Cancer Portal Project: A Multidisciplinary Approach to Cancer Care Among Hispanic Patients

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Abstract

Purpose: This study investigates the impact of a multilingual, multidisciplinary team targeting social and economic determinants of cancer treatment adherence among at-risk Hispanic immigrants.

Methods: Patients were recruited at 10 hospital-based cancer clinics in New York City between December 2008 and November 2009. This is a nested cohort study of Hispanic patients and their sociodemographic characteristics, areas of needed assistance, and reported impact of meeting service needs on keeping appointments. At the core of the intervention is the trained, bilingual Portal Access Facilitator, who assesses needs and synchronizes an individualized set of transdisciplinary services for each patient.

Results: A total of 328 Hispanic patients participated in the study. Of these, 89% preferred to speak Spanish in the health care setting, and 17% had no health insurance. The most common cancer diagnosis among participants was breast cancer (35%) followed by GI (17%) and gynecologic (16%) cancers. Patients most commonly requested financial support (59%), food support (37%), transportation assistance (21%), social work services (14%), psychosocial support (6%), help with health insurance issues (5%), and legal services (5%). In a follow-up assessment of high-need patients in urgent need of financial support, 86% reported that portal services helped them attend cancer care and treatment appointments, and 72% reported that portal services decreased worry about their care.

Conclusion: Most patients reported that financial, social, and logistical support would help them attend their appointments for cancer care and treatment. Further multidisciplinary interventions should be implemented and evaluated to address social and economic determinants in cancer care for this population.

Introduction

In 2007, there were 37.9 million immigrants in the United States—12.6% of the total population.[1] New York City (NYC) is home to the largest foreign-born population with more than 2.9 million people.[2] Among the foreign-born in both the United States and NYC, Hispanics constitute the largest percentage (53.8% and 51.7%, respectively).[1,3]

Hispanics are at socioeconomic risk for poor cancer outcomes. In 2008, Hispanics in NYC had the lowest median household incomes and the highest poverty rates (27%) compared with all other racial/ethnic groups.[4] Twenty-six percent of Hispanics in NYC speak no English or speak English poorly.[4] Hispanic households are more likely to be food insecure,[5] which is associated with delayed care seeking and increased hospitalizations and emergency department use.[6]

Hispanics have low survival rates for most cancers, even after adjusting for age and stage.[7] In addition, lower rates of adjuvant therapy and treatment adherence, as well as early treatment termination, have been described in minorities.[8-19] Socioeconomic barriers to cancer treatment adherence include lack of insurance, treatment and medication costs, lack of child care and transportation, limited employment, and poor nutrition and housing.[8] Immigrants may also experience more limited social support and language and legal barriers.[20] Guidry et al[21] found that Hispanics faced significant cost-related barriers to medications, diagnostic tests, and hospitalizations and were more likely to pay out-of-pocket. Inadequate adherence to radiotherapy in immigrant Latinas with cervical cancer resulted from transportation and child care barriers, concern about losing jobs, and lack of disease and treatment understanding.[9] Ell et al[22] found that a navigation intervention to improve adjuvant treatment adherence among low-income, predominantly Hispanic women in California had no significant impact.

Several models have been developed to incorporate social and economic determinants in health care and to create a more integrated, multidisciplinary approach. These models include the Disease Management,[23] Integrated Care,[24] Collaborative Care,[25] and Chronic Care Models.[26] The importance these models have for cancer control has been recognized by New York State in its Comprehensive Cancer Control Plan.[27]

This Cancer Portal Project study addresses the paucity of research on interventions that target socioeconomic determinants related to cancer treatment adherence. It uses a multilingual multidisciplinary team to specifically target a broad range of social and economic determinants related to cancer treatment adherence and quality of life.

Methods

The Cancer Portal Project enrolled patients at 10 hospital-based cancer clinics in NYC with large numbers of low-income patients. Most patients at these sites prefer to communicate in languages other than English—most often Spanish. This is a nested cohort study of Hispanic Portal patients, their areas of needed assistance, and the reported impact of meeting service needs. The project received New York University institutional review board exemption.

At the core of the intervention is the trained, bilingual Portal Service Access Facilitator who assesses needs and synchronizes an individualized set of transdisciplinary services. The Portal Project employs three full-time and three part-time Portal Ser-

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vice Access Facilitators whose salaries are funded through a New York Community Trust grant. The annual cost per full-time Portal Service Access Facilitator is approximately $30,000-$45,000. Each Portal Service Access Facilitator visits his/her assigned clinic at least once a week for either the morning or afternoon session and is available at all times by cell phone and for as needed visits. Newly hired Portal Service Access Facilitators participate in an initial week-long didactic training session led by the Project Coordinator. They then undergo a two-week practicum during which they shadow experienced Portal Service Access Facilitators. When they start working independently, Portal Service Access Facilitators meet weekly as a team and one-on-one at the end of each day with the Project Coordinator to review all cases and to discuss issues or concerns. Ongoing, monthly continuing education training sessions are held to update the team on service, program, and portal project protocol changes, and to discuss questions and ideas that might better assist patients. Portal Service Access Facilitators coordinate with social workers as much as possible, although interactions vary by site. Only two of 10 sites have bilingual social workers; five of 10 sites have monolingual social workers who often ask Portal Service Access Facilitators to provide or arrange for interpretation; and the remaining three sites do not have social workers.

Portal Service Access Facilitators are trained in a wide range of areas, including assessing needs/advising patients on available assistance and cancer support organizations; providing assistance with intake procedures to patients with low literacy and limited English proficiency; assisting patients with financial support, such as helping patients obtain reimbursements and funding for doctor's visits, chemotherapy, radiation therapy, scans, medical supplies, pain and nausea medications, and home care; addressing food insecurity; assisting patients with transportation; assisting patients with referrals to social services, counseling, and cancer support groups; assisting patients with insurance and with obtaining fee reductions; accessing free or low-cost legal resources for immigration, health care proxies, wills, powers of attorney, permanency planning for children, eviction, and work discrimination concerns; assisting with housing conditions and rent support; accessing child care for appointments; accessing programs that provide free medications; accessing interpreters; and helping patients improve patient-provider communication.

Participants, Study Procedure, and Measures

Patients were recruited between December 2008 and November 2009. Eligible patients included all adults with a cancer diagnosis undergoing treatment at any of the 10 sites. Portal Service Access Facilitators approached all patients in the waiting room before provider visits. Portal Service Access Facilitators administered an intake needs assessment survey in the patient's preferred language. The survey included sociodemographic data, missed appointment reports, and needs for assistance vis-à-vis financial support, food and nutrition, transportation assistance, social and psychosocial services, health insurance issues, legal issues, and child care. Once patient needs were identified, Portal Service Access Facilitators provided immediate and ongoing assistance in the identified areas. Transportation needs were addressed, for example, by Portal Service Access Facilitators through the social worker at the patient's facility or by Portal Service Access Facilitators directly making Access-a-Ride appointments or arranging ambulette services for qualifying patients (both of these services provide pickup and drop-off for patient appointments). Transportation assistance specifically for patient radiation therapy appointments is also available through grant funding for this project in the form of passes for public transportation or cash assistance for taxi fare for sicker patients.

A follow-up assessment was administered to 50 Spanish-speaking patients who were initially identified as probable high-need patients as a result of their urgent need for financial support and who then remained in active contact with Portal Service Access Facilitators for at least 3 months. Portal Service Access Facilitators provided immediate assistance for these patients to help them apply for available financial and transportation support programs. Two weeks after completing the intake needs assessment survey, these patients were called to determine whether they had received letters of acknowledgment for their applications to financial and transportation support programs. Typically, these patients sought contact with Portal Service Access Facilitators two to three times per week for at least 3 months. For those who did not seek such frequent contact, Portal Service Access Facilitators initiated follow-up at least every 2 weeks.

The follow-up assessment queried patients about additional service needs; whether portal services helped them attend oncology, chemotherapy, and/or radiation therapy appointments; which specific services helped them attend; and whether portal services helped them worry less about their cancer treatment and care, provided financial relief, and/or helped improve their diets.

Analysis

Descriptive analysis was performed on the Hispanic cohort to examine sociodemographic characteristics; missed appointments for oncology, radiation therapy, and chemotherapy; and areas of needed assistance. We stratified the analysis according to the most common countries of origin for the patients. Differences between groups were analyzed using tests of proportions (z-tests, Fisher's exact tests, and χ^2 tests).

Cross-tabulations and tests of proportions were used to investigate sociodemographic differences between insured and uninsured patients; differences between patients with various types of insurance; and whether patients had missed any appointments.

We also performed cross-tabulations and tests of proportions to examine differences in sociodemographic characteristics and areas of needed assistance between the 50 probable high-need patients and the rest of the Hispanic cohort.

All tests were two-sided, and a P value less than .05 was considered statistically significant. Statistical analysis was performed using the R software package (R Development Core

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Table 1. Sociodemographic Characteristics of Enrolled Patients

	Hispanic Cohort (n = 328)		Patients From the DR (n = 90)		Patients From PR (n = 72)		Patients From Mexico (n = 62)		Patients From Other Countries (n = 104)	
Characteristic	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**
Age, years*										
18-29	19	6	3	3	1	1	8	13	7	7
30-49	105	32	26	29	8	11	36	58	35	34
50-69	157	48	52	58	45	63	16	26	44	42
70-79	34	10	4	4	13	18	2	3	15	14
> 80	11	3	4	4	5	7	0	0	2	2
Missing	2	< 1	1	1	0	0	0	0	1	1
Sex										
Male	90	27	21	23	25	35	14	23	30	29
Female	238	73	69	77	47	65	48	77	74	71
Education level										
≤ 5th grade	64	20	21	23	11	15	16	26	16	15
6th grade - some high school	187	57	47	52	43	60	39	63	58	56
High school graduate	57	17	17	19	17	24	6	10	18	17
Some college - postgraduate	13	4	4	4	0	0	1	1	8	8
Missing	6	2	1	1	1	1	0	0	4	4
Country of origin										
Argentina	1	< 1	0	0	0	0	0	0	1	1
Bolivia	2	1	0	0	0	0	0	0	2	2
Chile	3	1	0	0	0	0	0	0	3	3
Colombia	8	2	0	0	0	0	0	0	8	8
Dominican Republic	90	27	90	100	0	0	0	0	0	0
Cuba	1	< 1	0	0	0	0	0	0	1	1
Ecuador	38	12	0	0	0	0	0	0	38	37
El Salvador	12	4	0	0	0	0	0	0	12	12
Guatemala	7	2	0	0	0	0	0	0	7	7
Honduras	11	3	0	0	0	0	0	0	11	11
Mexico	62	19	0	0	0	0	62	100	0	0
Puerto Rico	72	22	0	0	72	100	0	0	0	0
Panama	5	2	0	0	0	0	0	0	5	5
Peru	15	5	0	0	0	0	0	0	15	14
Venezuela	1	< 1	0	0	0	0	0	0	1	1
Time in United States, years*										
0-1	27	8	4	4	9	13	3	5	11	11
1-3	32	10	14	16	0	0	8	13	10	10
4-5	16	5	4	4	1	1	3	5	8	8
6-10	47	14	13	14	1	1	10	16	23	21
11-20	92	28	28	31	5	7	30	48	29	28
> 20	114	35	27	30	56	78	8	13	23	22
Language preferred*										
English	13	4	1	1	6	8	1	2	5	5
Engish/Spanish	24	7	4	4	14	19	0	0	6	6
Spanish	291	89	85	94	52	72	61	98	93	89
Insured*										
Yes	269	82	80	89	70	97	39	63	80	77
No	57	17	9	10	1	1	23	37	24	23
Don't know	1	< 1	1	1	0	0	0	0	0	0
Missing	1	< 1	0	0	1	1	0	0	0	0

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Table 1. (Continued)

	Hispanic Cohort (n = 328)		Patients From the DR (n = 90)		Patients From PR (n = 72)		Patients From Mexico (n = 62)		Patients From Other Countries (n = 104)	
Characteristic	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**
Type of insurance if insured										
Medicaid	127	47	49	61	46	66	9	23	23	29
Medicare	27	10	6	8	15	21	0	0	6	8
Private Insurance	16	6	5	6	4	6	0	0	7	9
HMO-Medicaid	24	9	5	6	4	6	6	15	9	11
Emergency Medicaid	71	26	15	19	0	0	24	62	32	40
Missing	4	1	0	0	1	1	0	0	3	4
Working with a social worker										
Yes	21	6	4	4	5	6	3	5	9	9
No	304	92	83	92	67	94	59	95	95	91
Don't know	2	1	2	2	0	0	0	0	0	0
Missing	1	< 1	1	1	0	0	0	0	0	0

Abbreviations: DR, Dominican Republic; PR, Puerto Rico; HMO, health maintenance organization.
* Significant differences between patients from the DR, PR, Mexico, and other countries, excluding "Don't know" and "Missing" values; $P < .001$.

Team; Vienna, Austria). The analysis was carried out by the Biostatistics Division at the New York University School of Medicine.

Results

Sociodemographic and Cancer Characteristics, and Missed Appointments

Sixty-seven percent of all eligible patients agreed to participate, and 788 patients agreed to participate in the Cancer Portal Project between December 2008 and November 2009. Of the total 788 participants, 328 were Hispanic. Among the cohort of Hispanic patients, the largest group of patients was age 50 to 69 years (48%); 73% were female; and 21% had completed high school. The three most common countries of origin were the Dominican Republic (27%), Puerto Rico (22%), and Mexico (19%); 32% of patients immigrated from countries other than these. Thirty-seven percent had resided in the mainland United States for 10 years or fewer. In the health care setting, 89% preferred to speak Spanish. Seventeen percent had no health insurance. Of the insured, 47% had fee-for-service Medicaid plans, 26% had Medicaid plans for emergency care, 9% had HMO-Medicaid plans, and 10% had Medicare plans. Six percent of patients were working with social workers (Table 1).

There were significant differences in sociodemographic characteristics between the three largest migrant groups and those who immigrated from other countries (excluding "Don't know" and "Missing" values; Table 1) in age, length of stay in the United States, language, and insurance status.

The most common cancer diagnoses were breast cancer (35%), GI (17%) cancer, and gynecologic cancer (16%). Twenty-seven patients (8%) reported that they had missed appointments for oncology follow-up, radiation therapy, and/or chemotherapy. Reasons for missing appointments before participation in the Cancer Portal Project included: no money for visit or for transportation, no insurance, work, illness, family problems, lack of child care, confusion about date and time of appointment, lost documents, and fear. There were no significant differences in missed appointments between patients from Mexico, the Dominican Republic, Puerto Rico, and other countries of origin (Table 2).

Areas of Needed Assistance Identified Upon Enrollment

Patients needed financial, social, and logistical assistance. Most commonly, they requested financial support (59%), food support (37%), transportation assistance (21%), social work services (14%), psychosocial support (6%), health insurance assistance (5%), and legal services (5%). Portal Service Access Facilitators enabled assistance in the requested areas. There were no significant differences between participants from Mexico, the Dominican Republic, Puerto Rico, and other countries of origin in the four most commonly requested areas (financial support, food support, transportation assistance, and social work services; Table 2).

High-Need Patients and Follow-Up Results

All 50 high-need patients who were in frequent contact with Portal Service Access Facilitators for at least 3 months completed the follow-up assessment. Sociodemographic characteristics of high-need patients versus the rest of the Hispanic cohort are listed in Table 3.

Compared with the rest of the Hispanic cohort (n = 278; excluding "Don't know" and "Missing" values), these 50 high-need patients were significantly younger, more were recent immigrants, were more likely to be uninsured, and among those insured, were more likely to have emergency Medicaid plans (Table 3). Analyzing participants from only the most common countries of origin (Mexico, the Dominican Republic, and Puerto Rico), high-need patients (n = 33) were more likely to have migrated from Mexico compared with the rest of the cohort (n = 191; 45% *v* 25%; $P = .02$).

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Table 2. Cancer Diagnosis, Missed Appointments, Areas of Portal Assistance According to Country of Origin

	Hispanic Cohort (n = 328)		Patients From the DR (n = 90)		Patients From PR (n = 72)		Patients From Mexico (n = 62)		Patients From Other Countries (n = 104)	
Cancer Diagnosis, Missed Appointments, Areas of Assistance	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**	**No. of Patients**	**%**
Type of cancer diagnosed										
Breast	114	35	42	47	25	35	14	23	33	32
GI	57	17	15	17	14	19	9	15	19	18
Gynecologic	52	16	11	12	5	7	19	31	17	16
Head and neck	7	2	2	2	4	6	1	2	0	0
Lung	14	4	2	2	8	11	1	2	3	3
Prostate	21	6	6	7	7	10	1	2	7	7
Leukemia	19	6	5	6	1	1	7	11	6	6
Lymphoma	18	5	4	4	2	3	5	8	7	7
Other	25	8	3	3	5	7	5	8	12	12
Unknown	1	< 1	0	0	1	1	0	0	0	0
Missed any appointments										
Yes	27	8	10	11	4	6	5	8	8	8
No	299	91	79	88	68	94	57	92	95	91
Missing	2	1	1	1	0	0	0	0	1	1
Areas of needed assistance*										
Financial support	192	59	52	58	42	58	35	56	63	61
Food support	120	37	31	34	21	29	29	47	39	38
Transportation	68	21	12	13	16	22	10	16	30	29
Social work services	47	14	14	16	9	13	9	15	15	14
Psychosocial support	20	6	3	3	7	10	1	2	9	9
Health insurance issues	18	5	3	3	0	0	6	10	9	9
Legal services†	18	5	5	6	0	0	1	2	12	12
Housing conditions	5	2	2	2	1	1	1	2	1	1
Rent support	7	2	3	3	1	1	2	3	1	1
Child care	4	1	1	1	0	0	1	2	2	2
Accessing programs for free medications	4	1	0	0	1	1	1	2	2	2
Appointment scheduling	4	1	0	0	0	0	1	2	2	2
Help with disability forms	1	< 1	1	1	0	0	0	0	0	0
Assistance with utility bills	1	< 1	1	1	0	0	0	0	0	0
Finding a job	1	< 1	0	0	0	0	0	0	1	1
Refused	8	2	2	2	6	8	0	0	0	0

Abbreviations: DR, Dominican Republic; PR, Puerto Rico.

* No. of responses is greater than the total n for each group as participants were asked to answer all that apply.

† Legal services included assistance with immigration status, health care proxies, wills, powers of attorney, and permanency planning for children.

At enrollment, high-need patients most commonly reported needing assistance for financial (80%), food (32%), and transportation support (22%), as well as assistance with health insurance issues (18%) and social work services (12%). In comparison with the rest of the Hispanic cohort (n = 278), high-need patients were significantly more likely to request financial support (80% *v* 55%; $P < .01$) and assistance with health insurance issues (18% *v* 3%; $P < .001$).

In the follow-up assessment, 86% (n = 43) of the high-need patients reported that portal services helped them attend appointments for follow-up care, radiation, and/or chemotherapy. Of these 43 patients, 51% responded that, without portal assistance, they would have had to miss more appointments or completely stop coming to appointments. Financial support (84%), transportation help (58%), food assistance (12%), and social work services (12%) were most frequently reported to have been useful in helping participants attend. Seventy-two percent reported that portal services relieved their worry about cancer treatment and care. Fifty-eight percent reported that portal services provided some financial relief, and 16% reported that portal services helped them to improve their diets.

Discussion

In this nested cohort of 328 Hispanic patients with cancer, most patients reported financial, social, and logistical support

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Table 3. Sociodemographic Characteristics of High-Need Patients Versus Hispanic Cohort Overall

Characteristic	Hispanic Cohort (n = 278)		High-Need Patients (n = 50)	
	No. of Patients	%	No. of Patients	%
Age, years*				
18-29	12	4	7	14
30-49	81	29	24	48
50-69	141	51	16	32
70-79	31	11	3	6
≥ 80	11	4	0	0
Missing	2	1	0	0
Sex				
Male	73	26	17	34
Female	205	74	33	66
Education level				
≤ 5th grade	56	20	8	16
6th grade - some high school	155	56	32	64
High school graduate	48	17	10	20
Some college - postgraduate	13	5	0	0
Missing	6	2	0	0
Country of origin				
Argentina	1	< 1	0	0
Bolivia	2	< 1	0	0
Chile	3	1	0	0
Colombia	5	2	3	6
Dominican Republic	77	28	13	26
Cuba	1	< 1	0	0
Ecuador	32	12	6	12
El Salvador	11	4	1	2
Guatemala	5	2	2	4
Honduras	9	3	2	4
Mexico	47	18	15	30
Puerto Rico	67	24	5	10
Panama	4	1	1	2
Peru	13	5	2	4
Venezuela	1	< 1	0	0
Time in United States, years*				
0-1	20	7	7	14
1-3	26	10	6	12
4-5	11	4	5	10
6-10	43	15	4	8
11-20	71	25	21	42
> 20	107	39	7	14
Language preferred				
English	10	4	3	6
English/Spanish	23	8	1	2
Spanish	245	88	46	92
Insured*				
Yes	234	84	35	70
No	42	15	15	30
Don't know	1	< 1	0	0
Missing	1	< 1	0	0
Type of insurance if insured*				
Medicaid	121	52	6	18
Medicare	25	11	2	6
Private insurance	12	5	4	12
HMO-Medicaid	20	8	4	12
Emergency Medicaid	53	23	18	52
Missing	3	1	1	< 1
Working with a social worker				
Yes	19	7	2	4
No	257	92	47	94
Don't know	1	< 1	1	2
Missing	1	< 1	0	0

Continued in next column

* Significant differences between high-need patients and the Hispanic cohort overall, excluding "Don't know" and "Missing" values; *P* < .05.

barriers during cancer care and treatment. Patients most commonly needed assistance in financial matters. Only 6% were working with social workers at the time of Cancer Portal Project enrollment, which suggests that patients were either not aware of, not willing, or not able (as a result of language barriers or resource scarcity) to access social work resources. There was a low rate of missed appointments (8%), which suggests benefit from portal services intervention. A larger, prospective study is needed to track patients from diagnosis through treatment and to assess their reported concerns and rates of appointment and treatment adherence.

The population of Mexican patients was more likely to have recently immigrated, to prefer to speak Spanish, to be uninsured, and among those who were insured, to have emergency Medicaid plans compared with the other two largest groups of patients from specific countries of origin in this study. We did not collect data specifically on income, although all Mexican patients met the income qualifications for Medicaid. Mexican patients also represented a greater proportion of patients in the high-need cohort compared with the patients from the other two most common countries of origin. The population of Mexican patients may be at greater risk of receiving poor-quality cancer care; further studies should explore the barriers faced by this group.

Our high-need cohort was distinct from the rest of the Hispanic cohort in sociodemographic characteristics, which suggests greater vulnerability (including more recent immigration and a lack of insurance), and in greater needs upon enrollment. We found that high-need patients were likely to respond in the

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affirmative to enrollment questions regarding the presence of needs related to financial, food, and transportation assistance. The majority of high-need patients responded in the follow-up survey that portal services helped them attend their appointments and helped reduce their worry and financial stress. In addition to the Cancer Portal Project's impact on appointment-keeping, the project seems to have had an important impact on quality of life.

Patients in our study, in particular those in the high-need cohort, differed from those in other similar studies. For example, in the study by Ell et al,[22] which found no significant impact of navigation on improving treatment adherence among low-income Hispanic patients with breast and gynecological cancer in California, adherence rates were found to be high across both treatment groups and thought to be attributable to routine referral by the study site to federal or state breast and cervical cancer treatment funding that had been implemented before the start of recruitment. Baseline patient needs in our study, therefore, may have been higher than in the Ell et al study (they had cancers at all sites and were in high need at baseline), which may explain the potentially greater impact found in our study. However, this nested cohort study was a descriptive study, in contrast to the randomized controlled methodology of the Ell et al study, and was not designed to answer a specific research question. Further studies are needed to specifically evaluate the impact of the Cancer Portal Project.

Our study has limitations. Patients with undocumented immigration status and those who were more ill or more wary of the health care system and related ancillary services may have declined to participate. This could partially explain the refusal rate. These patients may have been in greater need of portal services and are more likely to have a higher rate of missed appointments. Alternatively, patients with fewer needs may also have refused to participate, as they had less need of its provisions. This would skew the data to indicate more service needs. In addition, the accuracy of participants' reports of treatment adherence may have been affected by the recall nature of the study.

The use of a multidisciplinary approach to address financial, social, and logistical barriers to cancer treatment in minority and underserved populations has received little attention yet may be essential in improving the current level of disparities in cancer outcomes and in improving quality of life for minority survivors of cancer. Hispanics are the largest, and most rapidly growing, immigrant group in the United States, and they are characterized by a number of poor social and economic indicators that may make them particularly vulnerable. Further multidisciplinary interventions should be implemented and evaluated to address social and economic determinants in cancer care for this population. Additionally, in this study, we identified a subgroup of patients in greater need for timely and intensive intervention. Developing both provider- and systems-level strategies to recognize and address the needs of this high-need subgroup may be of particular importance in improving outcomes for the most at-risk patients.

Accepted for publication on November 4, 2010.

Acknowledgment

Supported by the New York Community Trust. The contents of this article are solely the responsibility of the authors and do not necessarily represent the views of the awarding agency.

Authors' Disclosures of Potential Conflicts of Interest

The authors indicated no potential conflicts of interest.

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DOI: 10.1200/JOP.2010.000036

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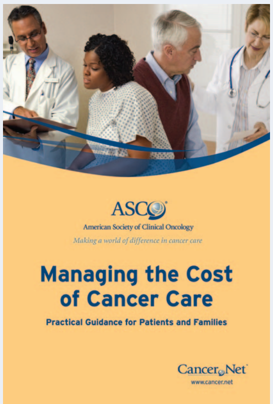

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