

Receipt of Psychosocial Care Among Cancer Survivors in the United States

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A B S T R A C T

Purpose

Given the importance of psychosocial care for cancer survivors, this study used population-based data to characterize survivors who reported a discussion with health care provider(s) about the psychosocial effects of cancer and who reported using professional counseling or support groups (PCSG) and tested associations between receipt of psychosocial care and satisfaction with care.

Patients and Methods

We examined survivors of adult cancers from the 2010 National Health Interview Survey (N = 1,777). Multivariable logistic regression models examined factors associated with receipt of and satisfaction with psychosocial care.

Results

Most survivors (55.1%) reported neither provider discussions nor use of PCSG; 31.4% reported provider discussion only, 4.4% reported use of PCSG only, and 8.9% reported both. Non-Hispanic blacks (*v* non-Hispanic whites), married survivors, survivors of breast cancer (*v* prostate or less prevalent cancers), those treated with chemotherapy, and survivors reporting past research study/clinical trial participation were more likely to report provider discussion(s) (*P* < .01). Hispanics (*v* non-Hispanic whites), survivors age 40 to 49 years (*v* ≤ 39 years), survivors of breast cancer (*v* melanoma or less prevalent cancers), those diagnosed ≤ 1 year ago (*v* > 5 years ago), survivors treated with radiation, and past research participants were more likely to report use of PCSG (*P* < .05). Survivors reporting any psychosocial care were more likely to be “very satisfied” with how their needs were met (*P* < .001).

Conclusion

Many survivors do not report a discussion with providers about the psychosocial effects of cancer, which reflects a missed opportunity to connect survivors to psychosocial services. These data can benchmark the success of efforts to improve access to cancer-related psychosocial care.

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INTRODUCTION

Cancer survivors commonly report psychological distress^{1,2} and impaired social functioning³ which, although adversely associated with quality of life,^{2,4-10} health behaviors,¹¹⁻¹⁵ and survival,¹⁶⁻²⁰ often go unrecognized or undertreated.²¹⁻²³ The Institute of Medicine's (IOM's) seminal 2008 report *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs* brought national attention to the importance of addressing psychosocial needs as part of quality cancer care. The report suggested that achieving this goal would require effective communication between patients and health care providers about psychosocial needs, identifying each survivor's unique needs, and

connecting survivors with appropriate medical and/or supportive care services.²⁴

Little is known on a population level about whether psychosocial care in practice is provided according to IOM recommendations. Factors associated with discussions between survivors and providers regarding how cancer affects emotions and relationships are understudied²⁵ relative to research on the use of psychosocial services including professional counseling or support groups (PCSG). PCSG participation in the United States has been relatively static at approximately 14% over the last 20 years (Buchanan et al, submitted for publication).²⁶ Breast cancer survivors and survivors within 5 years of diagnosis are historically more likely to use PCSG,²⁶ but use has not been examined since the

Table 1. Characteristics of Survivors of Adult Cancers in the United States (N = 1,777)

Characteristic	No. of Patients	Weighted %	95% CI
Age at most recent cancer diagnosis, years			
≤ 39	319	18.7	16.4 to 21.0
40-49	295	16.5	14.6 to 18.4
50-64	588	33.8	31.1 to 36.6
≥ 65*	506	27.4	24.9 to 29.9
Missing	69	3.5	2.5 to 4.5
Sex			
Male	668	42.2	39.5 to 45.0
Female	1,109	57.8	55.0 to 60.5
Race/ethnicity			
Non-Hispanic white	1,303	83.0	81.3 to 84.7
Non-Hispanic black	242	8.3	7.1 to 9.5
Hispanic	164	5.9	4.9 to 7.0
Other	68	2.8	1.9 to 3.6
Marital status			
Married/living as married	861	63.5	61.0 to 65.9
Never married/widowed/divorced/separated	915	36.5	34.0 to 39.0
Missing	1		
Education			
< High school	298	13.6	11.7 to 15.4
High school or GED	485	28.7	26.1 to 31.2
Some college or associates degree	525	30.1	27.4 to 32.8
Bachelor's degree or higher	459	27.3	24.4 to 30.1
Missing	10	0.4	0.1 to 0.7
Poverty status, % of Federal Poverty Level†			
< 100	232.6	8.6	7.3 to 10.2
100-199	411.8	20.5	18.5 to 22.7
200-399	560.2	33.1	30.4 to 35.9
≥ 400	572.4	37.8	34.9 to 40.7
Health insurance status			
Yes	1,369	77.7	75.4 to 80.0
No	145	7.0	5.7 to 8.3
Unknown	263	15.3	13.2 to 17.4
Region			
Northeast	299	18.3	15.8 to 20.8
Midwest	438	25.3	22.9 to 27.8
South	638	35.7	32.8 to 38.5
West	402	20.7	18.2 to 23.1
Cancer site (most recent diagnosis)			
Breast	402	20.1	17.9 to 22.3
Prostate	261	15.5	13.7 to 17.3
Melanoma	147	10.1	8.4 to 11.7
Cervical	136	7.3	5.8 to 8.8
Colorectal	143	7.6	6.2 to 9.1
Hematologic	99	6.1	4.7 to 7.5
Short-survival cancers‡	102	5.6	4.4 to 6.8
Other cancers§	399	22.9	20.6 to 25.1
Unknown¶	88	4.9	3.8 to 6.0
Recurrence or multiple cancers			
No	1,304	72.5	70.2 to 74.8
Yes	322	18.8	17.0 to 20.7
Missing	151	8.6	7.1 to 10.2
Time since most recent cancer diagnosis, years			
< 1	127	6.9	5.6 to 8.3
1-5	639	38.0	35.3 to 40.7

(continued in next column)

Table 1. Characteristics of Survivors of Adult Cancers in the United States (N = 1,777) (continued)

Characteristic	No. of Patients	Weighted %	95% CI
6-9	266	14.9	12.6 to 17.1
≥ 10	676	36.7	34.0 to 39.4
Missing	69	3.5	2.5 to 4.5
Treatment timing			
No recent treatment	1350	75.6	73.3 to 77.9
Recent treatment (last 12 months)	153	8.7	7.2 to 10.3
Current treatment	109	5.9	4.6 to 7.2
Missing	165	9.8	8.1 to 11.4
Surgery			
No	490	27.3	24.8 to 29.8
Yes	1,115	62.6	59.7 to 65.4
Missing	172	10.1	8.4 to 11.8
Chemotherapy			
No	1,193	66.9	64.3 to 69.5
Yes	412	23.0	20.8 to 25.2
Missing	172	10.1	8.4 to 11.8
Radiation			
No	1,160	65.3	62.8 to 67.9
Yes	445	24.6	22.2 to 26.9
Missing	172	10.1	8.4 to 11.8
Hormonal treatment			
No	1,492	83.4	81.4 to 85.5
Yes	113	6.4	5.1 to 7.8
Missing	172	10.1	8.4 to 11.8
Currently cancer free			
Yes	1,358	76.1	73.9 to 78.4
No	222	12.4	10.7 to 14.1
Missing	197	11.5	9.7 to 13.3
History of research study/clinical trial participation			
No	1,631	81.3	79.1 to 83.4
Yes	146	8.1	6.5 to 9.8
Missing	181	10.6	8.9 to 12.3
No. of comorbidities			
0	394	23.8	21.6 to 26.0
1	479	27.1	24.6 to 29.6
≥ 2	888	48.2	45.4 to 51.0
Missing	16	0.9	0.4 to 1.5

Abbreviation: GED, General Educational Development.

*Sample for age ≥ 80 years: n = 99 (4.7%).

†Raw sample size for poverty status includes decimals because of multiple imputation procedures. 2010 Federal Poverty Status was \$22,050 for a family of four.

‡Includes lung, liver, pancreatic, stomach, and esophageal cancer.

§Less prevalent cancers, all ≤ 4% of cancers.

¶Last cancer site "unknown" was because of either multiple cancers diagnosed in the same calendar year or missing data on year of diagnosis for one or more reported cancers. An additional 54 patients were defined as missing on cancer site and time since diagnosis because of improbable combinations of cancer site and age at diagnosis.

release of IOM recommendations. Although discussion with survivors about the psychosocial effects of cancer is the recommended standard of care,²⁷ many survivors might not need referral to formal psychological services.²⁶ However, little is known about which survivors desire PCSSG but experience potentially modifiable barriers (eg, lack of availability, lack of knowledge) to receipt of such care.

To enhance our understanding of current psychosocial care for cancer survivors on a national level and to benchmark the success of

efforts to improve psychosocial care according to IOM recommendations, this study aimed to provide population-based prevalence estimates of health care provider discussions about cancer-related emotional and social concerns; characterize survivors who reported having a provider discussion, PCSG participation, and barriers to PCSG; and test the association between receipt of psychosocial services and satisfaction with how cancer-related emotional and social needs were met.

PATIENTS AND METHODS

Data Source

This study is based on data from the 2010 National Health Interview Survey (NHIS),²⁸ an in-person, nationwide survey conducted by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC) to track health-related trends in the United States. In 2010, NHIS included a Cancer Control Supplement developed and cosponsored by the National Cancer Institute (NCI) and the CDC. NHIS uses a complex, multistage sampling framework that involves clustering and stratification to derive a representative sample of the civilian, noninstitutionalized population; blacks, Hispanics, and Asians are oversampled. Data are collected through household interviews by trained census workers who use computer-assisted personal interviewing. Adults in the home at the time of the interview were invited to complete the Family Core component of the survey. One adult per household was randomly chosen to complete the Sample Adult Questionnaire, which in 2010 included the Cancer Control Supplement. The 2010 interviewed sample included 34,329 households containing 27,157 adults who completed the Sample Adult Questionnaire. For the Sample Adult component of the 2010 survey, the conditional response rate (given that household response occurred) was 77.3% of sample adults; the final response rate (accounting for household nonresponse) was 60.8%. In the 2010 NHIS, 2,333 sample adults reported a cancer history. The current analytic sample (N = 1,777) excluded those who reported exclusively nonmelanoma or unknown skin cancers (n = 494), those who did not answer questions about cancer type (n = 17), and those who reported exclusively cancer(s) diagnosed at age ≤ 21 years (n = 45, due to differences in treatment settings for childhood/adolescent cancer).

Measures

Sociodemographics and comorbid conditions. Age, sex, race/ethnicity, marital status, education, income (percent of the poverty index by using NHIS imputed data files),²⁹ and health insurance status (related to the time of interview rather than time of cancer diagnosis/treatment) were obtained from the Family Core Survey. Education rather than income was used as a predictor in multivariable models because of high collinearity. Census region was obtained from the Sample Adult file. Comorbidity burden was defined by the sum of self-reported comorbid conditions ever diagnosed (hypertension, heart disease, stroke, diabetes, lung disease, arthritis) by using definitions from previous NHIS research^{30,31} plus arthritis because of its impact on psychosocial functioning.³²

Cancer characteristics. Site and date of all cancers were drawn from the Cancer Control Supplement. We used the most recent cancer site because available treatment data relate to only the most recent cancer. We grouped short-survival cancers with a relative 5-year survival of less than 25% (esophagus, liver, lung, pancreas, and stomach).³⁰ We considered age at diagnosis, time since diagnosis, and cancer site to be missing for survivors who reported extremely unlikely combinations of cancer sites and corresponding ages (eg, prostate cancer at age of 3; n = 54).³⁰ Survivors self-reported current cancer status (cancer free v not), history of recurrence, treatment timing, treatment history for the most recent cancer (surgery, radiation, chemotherapy, or hormonal treatments), and past participation in a cancer-related research study/clinical trial. Because the number of cancer episodes could be related to psychosocial care receipt, we created one indicator of cancer recurrence and/or multiple cancers.

Receipt of psychosocial services. As part of the Cancer Control Supplement, survivors were asked, “After you were diagnosed with cancer, did your doctor, nurse, or other health professional talk with you about how cancer may affect your emotions or your relationships with other people?” Survivors reported whether they received professional counseling or joined a support group (PCSG) after cancer was diagnosed to help cope and the main reason for nonuse where relevant (“I didn’t know these services were available”/“I didn’t want it”/“I didn’t think I needed it”/“I couldn’t afford it”/“Some other reason”). Participants were asked to specify “other” reasons. We categorized responses (including free-text responses) into barriers (eg, wasn’t available, couldn’t afford, transportation difficulties) and nonbarriers (eg, didn’t want or need these services, adequate support from other sources). Finally, respondents reported their satisfaction with how health care providers met their cancer-related emotional/social needs (very satisfied/somewhat satisfied/not satisfied; recoded as “very satisfied” v “less than very satisfied”).

Data Analysis

STATA 11.2 (STATA, College Station, TX) survey procedures were used to incorporate sampling weights and account for the complex sampling design of NHIS. We calculated national estimates for the number of cancer survivors not reporting receipt of psychosocial services by multiplying the percentage of survivors not reporting services by the sum of the population weights.

Multivariable logistic regression models were used to test factors associated with receipt of provider discussion and use of PCSG. To balance parsimony and inclusiveness, predictors (sociodemographic, cancer characteristics, cancer treatment, research study/clinical trial participation) were included in adjusted models when associated with receipt of services in bivariate tests ($P < .2$). Similar methods were used to model satisfaction except that receipt of services (provider discussion and/or use of PCSG v neither) was included in the model. Bivariate logistic regression models were used to test factors associated with barriers to use of PCSGs (a Bonferroni correction controlled the family-wise error rate, $\alpha = .0028$) and the association between provider discussion and use of PCSG. Estimates shown meet the NCHS standard of having relative SEs of ≤ 30%.³³

RESULTS

Study Sample

The analytic sample included 1,777 survivors. Survivors tended to be age ≥ 50 years (61.2%), female (57.8%), and non-Hispanic white (83.0%); 36.7% of survivors were diagnosed more than 10 years ago (Table 1). The most common cancer sites were breast (20.1%),

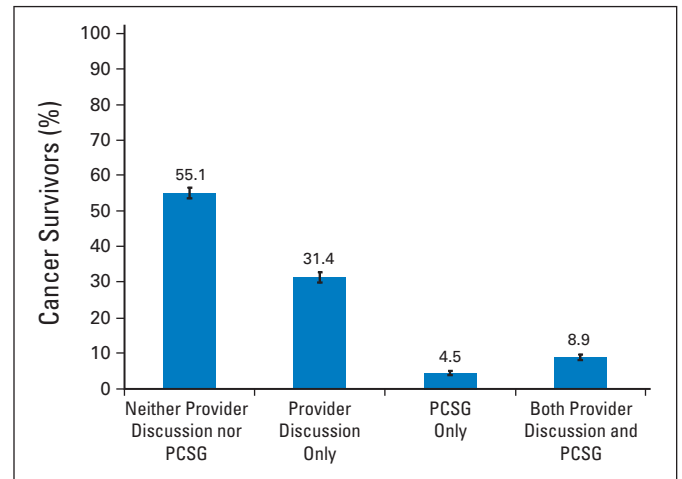


Fig 1. Receipt of psychosocial care among cancer survivors. Weighted percent and 95% CI (error bars). PCSG, professional counseling or support groups.

Table 2. Factors Associated With Having a Discussion With Health Care Provider(s) About Emotional and Social Concerns After Cancer

Factor	Unadjusted Models			Multivariable Model* (N = 1,436)			Wald <i>f</i>	<i>P</i>
	Weighted % With Discussion	95% CI	<i>P</i>	Adjusted OR	95% CI	<i>P</i>		
Age at most recent cancer diagnosis, years			.390					
≤ 39	37.9	31.1 to 44.7						
40-49	43.4	35.9 to 50.9						
50-64	42.8	37.4 to 48.1						
≥ 65	37.4	32.0 to 42.8						
Sex			.796					
Male	39.8	35.3 to 44.4						
Female	40.6	36.9 to 44.3						
Race/ethnicity			< .001				6.29	< .001
Non-Hispanic white	38.2	34.9 to 41.6		Ref				
Non-Hispanic black	57.6	49.8 to 65.5		2.46	1.64 to 3.71	< .001		
Hispanic	42.3	32.7 to 51.9		1.11	0.70 to 1.76	.656		
Other	43.5	28.2 to 58.7		1.07	0.54 to 2.12	.838		
Marital status			.040					
Married/living as married	42.2	38.4 to 46.0		Ref				
Never married/widowed/ divorced/separated	36.6	32.6 to 40.6		0.68	0.53 to 0.87	.003		
Education			.284					
< High school	37.7	30.4 to 45.1						
High school or GED	41.1	35.8 to 46.4						
Some college or associate's degree	43.8	38.7 to 48.9						
Bachelor's degree or higher	36.9	30.6 to 43.1						
Health insurance status			.355					
Yes	40.7	37.5 to 43.9						
No	33.8	24.8 to 42.9						
Unknown	42.2	30.4 to 54.1						
Region			.990					
Northeast	39.1	30.4 to 47.8						
Midwest	40.1	34.4 to 45.9						
South	40.7	36.1 to 45.3						
West	40.5	34.7 to 46.4						
Cancer site (most recent cancer)			< .001				4.61	.001
Breast	47.6	41.5 to 53.7		Ref				
Colorectal	41.9	34.5 to 49.2		0.83	0.53 to 1.30	.421		
Prostate	18.5	10.3 to 26.7		0.32	0.18 to 0.59	< .001		
Melanoma	40.6	30.3 to 50.9		1.05	0.61 to 1.79	.864		
Hematologic	47.8	38.4 to 57.1		1.01	0.63 to 1.63	.964		
Cervical	60.9	49.8 to 72.0		1.56	0.87 to 2.77	.132		
Short survival	48.4	36.8 to 60.0		0.90	0.51 to 1.59	.703		
Other	31.9	26.6 to 37.2		0.56	0.39 to 0.80	.002		
Recurrence or multiple cancers			.114					
No	39.1	35.9 to 42.3		Ref				
Yes	44.9	38.1 to 51.6		1.27	0.87 to 1.85	.218		
Time since most recent cancer diagnosis, years			.161				0.71	.549
< 1	39.9	29.3 to 50.4		Ref				
1 to 5	44.1	39.3 to 48.8		1.16	0.69 to 1.97	.571		
6 to 9	40.2	32.8 to 47.5		0.99	0.55 to 1.81	.983		
≥ 10	36.8	32.2 to 41.4		0.94	0.54 to 1.63	.814		
Treatment timing			.001				2.21	.127
No recent treatment	38.7	35.3 to 42.1		Ref				
Recent treatment (last 12 months)	38.6	30.3 to 46.9		0.94	0.60 to 1.46	.768		
Current treatment	62.2	51.5 to 72.9		1.79	0.97 to 3.33	.064		
Surgery			.039					
No	45.0	39.7 to 50.3		Ref				
Yes	38.2	34.7 to 41.8		1.04	0.78 to 1.41	.772		

(continued on following page)

Table 2. Factors Associated With Having a Discussion With Health Care Provider(s) About Emotional and Social Concerns After Cancer (continued)

Factor	Unadjusted Models			Multivariable Model* (N = 1,436)			Wald <i>f</i>	<i>P</i>
	Weighted % With Discussion	95% CI	<i>P</i>	Adjusted OR	95% CI	<i>P</i>		
Chemotherapy			< .001					
No	34.6	31.4 to 37.9		Ref				
Yes	56.8	50.9 to 62.7		1.67	1.19 to 2.34	.003		
Radiation			.001					
No	37.1	33.7 to 40.5		Ref				
Yes	48.8	42.9 to 54.7		1.26	0.92 to 1.72	.156		
Hormonal treatment			.734					
No	40.5	37.4 to 43.5						
Yes	38.6	27.8 to 49.3						
Currently cancer free			.026					
Yes	38.8	35.7 to 42.0		Ref				
No	48.7	40.3 to 57.2		0.96	0.63 to 1.46	.843		
History of research study/clinical trial participation			< .001					
No	37.8	34.8 to 40.9		Ref				
Yes	65.3	55.5 to 75.2		2.18	1.35 to 3.51	.001		
No. of comorbidities			.489					
0	43.5	37.5 to 49.4						
1	39.0	33.0 to 44.9						
≥ 2	39.8	35.8 to 43.9						

Abbreviations: GED, General Educational Development; OR, odds ratio; Ref, reference.
*Model includes predictors associated with provider discussion at *P* < .2 in unadjusted models.

prostate (15.5%), and melanoma (10.1%). Survivors excluded from any analyses due to missing data on provider discussion, use of PCSG, and/or satisfaction (n = 213, 12.0%) or covariates (n = 142; 8.0%) were similar to those with complete data on age, sex, race/ethnicity, and region (all *P* > .05).

Receipt of Psychosocial Services

More than half the survivors who responded about psychosocial care (55.1%) reported neither provider discussion nor use of PCSG (Fig 1), which represents approximately 6,984,223 survivors in the United States (95% CI, 6,612,725 to 7,355,723). Only 40.2% of survivors (95% CI, 37.3% to 43.2%) reported a provider discussion with or without PCSG. We estimate that 7,596,450 survivors in the United States (95% CI, 7,221,536 to 7,971,365) did not discuss how cancer might affect psychosocial functioning with health care providers.

Factors Associated With Provider Discussion

Non-Hispanic blacks (v non-Hispanic whites), married survivors, survivors treated with chemotherapy, and past research study participants were more likely to report a provider discussion (all *P* < .01; Table 2). Survivors of prostate and other cancers were less likely than breast cancer survivors to report a discussion.

Factors Associated With PCSG Use and Barriers to Use

Survivors age 40 to 49 years (v ≤ 39 years), Hispanics (v non-Hispanic whites), survivors treated with radiation, and past research study participants were more likely (although survivors diagnosed more than 6 years ago were less likely) to report PCSG use (all *P* < .05; Table 3). Survivors of melanoma and other cancers were less likely

than breast cancer survivors to report PCSG use. Only 18.3% (95% CI, 15.9% to 20.7%) of the reasons for nonuse of PCSG were considered barriers; most survivors indicated that they did not want or need PCSG (73.2%) or that they had adequate support from other sources (3.6%). The primary barrier was lack of knowledge about or unavailability of services (92.9% of barriers; 95% CI, 89.6% to 96.2%). Fewer survivors (< 10% of those with barriers) indicated other barriers (couldn't afford the services, transportation limitations, distance from the services, language barriers, or social stigma). Survivors age ≤ 39 years (v age 50 to 64 years), those with less than high school education (v at least some college), those without insurance (v any insurance), and survivors ≥ 10 years postdiagnosis (v < 1 year) were more likely to report barriers to PCSG participation (all *P* < .001). Finally, provider discussions were associated with PCSG use: 22.0% versus 7.6% of survivors with and without a provider discussion, respectively, reported PCSG use (*P* < .001).

Satisfaction With How Needs Were Met by Health Care Providers

Overall, most survivors (74.9%; 95% CI, 72.3% to 77.5%) were very satisfied with how their emotional and social needs were met. Survivors who reported provider discussion and/or PCSG use were more likely to be "very satisfied" than those who reported neither service (odds ratio, 2.40; 95% CI, 1.72 to 3.35; *P* < .001).

DISCUSSION

This study provides population-based estimates of psychosocial care for cancer survivors consistent with IOM recommendations.²⁴ Although clinical and scientific attention to psychosocial survivorship

Table 3. Factors Associated With Use of PCSG

Factor	Multivariable Model* (N = 1,493)						Wald <i>f</i>	<i>P</i>
	Weighted % Using PCSG	95% CI	<i>P</i>	Adjusted OR	95% CI	<i>P</i>		
Age at most recent cancer diagnosis, years			< .001				6.24	< .001
≤ 39	9.5	5.8 to 13.3		Ref				
40-49	23.9	18.1 to 29.8		2.37	1.33 to 4.24	.004		
50-64	12.8	9.8 to 15.8		1.01	0.56 to 1.83	.969		
≥ 65	10.0	7.0 to 13.0		0.78	0.39 to 1.56	.482		
Sex			.361					
Male	12.2	9.3 to 15.1						
Female	14.0	11.6 to 16.4						
Race/ethnicity			.025				2.67	.048
Non-Hispanic white	12.2	10.1 to 14.2		Ref				
Non-Hispanic black	16.4	10.5 to 22.4		1.18	0.64 to 2.18	.603		
Hispanic	20.9	14.4 to 27.4		2.11	1.22 to 3.65	.008		
Other	—†	—		—	—	—		
Marital status			.680					
Married/living as married	12.9	10.3 to 15.5						
Never married/widowed/ divorced/separated	13.8	11.1 to 16.4						
Education			.048				3.21	.023
< High school	10.5	6.1 to 14.9		Ref				
High school or GED	13.0	9.6 to 16.4		1.48	0.81 to 2.69	.198		
Some college or associate's degree	11.0	8.3 to 13.7		0.91	0.48 to 1.76	.790		
Bachelor's degree or higher	17.2	13.1 to 21.3		1.86	0.97 to 3.57	.060		
Health insurance status			.340					
Yes	13.6	11.5 to 15.6						
No	14.0	6.7 to 21.3						
Unknown	—†	—						
Region			.018				2.23	.085
Northeast	9.5	6.4 to 12.7		Ref				
Midwest	11.1	8.2 to 14.0		1.22	0.71 to 2.10	.466		
South	14.0	10.8 to 17.3		1.55	0.95 to 2.54	.079		
West	17.5	13.0 to 22.1		1.81	1.07 to 3.05	.026		
Cancer site (most recent cancer)			< .001				1.54	.176
Breast	20.6	15.6 to 25.5		Ref				
Prostate	13.3	7.9 to 18.7		0.87	0.44 to 1.74	.699		
Melanoma	5.9	2.0 to 9.8		0.42	0.19 to 0.94	.034		
Colorectal	10.3	4.5 to 16.0		0.59	0.28 to 1.28	.181		
Hematologic	18.6	10.4 to 26.9		0.78	0.36 to 1.71	.541		
Other‡	10.8	8.1 to 13.4		0.59	0.36 to 0.96	.033		
Recurrence or multiple cancers			.811					
No	13.2	11.1 to 15.2						
Yes	13.6	9.7 to 17.6						
Time since most recent cancer diagnosis, years			.089				2.74	.044
< 1	18.5	10.8 to 26.2		Ref				
1 to 5	15.2	11.9 to 18.5		0.65	0.36 to 1.19	.163		
6 to 9	9.5	5.5 to 13.6		0.37	0.17 to 0.84	.017		
≥ 10	11.8	9.0 to 14.5		0.44	0.22 to 0.91	.026		
Treatment timing			.133				0.33	.718
No recent treatment	12.7	10.7 to 14.6		Ref				
Recent treatment (last 12 months)	13.0	7.1 to 18.8		0.85	0.44 to 1.64	.633		
Current treatment	20.8	11.8 to 29.8		0.82	0.40 to 1.67	.583		
Surgery			.592					
No	12.3	9.1 to 15.5						
Yes	13.4	11.2 to 15.5						
Chemotherapy			.001					
No	11.0	8.9 to 13.0		Ref				
Yes	19.1	14.6 to 23.5		1.44	0.94 to 2.21	.092		

(continued on following page)

Table 3 Factors Associated With Use of PCSG (continued)

Factor	Multivariable Model* (N = 1,493)						Wald <i>f</i>	<i>P</i>
	Weighted % Using PCSG	95% CI	<i>P</i>	Adjusted OR	95% CI	<i>P</i>		
Radiation			< .001					
No	10.7	9.0 to 12.4		Ref				
Yes	19.3	14.9 to 23.6		1.62	1.06 to 2.48	.025		
Hormonal treatment			.105					
No	12.6	10.8 to 14.3		Ref				
Yes	19.4	10.0 to 28.7		0.84	0.37 to 1.92	.684		
Currently cancer free			.260					
Yes	12.8	10.9 to 14.8						
No	15.9	10.6 to 21.3						
History of research study/clinical trial participation			< .001					
No	11.4	9.7 to 13.2		Ref				
Yes	30.1	22.0 to 38.2		2.85	1.77 to 4.58	< .001		
No. of comorbidities			.445					
0	13.3	9.1 to 17.5						
1	15.0	11.1 to 18.8						
≥ 2	12.0	9.6 to 14.4						

Abbreviations: GED, General Educational Development; OR, odds ratio; PCSG, professional counseling or support groups; Ref, reference; RSE, relative SE.
 *Model includes predictors associated with PCSG use at *P* < .2 in unadjusted models.
 †Values suppressed as a result of RSE > 30%.
 ‡Includes less prevalent cancers (each < 4% of cancers), cervical, and short-survival cancers (collapsed as a result of small cell sizes).

care is increasing,³⁴ to the best of our knowledge, this is the first study to provide population-based data regarding health care provider discussions with survivors about psychosocial concerns after cancer. Less than half the survivors reported having such a discussion with providers, even among those diagnosed after the release of IOM recommendations. Moreover, many survivors reported receipt of neither provider discussion nor PCSG, representing nearly 7 million US cancer survivors who recall no professional attention to their psychosocial needs after cancer. There is much work to be done to provide cancer care “for the whole patient.”²⁴

Discussions with providers regarding psychosocial concerns after cancer can serve multiple purposes, including enhancing communication between providers, survivors, and their families about the importance of psychosocial needs, identifying otherwise undetected needs, and providing an opportunity for treatment or referral for psychosocial concerns. In our study, survivors who reported a provider discussion were more likely to use PCSG. Provider discussions may also promote satisfaction with how psychosocial needs are met (as in this study) and with cancer care overall,^{25,35} and may foster trusting, collaborative patient-provider relationships.³⁶

The low prevalence of provider discussions about psychosocial concerns reflects missed opportunities for connecting survivors to appropriate interventions, particularly among vulnerable subgroups. Other than a positive association with history of chemotherapy, survivor-reported discussions generally did not correspond with known risk factors for psychosocial distress, including younger age, female sex, short-survival cancers, greater comorbidity burden, and lower education.^{1,37-41} In fact, unmarried survivors, who are at risk for less support and greater distress³⁸ were less likely to report provider discussions. The higher proportion of non-Hispanic blacks who recalled a provider discussion compared with non-Hispanic whites may

be attributable to greater psychological needs,^{42,43} an increased likelihood relative to whites of blacks attending an NCI-designated cancer center,⁴⁴ the role black pastors (who may be perceived as health care providers) play in promoting health,⁴⁵ or cultural differences in response style. Future research should investigate the relationships between race/ethnicity and provider discussions about psychosocial issues to better understand factors that promote high-quality care for all racial/ethnic groups. In addition, because providers’ confidence in their knowledge about adverse psychosocial events after cancer is associated with their involvement in assessment and treatment of psychological distress,⁴⁶ the reduced likelihood that survivors with relatively uncommon cancers reported discussions may be indicative of lower provider familiarity with these cancers.

Consistent with earlier studies, survivors of rarer cancers and melanoma, survivors farther out from diagnosis, and younger and older adults compared with middle-age survivors^{26,47} were less likely to use PCSG. These patterns appear stable despite growing acceptance of⁴⁸ and demand for⁴⁹ mental health services in the United States. In contrast to earlier work,^{26,47} Hispanics were more likely than non-Hispanic whites to report PCSG use. Our finding may reflect changes in the perceived acceptability of psychosocial services among Hispanics or counseling from sources less frequently accessed by non-Hispanic white survivors (eg, pastoral counseling).⁵⁰

Approximately one in six survivors who did not use PCSG indicated that they did not know about or lacked access to these services. Although most comprehensive cancer centers and community cancer centers now offer PCSG, many institutions have fewer than three psychosocial providers,⁵¹ which may be insufficient to meet survivors’ needs. One study suggests that only 10% of survivors report that support groups were recommended by their physician.⁴⁷ Thus, psychosocial care delivery may be improved by ensuring that survivors

are made aware of the services available at their treatment facility, in the community, and/or online. Efforts to connect survivors with appropriate psychosocial care should focus on vulnerable subgroups (eg, survivors who are younger, less educated, and without insurance and who are more years postdiagnosis).

Past participation in cancer-related research studies/clinical trials was positively associated with provider discussion and PCSG use. Perhaps study participation is a proxy for being treated in a comprehensive cancer center with better availability of research studies and psychosocial care. Alternatively, survivors who volunteer for cancer-related research may be more “activated” for participation in health-related activities⁵² or have motivations driving participation in both research and psychosocial care (eg, reassurance, interaction with concerned people).⁵³ Finally, psychosocial health may be discussed as part of cancer research, independent of clinical care. Future studies should clarify the role of participation in cancer-related research for psychosocial care.

Health care providers face many demands with inadequate time to address all aspects of survivorship.⁵⁴ However, responsibility for discussions about the psychosocial consequences of cancer and appropriate referral does not belong exclusively to oncologists. Many primary care physicians feel that discussing survivors’ psychosocial needs is within their purview.⁴⁶ Both primary care physicians and other oncology team members, including nurses and nonphysician providers, can play important roles in addressing psychosocial needs.⁵⁵ Coordination within and between provider teams is essential for ensuring that psychosocial services meet patient needs without overburdening providers or duplicating care.⁴⁶

Standardized distress screening is recommended for all survivors at the time of cancer diagnosis and at important transition points along the cancer continuum (eg, completion of cancer treatment).^{27,56} This practice currently occurs on a limited basis^{51,57} but will be required for accreditation by the American College of Surgeons Commission on Cancer starting in 2015. Distress screening can prompt dialogue between providers and survivors about psychosocial needs and inform actions toward meeting those needs. However, brief discussions about psychosocial issues are needed, even when survivors do not screen positive for distress, and despite our finding that many survivors were already satisfied with how psychosocial needs are met. Such discussions provide invaluable opportunities to facilitate communication about psychosocial needs, as recommended by the IOM,²⁴ to gauge interest in psychosocial services, and to lay the groundwork for addressing future needs.

Limitations of this study include self-reported data that may underestimate the prevalence of provider discussions/PCSG due to recall bias. Recall of provider discussion was independent of time since diagnosis, while recall of PCSG use was higher among those diagnosed more recently. Nevertheless, useful interventions were likely to be more memorable than less effective ones. PCSG use may not have been reported if respondents did not conceptualize the purpose of such interventions (eg, managing physical symptoms) as helping with coping. As is common in large epidemiologic studies, receipt of psy-

chosocial services was assessed by using single items; however, this study offers a rare opportunity to provide population-based estimates of psychosocial care. The current survey did not assess who initiated discussions (eg, providers, survivors, caregivers). We could not determine the type of provider(s) involved in discussions or delivering PCSG, when psychosocial services were received, where cancer treatment or psychosocial services were received (eg, comprehensive cancer center, community cancer center), or whether survivors used professional counseling, support groups, or both. Future research should tease apart the role of survivors, different types of providers, and care settings in psychosocial care. Healthier survivors may have been more likely to participate with NHIS or to provide complete data, but survivors with missing data reported characteristics similar to those with complete data. Some questions related to the time of interview rather than cancer diagnosis/treatment. Given the cross-sectional nature of NHIS, causal inferences cannot be made about associations between receipt of services and survivor satisfaction or quality of life. Finally, the IOM made other recommendations regarding psychosocial care (eg, coordination of biomedical and psychosocial care and systematically following up on and adjusting treatment plans) that were not assessed in NHIS that merit exploration in future studies.

This study provides unique information about receipt of psychosocial services on a national level. More than half of survivors in the US reported not having had a discussion with their health care providers about psychosocial concerns after cancer, reflecting a missed opportunity to connect survivors with appropriate care. These data provide benchmarks to measure improvements in psychosocial care delivery and inform efforts to increase the reach of psychosocial care. Because interventions targeting providers (eg, communication skills training)²⁵ are not uniformly successful in improving detection of distress⁵⁸ and because cancer survivors can be trained to initiate conversations with providers about their symptoms,⁵⁹ ultimately effective patient-provider communication regarding psychosocial concerns may be best facilitated by multi-level interventions. Future research using qualitative and quantitative methods to understand survivor, provider, and health system barriers to psychosocial care may illuminate ways to improve care delivery.

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AUTHOR CONTRIBUTIONS

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