
Physician Perspectives on Cancer Clinical Trials and Barriers to Minority Recruitment

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Introduction

Clinical trials provide the foundation on which advances in cancer therapies are built. Yet, relatively few in the eligible adult population participate, 3% to 5%,¹ and much of the research is based on data collected from samples lacking racial and economic diversity.² Though the research community recognizes the importance of having diverse clinical trial participants, barriers to recruitment exist at multiple levels.^{2,4}

Cultural, structural, and psychological barriers for patients and providers have been documented.¹⁻¹¹ Barriers such as lack of accessible and affordable research trials^{5,8} and a patient's inability to qualify for or comply with specified research protocols^{7,10} characterize common structural hurdles for patients, especially those who are medically underserved.² Patient fears and mistrust of the research community also are powerful cultural barriers.^{2,5,8,10,12,13} Although patient barriers are important, equally challenging physician barriers have received far less attention. Structural hurdles such as physicians' lack of awareness of available trials, problems with data management, and the absence of adequate physician compensation for time devoted to studies are considered as physician barriers.^{1,10,14} In addition, "cultural barriers" such as fear of losing patients and distrust of institutions conducting clinical trials exist among providers.¹⁰

Research suggests that physician referral is one of the most effective means of recruiting patients onto cancer clinical trials (CCTs).^{13,15} Yet, factors that affect a physician's choice to discuss a trial with a patient, especially those who are racial and/or ethnic minorities, remain underexplored. The purpose of this study was to examine

local cancer providers' knowledge about CCTs and attitudes toward minority participation in CCTs.

Methods

Data Collection

Data came from a cross-sectional pilot study conducted with physicians practicing at network hospitals of The Cancer Institute of New Jersey (CINJ), the state's only National Cancer Institute designated Comprehensive Cancer Center. Network hospitals have oncology programs that have been approved by the American College of Surgeons Commission on Cancer and have demonstrated a strong commitment to research through development of research infrastructure for enrolling patients in CCTs. Physicians within the network have access to a variety of continuing medical education (CME) programs including grand rounds conducted by CINJ faculty and the CINJ Distinguished Lecture Series. They also have the opportunity to attend CINJ site-specific tumor study groups that meet biweekly.

A random-stratified sample of 523 physicians were recruited for participation in the study. The sample was stratified on two sets of factors: physician specialty (eg, primary care — family practice and internal medicine, oncology, obstetrics/gynecology, surgery, and urology) and type of hospital (ie, hospital with high minority [diagnosed racial and/or ethnic minority cancer patients as defined by the New Jersey Cancer Registry] vs low minority oncology loads). Half of the physicians were recruited from each type of hospital. The study was reviewed and approved by the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School Institutional Review Board.

Each participant received a mailing that included an introductory letter, a survey, and a return postage-paid envelope. The survey took approximately 10 to 15 minutes to complete. All were assured of their confidentiality. Those who did not respond to the initial mailing received a second mailing and a final reminder postcard at 2-week intervals. Physicians who returned the survey received a copy of *Informed Decision: The Complete Book of Cancer Diagnosis, Treatment, and Recovery*¹⁶ as an incentive.

Survey Instrument

As we could not find validated survey instruments directly relevant to the specific issues involved in physician participation in clinical trials we (SVH and HL) created a series of items to assess these issues and used items from prior studies to examine barriers to minority participation in CCTs¹⁰ and support for conducting CCTs.^{15,17} The final survey examined beliefs about CCT research (6 items), concerns about CCT research (4 items), perceptions of patient concerns about CCTs (17 items), experience with CCTs (8 items), beliefs regarding barriers to minority participation

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in CCTs¹⁰ (3 items), support for CCT referral/participation^{15,17} (6 items), and CCT referral experience (5 items). It also collected demographic information.

Sample

Completed surveys were obtained from 103 physicians (20% response rate). Sample participants were almost evenly distributed among the six specialty strata (internal medicine = 17, family practice = 20, obstetrics/gynecology = 14, oncology = 22, surgery = 17, urology = 13). Participants were predominantly men (68.9%) and white (83.5%). Minority physicians in the sample were 8% African American, 7% Asian/Pacific Islander, and 2% Hispanic/Latino. The average age of participants was 50 years (range 33 to 75 years). The racial/ethnic and gender profile of the sample closely approximated characteristics of the general physician population in New Jersey.¹⁸ Most participants were in private practice (65.1%). Approximately half (53.4%) practiced in hospitals with high numbers of minority cancer patients.

Analyses

Descriptive statistics and multiple response analyses were conducted using SPSS 12.0 software (SPSS Inc, Chicago, Ill) to examine the prevalence of specific barriers. Barriers that were reported by a high proportion of respondents were further examined using chi-square tests of heterogeneity to determine association with specialty type, hospital setting, or physician race/ethnicity. Physicians were grouped as primary care providers (ie, general internists and family physicians) and specialists (ie, urologists, obstetricians/gynecologists, and general surgeons) and examined in contrast to oncologists for specialty analyses. Physicians who described themselves as African American, Asian/Pacific Islander, or Hispanic/Latino were categorized as minority physicians, and their responses

were contrasted with white or nonminority physicians for physician race/ethnicity analyses.

Results

Physicians in the study were familiar with key features of CCTs. Eighty-five percent of the respondents thought that CCTs provide the most current cancer treatment. Two thirds (67%) reported that they referred patients to a CCT. Few physicians (20%) expressed concern about losing control of their patients' care if they referred to CCTs. Oncologists (90%) were significantly more likely than primary care physicians (60%) or specialists (61%, $\chi^2 = 7.271$, $df = 2$, $P = .026$) to have referred patients. There were no significant differences between minority and nonminority physicians in their responses to the survey.

Perceived Barriers to Minority Patient CCT Recruitment

Physicians were asked to rank the three most important barriers they perceived would make other physicians less likely to recommend CCTs to minority patients. Lacking awareness or information about CCTs and having insufficient resources were ranked by all physicians as the top two barriers (Table 1). Lack of awareness differed by specialty: it was reported by 95% of primary care physicians, 84% of specialists, and 50% of oncologists. Oncologists, however, reported that insufficient resources (55%) followed by lack of awareness (50%) and protocols that were too complex (50%) were the main barriers to CCT recruitment for minority patients.

Experienced Barriers to Patient CCT Recruitment

When asked to comment on the barriers they experienced when they considered suggesting CCTs to their

Table 1. — Recruitment Barriers for Cancer Clinical Trials by Specialty (N = 103)

	Primary Care (n = 37)	Specialists (n = 44)	Oncologists (n = 22)
Perceived			
Lack of awareness or information about trials	94.6% (35) ^a	84.1% (37) ^a	50.0% (11)
Insufficient resources – ie, too much paperwork	78.4% (29)	50.0% (22)	54.5% (12) ^a
Lack of proven therapy with reasonable results available	35.1% (13)	47.7% (21)	13.7% (3)
Protocols are too complex	29.7% (11)	27.3% (12)	50.0% (11)
Experienced structural			
Lack of staff to support referring patients	75.7% (28)	54.5% (24)	50.0% (11)
Paperwork involved with referring patients ^b	40.5% (15)	54.5% (24)	90.9% (20)
Lack knowledge about available CCTs ^c	67.6% (25)	45.5% (20)	4.5% (1)
Experienced patient-related			
AA/HL patient concern about receiving ineffective treatment	51.4% (19)	43.2% (19)	45.5% (10)
AA/HL patient concern about being treated like a “guinea pig”	43.2% (16)	38.6% (17)	59.1% (13)
AA/HL patient is not eligible for a trial	29.7% (11)	27.3% (12)	50.0% (11)
AA/HL = African American and Hispanic/Latino			
^a Ranked #1 by providers.			
^b $\chi^2 = 14.539$, $df = 2$, $P = .001$.			
^c $\chi^2 = 22.191$, $df = 2$, $P = .000$.			

own patients, more than one third of the respondents reported structural and patient related factors (Table 1). Lack of staff to support patient referrals to CCTs was the structural barrier reported by most physicians. The primary barrier reported by oncologists differed from that reported by primary care physicians: approximately 90% of oncologists reported that the paperwork involved in referring patients was the primary barrier, whereas 68% of primary care physicians reported that lack of knowledge about locally available protocols was the primary barrier. Physicians in different specialties, however, did not differ in their perceptions of patient-related barriers for African American (AA) and Hispanic/Latino (HL) patients. The patient-related barriers that were reported included (1) concerns about randomization and receiving ineffective treatments, (2) being treated like a “guinea pig,” and (3) physician concerns that their AA/HL patients were ineligible for existing trials. Although there were no statistically significant differences between physician groups in reports of patient-related barriers, a higher proportion of oncologists reported concerns about patients being treated like “guinea pigs” (59%) and eligibility (50%) than did the other physicians surveyed.

Influence of Patient Contact on Physician Perception

A comparison of the reports of physicians practicing in hospitals with high vs low proportions of minority oncology patients showed similar reports of barriers but with two exceptions (Table 2). Significantly greater proportions of physicians practicing in hospitals with high proportions of minority oncology patients reported that patient eligibility (42%) and patient concerns about being treated like a “guinea pig” (70%) were barriers to recruitment of minority patients.

Conclusions

The purpose of this pilot study was to examine local cancer providers’ knowledge about CCT research and attitudes toward minority participation. Our findings add

further support to the literature that structural barriers such as insufficient resources and physician lack of awareness function as primary barriers for CCT recruitment and diversification.^{1,10,13-15,19} We found these barriers varied by physician specialty. Oncologists reported paperwork involved in referring patients as the primary recruitment barrier. Primary care physicians and specialists, however, reported lack of awareness and information about available trials as primary barriers.

The knowledge difference between oncologists and other physicians was not surprising, given that many of CINJ’s network CME activities prior to initiation of this study were targeted largely to oncologists. Subsequently, CINJ initiated a major CCT education initiative — New Jersey Cancer Trial Connect (NJCTC) — aimed at the public and providers. The NJCTC Web site (<http://www.njctc.org>) lists all cancer treatment and prevention trials available throughout New Jersey. It provides each user with a profile and the capacity to search for CCTs by entering disease specific criteria. Though this program has made information on CCTs more accessible, further monitoring is necessary to determine the effect of this and network CME efforts on primary care and specialist knowledge of CCTs, both treatment and prevention.

In addition to structural barriers, physicians reported that cultural factors raised important concerns in their decisions to recruit AA/HL patients to CCTs. The perception that patients were concerned about receiving ineffective treatment and being treated like a “guinea pig” were important barriers to decisions to recruit. Physicians practicing in hospitals serving large numbers of minority patients reported these perceptions more frequently. Although we do not know what information physicians used to base their responses about their patients’ fears (eg, experiences with individual patients or with a specific patient community), this important topic deserves further study.

Physicians’ concerns about the eligibility of their AA/HL patients for inclusion on CCTs also figured as prominent barriers to recruitment. A few studies^{19,21} indicate that physicians, regardless of specialty, function as gatekeepers for CCTs. Findings from this study underscore the importance of examining and addressing inter-

Table 2. — Recruitment Barriers for Cancer Clinical Trials by Location (N = 103)

	Low Minority Setting (n = 48)	High Minority Setting (n = 55)
Lack of staff to support referring patients	44.4% (28)	55.6% (35)
Paperwork involved with referring patients	45.8% (27)	54.2% (32)
Lack knowledge about available CCTs	54.2% (26)	36.4% (20)
AA/HL patient concern about receiving ineffective treatment	39.6% (19)	60.4% (29)
AA/HL patient concern about being treated like a “guinea pig” ^a	30.4% (14)	69.6% (32)
AA/HL patient is not eligible for a trial ^b	22.9% (11)	41.8% (23)

AA/HL = African American and Hispanic/Latino
^a $\chi^2 = 8.731$, $df = 1$, $P = .003$.
^b $\chi^2 = 4.141$, $df = 1$, $P = .042$.

personal factors in the patient-physician relationship that may affect physician attitudes regarding their patients and CCT eligibility. It is not clear from the responses whether the physicians' concerns about eligibility for AA/HL patients are due to their experience with patients' comorbidities, beliefs around health literacy, protocol compliance, or some combination of these factors. Careful research is needed to examine the individual and collective impact of these factors on physician identification and recruitment of minority patients for CCTs.

A couple of factors limit the generality of our findings. First, the participating physicians were recruited from hospitals affiliated with a comprehensive cancer center with a stated commitment to research. Thus, CCTs may be more salient for this sample of physicians than for physicians practicing in other community settings. Second, although the sample demographics closely approximate those for physicians practicing in New Jersey,¹⁸ the focus on network hospitals reduced the potential sample size, and the 20% response rate was surprisingly low. Therefore, the responses of our participants may not adequately reflect the full range of barriers experienced by the broader physician population. These limitations notwithstanding, the findings are suggestive for interventions aimed at healthcare providers. Clearly, successful interventions must attend to the need for additional information regarding CCTs among primary care physicians and specialists. More importantly, the findings suggest that physician perceptions of patient concern act as potentially powerful barriers to physician referral of their minority patients to CCTs. Successful interventions must also address providers' perceptions of patient concerns and their need for procedures to communicate with patients about their concerns in participating in CCTs.

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