.18–5.59)
	2_ttt_sidefx_expl	Treatment side effects were explained in an understandable way	666 (24.2)	3.49 (2.68–4.54)
	2_ttt_sidefx_future	Informed on long-term side effects	1104 (40.2)	3.01 (2.29–3.95)
	2_info_impact	Received information on cancer's impact on daily activities	285 (10.4)	4.28 (3.15–5.82)
	2_info_support_gp	Received information on support groups	233 (8.5)	2.74 (1.96–3.85)
	2_info_support_fin	Received information on how to get financial help	492 (17.9)	2.49 (1.87–3.32)
	2_careplan	Received a care plan	1278 (46.7)	2.05 (1.57–2.67)
3 Coordination and integration	3_collaboration	Professionals worked well together for optimal treatment	380 (13.8)	9.91 (7.44–13.19)
	3_test_avail	Test results or medical records were available	394 (14.3)	2.66 (1.99–3.56)
	3_info_consist	Received clear and consistent information	354 (12.9)	3.50 (2.60–4.70)
	3_test_repeat	Tests and examinations were not repeated unnecessarily	310 (11.3)	3.11 (2.27–4.24)
4 Continuity and transition	4_home_support	Hospital staff ensured that support/equipment was available at home	422 (15.4)	3.77 (2.85–4.99)
	4_home_service_during	Received enough care from health or social services during treatment	344 (12.5)	3.59 (2.68–4.82)
	4_home_serv_after	Received enough care from health or social services after treatment	281 (10.2)	2.57 (1.87–3.55)
	4_gp_info	GP received sufficient information on health and treatment	171 (6.2)	1.99 (1.32–3.00)
5 Involvement of family and friends	5_dx_accompanied	Informed that family/friend could attend diagnosis announcement	919 (33.4)	1.61 (1.25–2.09)
	5_ttt_dec_fam	Family was involved in treatment decisions as desired	596 (21.7)	2.32 (1.77–3.04)
	5_home_info_fam	Family received necessary information for home care	465 (16.9)	3.56 (2.70–4.70)
6 Respect for patients' preferences	6_ttt_involve	Involved in treatment decisions as desired	698 (25.4)	4.05 (3.10–5.29)
	6_ttt_consider	Situation and habits considered in treatment decisions	565 (20.6)	2.98 (2.27–3.91)
7 Physical comfort	7_ttt_support_symp	Offered advice/support to deal with symptoms during treatment	652 (23.7)	4.97 (3.78–6.54)
	7_support_ltsidefx	Offered advice/support to deal with long-term effects	848 (30.8)	3.97 (3.02–5.23)
8 Emotional support	8_dx_tactful	Cancer diagnosis announced in a sensitive manner	528 (19.2)	2.21 (1.67–2.91)
	8_support_worries	Offered to see health professional for concerns after cancer announcement	246 (9.0)	4.02 (2.91–5.54)
	8_gp_support	Supported by GP/team during treatment	468 (17.0)	2.44 (1.85–3.23)
	8_info_support_emo	Received information on support options to manage emotions	251 (9.1)	3.51 (2.55–4.83)

Note: ORs were calculated from separate logistic regression models including each problematic experience as an independent variable and sex, age, self-rated health, financial hardship, health literacy, and hospital as fixed-effect control variables.

Abbreviations: GP, general practitioner; OR, odds ratio.

which often involves various appointments, treatment modalities, services, organizations, and specialists, patients with cancer may face a fragmentation of care and inconsistent information as they interact with different services and providers.[12,42,44] We may thus infer that patients with cancer are particularly sensitive to aspects of care coordination. Hence, enhancing patients' overall experience requires

TABLE 3 Associations between problematic care experiences and a lower overall rating of cancer care: By-dimension and final models resulting from stepwise regression (N = 2750).

	By-dimension models								
	1. Access to care	2. Information and education	3. Coordination and integration	4. Continuity and transition	5. Involvement of family and friends	6. Respect for patients' preferences	7. Physical comfort	8. Emotional support	9. Final model
Access to care, OR (95% CI)									
Waiting time before seeing a specialist	1.90 (1.38–2.61)								NS[a]
Information and education, OR (95% CI)									
Understood diagnostic explanations		NS							
Received written diagnostic information		1.75 (1.31–2.35)							NS
Treatment options were explained		2.41 (1.76–3.31)							1.75 (1.25–2.46)
Treatment side effects were explained in an understandable way		1.90 (1.40–2.57)							NS
Informed on long-term side effects		NS							
Received information on cancer's impact on daily activities		2.01 (1.42–2.84)							NS
Received information on support groups		NS							
Received information on how to get financial help		1.92 (1.41–2.61)							NS
Received a care plan		NS							
Coordination and integration, OR (95% CI)									
Professionals worked well together for optimal treatment			7.63 (5.64–10.33)						4.81 (3.49–6.62)
Test results or medical records were available			1.57 (1.13–2.19)						NS
Received clear and consistent information			1.63 (1.15–2.30)						NS
Tests and examinations were not repeated unnecessarily			1.91 (1.34–2.72)						2.09 (1.46–3.00)

TABLE 3 (Continued)

| | By-dimension models | | | | | | | | |
	1. Access to care	2. Information and education	3. Coordination and integration	4. Continuity and transition	5. Involvement of family and friends	6. Respect for patients' preferences	7. Physical comfort	8. Emotional support	9. Final model
Continuity and transition, OR (95% CI)									
Hospital staff ensured that support/equipment was available at home				2.80 (2.07–3.80)					1.99 (1.43–2.76)
Received enough care from health or social services during treatment				2.45 (1.78–3.37)					NS
Received enough care from health or social services after treatment				NS					
GP received sufficient information on health and treatment				NS					
Involvement of family and friends, OR (95% CI)									
Informed that family/friend could attend diagnosis announcement					NS				
Family was involved in treatment decisions as desired					1.90 (1.43–2.51)				
Family received necessary information for home care					3.16 (2.38–4.19)				
Respect for patients' preferences, OR (95% CI)									
Involved in treatment decisions as desired						3.33 (2.52–4.40)			1.68 (1.22–2.31)
Situation and habits considered in treatment decisions						2.09 (1.57–2.79)			NS
Physical comfort, OR (95% CI)									
Offered advice/support to deal with symptoms during treatment							3.27 (2.35–4.55)		2.11 (1.53–2.92)
Offered advice/support to deal with long-term effects							2.09 (1.49–2.92)		NS

(Continues)

TABLE 3 (Continued)

| | By-dimension models | | | | | | | | |
	1. Access to care	2. Information and education	3. Coordination and integration	4. Continuity and transition	5. Involvement of family and friends	6. Respect for patients' preferences	7. Physical comfort	8. Emotional support	9. Final model
Emotional support, OR (95% CI)									
Cancer diagnosis announced in a sensitive manner								1.57 (1.16–2.12)	NS
Offered to see health professional for concerns after cancer announcement								2.57 (1.80–3.67)	1.91 (1.31–2.79)
Supported by GP/team during treatment								1.99 (1.49–2.67)	NS
Received information on support options to manage emotions								2.28 (1.61–3.22)	NS
BIC	1761.7	1616.4	1521.5	1675.1	1687.9	1653.4	1632.2	1677.3	1445.1
Patient experience items included in the model, No.	1	9	4	4	3	2	2	4	22
Selected items, No.	1	5	4	2	2	2	2	4	7

Note: Patient experience items selected via a stepwise forward procedure (inclusion at $p < .01$ and exclusion at $p \geq .2$) are presented. Models 1–8 show the items selected in each patient-centered dimension. Model 9 incorporated these selected items and reports those retained via stepwise selection (item names are indicated in bold). All models were controlled for sex, age, self-rated health, financial hardship, health literacy, and hospital as fixed-effect variables, which were forced in the models.

Abbreviations: BIC, Bayesian information criterion; GP, general practitioner; NS, not significant; OR, odds ratio.

[a]NS indicates the candidate item was not significant; blank cells indicate that the item was not a candidate for the dimension.

attention to the care patients are receiving from all professionals involved in a holistic approach, which considers the "entire care system" and not only individual segmented services, to ensure collaboration of the care team and smooth transitions. Nonetheless, we should note that 86%–89% of patients did not report a problematic experience with the two abovementioned care coordination items.

The importance of patient involvement in treatment decision-making for the overall care rating, as revealed in our results, is concordant with prior research on the drivers of the overall rating of cancer care.[13,17] This underscores the critical role of patient involvement and physician–patient communication in cancer care, as emphasized in the literature.[24–26,45,46] Engaging and informing patients and shared decision-making are central for high-quality cancer care delivery.[47] Although some patients may prefer physicians to lead the decision-making,[48] evidence shows that most patients want information about their treatments and prefer to take part in decisions, and that the preference for shared decision-making has increased over time.[49,50]

Our study highlighted the importance of drivers related to supportive care, namely "hospital staff ensured that support/equipment was available at home," "information/support to deal with symptoms during treatment," and "offered to see health professional for concerns after cancer announcement." Although two studies also found that being able to discuss worries was significantly associated with a better overall rating of cancer care,[13,17] we did not find similar studies examining the two other items. Indeed, these items have received limited attention in the literature on the drivers of overall evaluation of cancer care, despite past research emphasizing the significance of supportive care in oncology.[51,52]

Not receiving a care plan (i.e., the item with the highest problematic experience rate) was not a key driver of overall care rating. Patients often lack clarity about what a care plan entails, which could explain the absence of a noticeable effect in our study because they might not fully comprehend the question[53] or the importance and usefulness of such care plans. In addition, care planning might be conducted without formal documentation. A literature review indicates that misunderstanding or lack of awareness related to such aspects affecting quality of care is a common issue among patients with cancer.[54] Furthermore, our results did not identify waiting time as a driver influencing overall care rating. This may be specific to Switzerland, where waiting times are low compared to other high-income countries.[55] Although some studies (e.g., Gomez-Cano and colleagues[13] and Heerdegen and colleagues[17]) have underscored the importance of waiting time as a key driver in patient care experiences, others, such as Sandoval and colleagues[16] and Kavadas and colleagues,[56] did not find waiting time–related items to be relevant among patients with cancer. It is possible that other factors moderate the negative effects of waiting time, such as positive communication experiences[23] or effective patient navigation.[3]

Consistent with our findings, research examining the drivers of overall care satisfaction among diverse patient groups, not limited to patients with cancer, in both primary and specialty care has highlighted the importance of information provision and physician communication for overall care satisfaction, as well as the crucial role of respect for patients' preferences and involvement in decision-making.[14,15,21,57–59] One of these studies,[57] which focused on outpatient visits to pediatric orthopedic clinics, found staff cohesiveness ("staff working together") to be a key driver, akin to our results.

Strengths of the present study include a large sample spanning eight hospitals across Switzerland, which allowed for examining the role of multiple patient experience items in the overall rating of cancer care. The questionnaire used to collect the data, adapted from the English Cancer Patient Experience Survey, translated and validated with inputs from patients with cancer and their advocates,[30] encompasses questions on the entire patient journey from diagnosis to treatment and follow-up. Additionally, the stepwise regression procedure used systematically selects variables on the basis of their predictive power, and thereby enhanced the robustness of our findings. Nevertheless, there are limitations to consider with this study. First, respondents' assessments and perceptions of care quality may have been influenced by the outcomes of their diagnosis, regardless of the actual care received.[20] Second, because the overall care rating and specific care experiences were collected simultaneously, it is possible that patients' overall rating influenced how they answered in regard to single items of care experiences, rather than the opposite, as assumed in this study. This raises a potential issue with the direction of causality. Third, our findings are based on the experiences of patients who responded to the survey. Despite a relatively high response rate, the possibility of nonresponse bias cannot be overlooked. The extent of this bias could not be estimated because information on nonresponders was not accessible to the SCAPE-2 research team because of data protection regulations. Fourth, surveys of patients with cancer concentrate on survivors, and thereby omit the experiences of individuals with shorter survival spans.[60,61] Reaching patients who are inclined not to participate in such surveys can be accomplished via other approaches, such as qualitative methods. Finally, our findings may have limited generalizability to other sociocultural settings because the study was conducted exclusively with patients from Swiss hospitals.

In conclusion, this study identified seven key drivers significantly associated with the overall rating of cancer care. These drivers span six of the eight dimensions of patient-centered care, with the strongest drivers belonging to the coordination and integration (professionals working well together and tests not being repeated) and physical comfort (information/support to deal with symptoms) dimensions. These findings suggest that hospitals may prioritize implementing integrated care pathways and fostering interprofessional collaboration, with an emphasis on care coordination across various health care services and professionals involved in the cancer care continuum. Furthermore, results indicate that, to improve patient experience, health care providers and leaders, as well as policymakers, should focus on patient involvement in treatment decisions to ensure adequate support at home, provide detailed information on treatment options, and address both physical and emotional needs such as information and support to deal with

symptoms and the possibility to discuss worries. Although this study points out efficient targets for initiatives aimed at enhancing patient care experience, a holistic approach is essential because multiple aspects of patients' experience with care may interconnect. This necessity is further underscored by our finding that drivers of overall care rating span different dimensions of patient-centered care.

AUTHOR CONTRIBUTIONS

Vladimir Jolidon: Conceptualization, data curation, formal analysis, methodology, writing–original draft, visualization, and writing–review and editing. **Manuela Eicher**: Funding acquisition, methodology, project administration, supervision, and writing–review and editing. **Isabelle Peytremann-Bridevaux**: Funding acquisition, methodology, project administration, supervision, and writing–review and editing. **Stefan Aebi**: Writing–review and editing. **Sandro Anchisi**: Writing–review and editing. **Adrienne Bettini**: Writing–review and editing. **Yves Chalandon**: Writing–review and editing. **Pierre-Yves Dietrich**: Writing–review and editing. **Michel A. Duchosal**: Writing–review and editing. **Donat Dürr**: Writing–review and editing. **Solange Peters**: Writing–review and editing. **Roger von Moos**: Writing–review and editing. **Andreas Wicki**: Writing–review and editing. **Chantal Arditi**: Conceptualization, data curation, funding acquisition, methodology, project administration, supervision, and writing–review and editing.

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CONFLICT OF INTEREST STATEMENT

Yves Chalandon reports consulting for Pfizer, Gilead Sciences, Bristol-Myers Squibb, Jazz Pharmaceuticals, Pierre Fabre Pharmaceuticals, Amgen, Merck Sharp & Dohme, Servier Affaires Medicales, AbbVie, Incyte, F. Hoffmann-La Roche, Novartis, and AstraZeneca and travel support from Merck Sharp & Dohme, Incyte, AstraZeneca, Gilead Sciences, Pierre Fabre Pharmaceuticals, Jazz Pharmaceuticals, AbbVie, Janssen Pharmaceuticals, Amgen, and Sanofi. Solange Peters reports consulting for AbbVie, Takeda Oncology, Pfizer, Novocure, Novartis, Vaccibody, Merck, Eli Lilly, Phosplatin Therapeutics, GlaxoSmithKline, Bristol-Myers Squibb, BioInvent, Debiopharm, AstraZeneca, Foundation Medicine, Regeneron, Sanofi, Gilead Sciences, Blueprint Medicines, Daiichi Sankyo, PharmaMar, Janssen Biotech, Arcus, Bayer, Eli Lilly, Seattle Genetics, Genmab-BioNTech, F-Star, Amgen, Incyte, EMD Serono, BeiGene, Illumina, Genzyme, F. Hoffmann-La Roche, and Boehringer Ingelheim and travel support from Seattle Genetics. Roger von Moos reports consulting for Eli Lilly, Merck Sharp & Dohme, Bristol-Myers Squibb, GlaxoSmithKline, Pierre Fabre Pharmaceuticals, PharmaMar, Novartis, Seagen, Gilead Sciences, InnoMedica, and Vifor Pharma and travel support from Takeda Oncology. Andreas Wicki reports travel support from Amgen. The other authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author on reasonable request.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.