Original Contribution

Effect of Medical Oncologists' Attitudes on Accrual to Clinical Trials in a Community Setting

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Abstract

Purpose: Oncology clinical trials (OCTs) are crucial in evaluating new cancer treatments, but only 2% to 3% of US adult patients with cancer enter OCTs. This study assessed barriers to participation in clinical trials among oncologists in a large integrated health care delivery system with an active clinical trials program. Although many studies have identified major physician barriers to enrollment, few have examined how these barriers affect actual trial accrual.

Methods: Using information from a mailed survey, we examined the effect of oncologists' attitudes, beliefs, experiences, sociodemographic factors, and practice characteristics on clinical trial accrual in the 2 years following the survey. We identified relationships between these variables and subsequent clinical trial accrual using correlations and mixed effects models.

Results: A construct combining questions that assessed oncologist attitudes, beliefs, and experiences substantially influenced OCT enrollment ($r = .51$; $P < .0001$). This construct included awareness of open clinical trials and specific eligible patients, as well as the practice of initiating a discussion about OCTs with most eligible patients. This broad concept of awareness had the greatest correlation with enrollment and mediated the effect on enrollment of other values and beliefs, such as welcoming a patient's initiation of a trial discussion and valuing the support of research nurses and coordinators.

Conclusion: Even in a health care setting with an active clinical trials program, substantial research personnel, infrastructure support, and widespread access to trials among oncologists and patients, oncologists' participation remains quite variable. Oncologist values, beliefs, and awareness of clinical trials play an important role in OCT accrual.

Introduction

The ultimate test of a new therapy is a randomized, phase III clinical trial. Participation in an oncology clinical trial (OCT) affords access to the latest promising investigational interventions and close monitoring of care, yet only a small proportion of eligible adult patients with cancer are offered the opportunity to participate, and fewer actually enroll. Low accrual delays the progress and increases the cost of improving and disseminating cancer treatments. It is estimated that as few as 2% to 3% of adult patients with cancer are enrolled onto OCTs in the United States[1-6] This statistic has not improved in the last 10 years despite considerable research and policy efforts devoted to increasing trial participation.[7-9] Accrual to clinical trials results from a complex interaction of patient, clinician, care delivery and research organization, and other trial-related factors.[7,10-20] Although all these elements are required for OCT accrual to occur, physicians are as critical to the clinical trials enrollment process as they are to all oncology treatment decision making. A number of studies have identified lack of oncologist presentation and endorsement of OCTs as one of the greatest barriers to enrollment.[8,14,19,21-27] Other physician factors that have been shown to reduce accrual include physician time constraints, lack of trained research personnel, and absence of incentives.[7,28]

We evaluated physician attitudes, experiences, and perceived barriers toward OCTs as part of a larger study that evaluated the effectiveness of a telephone counseling patient activation intervention to increase patient clinical trial participation. The goal of the larger study was to activate patients by educating them about OCTs and urging them to ask their oncologist about participating in a clinical trial as a possible treatment option. Although a number of studies have identified major physician barriers to enrolling patients onto OCTs,[7,14,16,28] few have examined the correlation of these factors, especially attitudes and beliefs about trials, with actual trial accrual.[29,30] The goal of this study was to assess the effect of medical oncologists' attitudes, beliefs, and experiences about OCTs; their perceived barriers to accrual; and their demographic and practice characteristics on their subsequent patient enrollment.

Methods

The study was conducted at Kaiser Permanente Northern California (KPNC), a nonprofit, integrated health care delivery system that provides care to approximately 1% of the US cancer population. KPNC has 3.4 million members, which represents 35% to 40% of the insured market in northern California. The distribution of income of the membership parallels the general population, truncated at the high and low extremes.[31] Approximately 25,000 new cases of cancer are diagnosed at KPNC each year. In 2011, 68.9% of newly diagnosed cancer patients were white, 12.4% were Asian/Pacific Islander, 9.4% Hispanic/Latino, 7.6% African American/Black, and 1.7% other or unknown race/ethnicity. KPNC has an active OCT program with access to research nurses and coordinators at all 17 medical

centers. In 2009 through 2011, 1,055 patients with cancer enrolled in 45 different OCTs, sponsored by the National Cancer Institute Cooperative Groups (84%), and the pharmaceutical industry (16%).

We developed a self-administered questionnaire based on one used in our previous work[32] and a review of the subsequent literature. In addition to sociodemographic and practice characteristics, the items assessed oncologists' attitudes and beliefs about OCTs, barriers to participation in them, and prior experience with them. To preserve our ability to include all KPNC oncologists in the final survey, we pretested the survey instrument with oncologists from Kaiser Permanente Southern California (KPSC).

The survey sample included all adult medical oncologists (N = 88) at KPNC in September 2008. Using administrative data, we determined the number of patients each oncologist enrolled onto an OCT in the 2 years after the survey, from 2008 to 2010. Because five of the oncologists did not work at KPNC for the entire 2 years of follow-up, we adjusted the follow-up enrollment for all oncologists for the amount of follow-up time they contributed, resulting in the primary outcome being number of patients enrolled per year. The questionnaire responses were confidential but not anonymous. The Institutional Review Boards at KPNC and KPSC approved this study.

Before collecting the data, we grouped the survey questions into theoretical constructs of interest: (1) perceived value of trials; (2) perceived importance of trials to the KPNC organization; (3) perceived importance of trials to the oncologist; (4) perceived patient barriers to OCT participation; (5) difficulty explaining trial concepts to patients; (6) time and effort required to enroll and follow patients in trials; (7) awareness of open trials and eligible patients, and initiation of trial discussion with eligible patients; (8) perceived availability of support staff; and (9) characteristics of trials. The actual survey response data were later used to fine-tune each of the constructs by calculating the overall internal consistency of each scale using Cronbach's alpha,[33] a measure of construct reliability. Within each construct, we calculated each question's item-total correlation and the resulting Cronbach's alpha for remaining items. Items that, when excluded from the construct, increased the overall Cronbach's alpha by at least .03 were deleted from the scale. And finally, we excluded any construct that had an overall Cronbach's alpha of less than .75.

We described the demographic variables separately for survey responders and nonresponders by using frequencies and proportions for categorical variables and means and standard deviations for continuous variables. These variables were compared between the two groups by using Fisher's exact tests for the categorical variables and two-sample *t* tests for the continuous variables.

The primary outcome measure was each oncologist's OCT accrual per year in the 24 months after the survey. To determine the strength of their relationships with accrual, we calculated Spearman correlations for each of the following independent variables: demographic variables, constructs, and the individual items not included in any of the constructs. If all 88 oncologists had responded to the survey, we would have had almost 80% power to detect a correlation of at least .30, but with 74 responders, we had 72% power to detect such a correlation.

We built mixed-effects multivariate models to determine which grouping of independent variables had the best fit while also being parsimonious. The dependent variable for each model was accrual per year in the 2 years after the survey, and the independent variables were any of the variables listed above whose correlation with accrual had a *P* value of .15 or less. Because each oncologist worked with a medical center–specific OCT research nurse, we included the OCT nurse in the model as a random effect to account for the correlation in accrual among oncologists working with the same study nurse. To build the multivariate model, we considered all possible models with just one independent variable included in the model at a time. The variable with the smallest *P* value was kept, and then we considered all models with our first variable and one of the other variables. Again, we chose the model in which the second variable was statistically significant while the first variable stayed significant. We continued in this fashion until there were not any variables that were significant when added.

All of the analyses were done using SAS version 9.13. Unless otherwise noted, all tests were two-sided with a type 1 error of 0.05.

Results

Of the 88 medical oncologists who were sent surveys, 74 responded, resulting in an 84.1% response rate. Although not statistically significant, compared with survey responders, the nonresponders were slightly older (mean of 50.7 years *v* 47.7 years) and more likely to be male (79% *v* 60%; Table 1). Similarly, nonresponders also had lower average yearly accrual in the 2 years after the survey than responders. The mean yearly accrual for responders in the 2 years after the survey was 3.7 (standard deviation [SD], 4.3; median, 2.5; range, 0-25) compared with a mean yearly accrual for nonresponders of 2.1 (SD, 2.0; median, 1.75; range, 0-6). Approximately one third of oncologists surveyed enrolled more than three quarters of OCT patients enrolled in the subsequent 2 years.

After fine-tuning the constructs, two of the proposed constructs (characteristics of trials and importance of trials to the oncologist) had a Cronbach's alpha less than .75 and were therefore excluded from subsequent analyses; however, we did include the questions that made up these constructs as individual items in the analyses. All other proposed constructs had a Cronbach's alpha of at least .75 with a range of .75 to .91. A detailed list of the questions making up the constructs and the individual questions used in the analyses is included in Appendix Table A1 (online only).

The following variables were statistically significantly ($P \leq .05$) correlated with annual accrual (Table 2):

(1) Awareness of open trials and eligible patients, and initiation of a trial discussion with eligible patients ($r = .51$; $P < .001$).
(2) Perceived helpfulness of support from research nurses and coordinators ($r = .35$; $P = .0033$).
(3) "I generally do not offer an OCT to patients who are likely to do well on standard therapy" ($r = -.30$; $P = .0092$).

Table 1. Demographic Characteristics and Clinical Trial History of Survey Responders and Nonresponders

	Responders (n = 74)		Nonresponders (n = 14)		
Characteristic	**No.**	**%**	**No.**	**%**	***P***
Age, years					.29
Mean		47.7		50.7	
SD		9.6		10.7	
Sex					.23
Male	44	59.5	11	78.6	.22
Female	30	40.5	3	21.4	
Race/ethnicity					
Asian	35	47.3	6	46.2	
Black	2	2.7	1	7.7	
Hispanic	1	1.4	1	7.7	
White	34	47.3	5	38.5	
Other	2	2.7	0	0	
Missing				[1]	
Average No. new oncology patients seen per week					
Mean		6.4		N/A	
SD		3.2		N/A	
Median		6		N/A	
Missing		2		N/A	
Enrolled patients onto OCTs during fellowship					
Yes	68	93.2%		N/A	
Missing	[1]			N/A	

Abbreviations: OCT, oncology clinical trial; NA, not available; SD, standard deviation.

(4) Perceived value of trials ($r = .27$; $P = .023$).
(5) "OCTs are an inappropriate use of resources in the KPNC setting" ($r = -.27$; $P = .023$).
(6) "I appreciate it when my patients initiate a discussion of OCTs" ($r = .24$; $P = .040$).

In addition to the variables above, the following were included as possible independent variables in the multivariate model because their *P* values were less than or equal to 0.15:

(1) Age ($r = -.22$; $P = .062$).
(2) Perception of helpfulness of briefings by chief in supporting OCT enrollment ($r = -.22$; $P = .076$).
(3) Perception of how often a patient's type of KP insurance coverage influences whether or not the patient enrolled in an OCT ($r = -.20$; $P = .091$).
(4) "I am unlikely to enroll patients in OCTs that do not contain standard treatment as the control arm" ($r = -.18$); $P = .094$).
(5) Sex (male: median accrual = 3.8; female: median accrual = 5.0; $P = .13$).
(6) "Enrolling my patients in OCTs keeps me current with state-of-the-art treatment modalities" ($r = .17$; $P = .14$).

The first variable included in the multivariate model was the one with the strongest statistical association with trial accrual, the construct "Awareness of open trials and eligible patients, and initiation of a trials discussion with eligible patients." Once this construct was in the model, none of the other possible independent variables was statistically significant when added to the model.

To further explore the interrelationship of the other independent variables in the study to both awareness and accrual, and to clarify the mechanisms through which oncologists' attitudes and beliefs about OCTs affect enrollment, we examined each variable's partial correlation with accrual, adjusting for awareness. Table 3 shows the relationship with the awareness construct of the other variables that were statistically significantly related to accrual. Of the six variables in Table 2 that were related to accrual, all but one ("OCTs are an inappropriate use of resources in the KP setting") were also related significantly to awareness. When adjusted for the awareness construct, the relation between these variables and accrual became insignificant, indicating that awareness mediated the relationships between these variables and accrual.

Discussion

Our study found that oncologists' attitudes and beliefs about OCTs shaped their subsequent trial accrual. Of all the variables assessed, the following significantly correlated with oncologists' clinical trial accrual: (1) awareness of open trials and eligible patients, and initiation of a trial discussion with eligible patients; (2) belief in the value of trials; (3) appreciation of patient initiation of an OCT discussion; (4) perception that the research nurses and coordinators are helpful in supporting OCT

Table 2. Associations of Constructs and Individual Items With Accrual

Variable	n	Spearman Correlation With Postsurvey Accrual	P*
Age	70	−.22	.062
No. of new oncology patients seen per week	72	−.12	.30
Constructs			
Perceived value of trials (Cronbach's alpha = .73)	72	.27	.023
Perceived importance of trials to KP (Cronbach's alpha = .80)	74	.08	.48
Awareness of open trials/eligible patients; and initiation of trial discussion with eligible patients (Cronbach's alpha = .80)	74	.51	< .0001
Difficulty explaining trials to patients (Cronbach's alpha = 0.76)	74	.15	.19
Time/effort required to enroll/follow patients in trials (Cronbach's alpha = .85)	74	.14	.22
Perceived patient barriers to trials (Cronbach's alpha = .77)	74	−.11	.35
Individual questions†			
I appreciate it when my patients initiate discussion of OCTs (strongly agree)	72	.24	.040
I generally don't offer OCTs to patients who are likely to do well on standard therapy (strongly agree)	73	−.30	.0092
OCTs are an inappropriate use of resources in the KP setting (strongly agree)	72	−.27	.023
Perceived helpfulness of support from research nurses and coordinators (very helpful)	70	.35	.0033

Variable	n	Postsurvey Accrual per Year	P‡
Sex			
Male	44		.13
Mean		3.2	
SD		3.8	
Median		2.5	
Female	30		
Mean		4.6	
SD		5.0	
Median		3.4	
Recruited patients to OCTs during fellowship?			
Yes	68		.80
Mean		3.8	
SD		4.4	
Median		2.5	
No	5		
Mean		3.4	
SD		2.7	
Median		2.0	

Abbreviations: OCT, oncology clinical trial; SD, standard deviation.
* *P* value for statistical significance of correlation coefficient.
† Only individual questions that were statistically significantly related to accrual are included.
‡ *P* value for statistical test comparing median accrual in the two levels of the variables.

enrollment; (5) belief that "OCTs are [not] an inappropriate use of resources in a Kaiser Permanente setting"; and (6) belief that they "offer OCTs to patients who are [also] likely to do well on standard therapy."

These findings provide data to create a clear profile of the high-accruing oncologist in a community setting. By far, the strongest relationship with accrual ($r = .51$; $P < .001$) was the broad concept of awareness, which captures multiple aspects of the oncologist's role in the OCT enrollment process. Successful trial enrollment requires high-accruing oncologists to have a ready awareness of the available open trials at their institution, combined with a knowledge of the specific patients who are eligible for these trials, and an ease in discussing OCTs as a treatment option with at least most of their potentially eligible patients.[7] Although this concept of trial awareness had the strongest effect on accrual, other attitudes and beliefs were important in fostering this awareness and translating it into enrollment. The high-accruing oncologist's awareness and accrual were significantly influenced by a belief in the overall value of trials and the value of devoting resources in a community setting to OCT enrollment, as well as an appreciation of both patients who independently raised the issue of trials during a treatment discussion and the assistance they received from research nurses and coordinators.

Table 3. Partial Correlation Coefficients of Variables Related to Both Awareness and Accrual, Adjusted for Awareness

Variable	With Awareness		With Accrual		Adjusted for Awareness	
	Correlation Coefficient	*P*	Correlation Coefficient	*P*	Partial Correlation Coefficient	*P*
Perceived value of trials	.55	< .001	.27	.023	.023	.35
OCTs are an inappropriate use of resources in KP setting	−.093	.44	−.27	.023	−.15	.55
I appreciate when patients initiate discussion of OCTs	.35	.0030	.24	.040	.019	.94
I generally don't offer trials to patients who do well on standard treatment	−.38	< .001	−.30	.0092	.085	.73
Perceived helpfulness of support from research nurses and coordinators	.35	.0033	.35	.0033	−.060	.81

Abbreviations: KP, Kaiser Permanente; OCT, oncology clinical trial.

It is a challenge to determine whether the low-accruing oncologist's lack of awareness of available trials stemmed from an actual lack of information about trials or from a lack of motivation to take advantage of existing resources to become aware of available trials. A lack of motivation to take on the extra effort to enroll and monitor patients on OCTs is difficult to measure outside of actual accrual. However, supporting the latter interpretation is the fact that, at every KPNC medical center, we found both high- and low-accruing oncologists working side by side, with access to the same kind of assistance from the same research nurse and other types of OCT infrastructure support. Types of infrastructure support available at each facility include access to a real-time document-sharing intranet site that lists all trial protocols, study abstracts, and consent forms by disease site and stage; oncology clinic bulletin boards with trial abstracts posted; and both paper and electronic trial algorithms and lists of open trials updated monthly.

Our research underscores the continuing critical need to provide easy access to trial information and maximal assistance in the recruitment/enrollment process. Soliciting frequent feedback from oncologists on desired areas of information and logistical assistance has the potential to raise enrollment. In addition, communicating the mission and goal of trial participation with clarity, consistency, and frequency could improve accrual for some oncologists.[34,35] Recognizing high-accruing physicians may be helpful, and making OCT participation a physician performance measure may be a next step.[7,22]

The small sample size and the fact that the study was conducted in one health care delivery system are limitations of this study. Still, with our limited power, all of the correlations that were clinically significant (ie, that were ≥ .25) were also statistically significant. The fact that the oncologists in our sample provide medical oncology treatment for approximately 25,000 new cancer cases per year diminishes these weaknesses. It is estimated that 85% of patients with cancer are treated in community settings,[7,36] with an increasing number being treated in integrated health care delivery systems.

The study's high response rate and use of administrative data to measure actual trial accrual are important and unique strengths. Future work is needed to replicate this study in other settings and to continue to evaluate ways to enhance oncologist engagement in the OCT process.

In summary, we found that in a community setting with an active clinical trials program, widespread access to trials for oncologists and patients, and good infrastructure support for enrollment, there is considerable variability in enrollment. Oncologist values, attitudes and beliefs about clinical trials strongly influence which oncologists take advantage of available resources to enroll large numbers of patients onto clinical trials.

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Appendix

Table A1. Frequencies for Questions in Each Construct and Individual Items

Constructs	Strongly Disagree (%)	Somewhat Disagree (%)	Somewhat Agree (%)	Strongly Agree (%)	No Opinion (%)
1. Awareness of open trials and eligible patients, initiation of a trial discussion					
To what extent do you agree or disagree with the following statement:					
Information about open clinical trials is not readily available to me.	59.7	30.6	6.9	2.8	0
	Not at All an Influence (%)*			**A Significant Influence (%)**	**No Opinion (%)**
In general, to what extent do the following factors influence your current ability to enroll patients in trials?					
Lack of adequate information about available trials	35.7	38.6	17.1	8.6	0
	Never (%)	**Rarely (%)**	**Sometimes (%)**	**Often (%)**	**No Opinion (%)**
Please indicate how often the following statements are true during an initial patient visit to discuss treatment options:					
I am aware of open and available clinical trials in general.	0	4.2	27.8	68.1	0
I am aware of whether or not this specific patient is eligible for one or more clinical trials.	0	11.3	46.5	42.3	0
If I know that a patient is eligible for one or more clinical trials, I initiate a discussion about clinical trials as a treatment option.	1.4	5.6	23.9	69.0	0
	Not at All Familiar (%)*			**Very Familiar (%)**	**No Opinion (%)**
To what extent are you familiar with the following clinical trials?					
CTSU-ECOG 1505: Phase III Randomized Trial of Adjuvant Chemotherapy With or Without Bevacizumab for Patients With Completely Resected Stage IB (>4 cm) to IIIA Non-Small Cell Lung Cancer	13.7	24.7	37.0	24.7	0
CTSU-ECOG 5103: Double-Blind Phase III Trial for Doxorubicin and Cyclophosphamide Followed by Paclitaxel with Bevacizumab or Placebo in Patients With Lymph Node Positive and High Risk Lymph Node Negative Breast Cancer	10.8	6.8	40.5	41.9	0
NSABP B-42 Trial to Determine the Efficacy of Five Years of Letrozole Compared to Placebo in Patients Completing Five Years of Hormonal Therapy Consisting of an Aromatase Inhibitor (AI) or Tamoxifen Followed by an AI in Prolonging Disease Free Survival in Postmenopausal Women With Hormone Receptor Positive Breast Cancer	4.1	6.8	31.1	58.1	0
ECOG E2805 Randomized Double Blind Phase III Trial of Adjuvant Sunitinib versus Sorafenib versus Placebo in Patients with Resected Renal Cell Carcinoma	9.5	14.9	39.2	36.5	0
	Strongly Disagree (%)	**Somewhat Disagree (%)**	**Somewhat Agree (%)**	**Strongly Agree (%)**	**No Opinion (%)**
2. Perceived value of trials					
To what extent do you agree or disagree that oncology clinical trials . . .					
Improve patient care in general	0	1.4	15.3	83.3	0
Are usually the right choice for most eligible patients	0	4.2	38.9	54.2	2.8
Provide high quality care for participants whether or not they receive an experimental intervention	0	2.8	9.7	86.1	1.4
Rarely benefit enrolled patients	52.1	36.6	8.4	2.9	0
Are your first choice for therapy, if available	0	12.7	50.7	35.2	1.4
3. Perceived importance of clinical trials to KP					
To what extent do you agree or disagree with the following statements?					
Enrolling patients in trials is important to my department.	1.4	5.5	15.1	74.0	4.1
Enrolling patients in trials is important to the KP leadership in my region.	2.7	5.4	17.6	73.0	1.4
4. Perceived availability of support staff					
To what extent do you agree or disagree with the following statement?					
I do not have adequate support staff to participate in clinical trials.	40.0	28.6	17.1	12.9	1.4

continued on next page

Table A1. (Continued)

	Not at All an Influence (%)*			A Significant Influence (%)	No Opinion (%)
In general, two what extent does the following factor influence your current ability to enroll patients in trials?					
Lack of adequate support staff to enroll my patients in clinical trials	34.3	34.3	11.4	18.6	1.4
	Strongly Disagree (%)	**Somewhat Disagree (%)**	**Somewhat Agree (%)**	**Strongly Agree (%)**	**No Opinion (%)**
5. Perceived difficulty explaining trial concepts to patients					
To what extent do you agree or disagree with the following statements?					
Consent forms are too long and complicated to explain to patients.	13.9	37.5	30.6	15.3	2.8
I find it hard to explain the concept of randomization to my patients.	44.4	40.3	13.9	1.4	0
I find it hard to explain the concept of equipoise to my patients.	26.1	29.0	27.5	1.4	15.9
6. Time and effort to enroll and monitor trial patients					
To what extent do you agree or disagree with the following statements?					
Typically I do not have time before a patient's visit to review their eligibility for a trial.	16.7	23.6	41.7	16.7	1.4
It is difficult for me to make room in my schedule for all the follow-up visits needed by patients on trials.	16.7	37.5	27.8	13.9	4.2
I do not have time during the visit to offer patients the option of participating in a trial.	19.4	43.1	30.6	5.6	1.4
	Not at All an Influence (%)*			**A Significant Influence (%)**	**No Opinion (%)**
In general, to what extent does the following factor influence your current ability to enroll patients in trials?					
Lack of time due to clinical or administrative responsibilities	16.9	21.1	29.6	32.4	0
In general, to what extent do the following factors influence your current ability to enroll patients in trials?					
Effort and time required to obtain informed consent from patients	22.5	38.0	23.9	14.1	1.4
Increased workload associated with caring for patients on clinical trials protocols	25.7	31.4	29.3	17.1	1.4
	Strongly Disagree (%)	**Somewhat Disagree (%)**	**Somewhat Agree (%)**	**Strongly Agree (%)**	**No Opinion (%)**
7. Characteristics of patients					
To what extent do you agree or disagree with the following statement?					
My patients from minority racial/ethnic backgrounds are more likely to refuse participation in a clinical trial than are my nonminority patients.	6.8	27.0	36.5	14.9	14.9
	Not at All an Influence (%)*			**A Significant Influence (%)**	**No Opinion (%)**
To what extent do you think each of the following influences your patients' willingness to enroll in a clinical trial?					
Concern about being treated like a guinea pig	5.4	20.3	29.7	40.5	4.0
Distrust of health professionals	20.3	41.9	31.1	6.8	1.4
Cultural beliefs about cancer	5.5	28.8	46.6	17.8	0
Difficulty reading the informed consent form	4.1	37.8	36.5	21.6	0
Difficulty understanding scientific concepts of clinical trials, such as randomization	5.4	27.0	37.8	28.4	1.4
Comorbid conditions that would make their trial participation difficult	2.7	17.6	40.5	39.2	0
Lack of interest in being involved in trials	2.7	16.2	56.8	21.6	2.7
Fear of medication side effects	2.7	10.8	51.4	35.1	0
Concern about receiving ineffective treatment	5.4	20.3	40.5	32.4	1.4
Concern about extra laboratory tests and/or procedures	16.2	46.0	29.7	6.8	1.4
Thoughts and opinions expressed by a patient's family, friends, or caregiver	6.8	20.3	39.2	28.4	5.4
Language issues	8.1	37.8	36.5	16.2	1.4

continued on next page

Table A1. (Continued)

	Strongly Disagree (%)	Somewhat Disagree (%)	Somewhat Agree (%)	Strongly Agree (%)	No Opinion (%)
Individual questionnaire items†					
To what extent do you agree or disagree with the following statements?					
Oncology clinical trials are an inappropriate use of resources in the KP setting.	56.9	8.3	4.2	29.2	1.4
I appreciate it when patients initiate a discussion of clinical trials.	0	5.6	19.4	69.4	5.6
I generally do not offer trials to patients who will do well on standard therapy.	26.0	37.0	24.7	11.1	1.4

	Not at All Helpful (%)*			Very Helpful (%)	No Opinion (%)
Perceived helpfulness of research nurses and coordinators	4.3	12.9	22.9	60.0	0

Abbreviation: KP, Kaiser Permanente.
* Based on a Likert-type scale; only scale anchors are shown.
† Includes only individual questions that were statistically significantly related to accrual.