



ASSESSMENT OF CANCER CARE AND SATISFACTION IN WISCONSIN: FOCUS ON RURAL CANCER PATIENTS

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INTRODUCTION

Wisconsin's Comprehensive Cancer Control Plan, 2005-2010, (1) identifies priorities for reducing the burden of cancer in Wisconsin. Priorities in the Plan regarding treatment for cancer patients are motivated, in part, by the concern that rural cancer patients in Wisconsin may not receive the same high-quality cancer care as patients elsewhere in the state. In particular, rural cancer patients may be less likely to have health insurance and access to cancer specialists and other cancer-related health professionals. To address this potential disparity, we sought to evaluate the quality of cancer care for Wisconsin cancer patients.

Quality of cancer care can be evaluated using two major approaches. One approach involves objective measurement of the aspects of cancer care, including facts surrounding the structure, process, and outcome of cancer care. Alternatively, cancer patients themselves can provide a subjective assessment of satisfaction with their care. We chose to use this latter approach and implemented a survey of recently diagnosed breast, colorectal, lung, and prostate cancer patients in Wisconsin.

METHODS

Case Identification

All Wisconsin residents newly diagnosed in 2004 with invasive breast, colorectal, prostate, or lung cancer aged 18-79 years and reported to the Wisconsin statewide mandatory cancer registry were eligible for the ACCESS study. (2) Eligibility was limited to case subjects with valid addresses who were living at the time of first contact. A quasi-random sample of 2,715 cases was selected for the study and 1,841 (67.8%) participants completed the survey. Participation varied slightly across case

groups (breast 73%, colorectal 62%, lung 62%, prostate 71%). Respondents received the study survey by mail approximately 2 years after their cancer diagnoses. Family members of deceased lung cancer cases were asked to complete an alternate questionnaire regarding the impact of the lung cancer case's diagnosis and death; results of this parallel study are not reported in this surveillance brief.

Data Collection

Participants were invited to complete a mailed survey between May 2006 and April 2007. Trained interviewers offered non-responders the opportunity to complete the survey over the telephone. The study survey included questions regarding cancer treatments, perceived symptom management and coordination of care, barriers to receiving care, comorbid health conditions, and demographic factors. The study survey also included questions from the Functional Assessment of Cancer Therapy - General (FACT-G) quality of life measurement tool (3) and the Functional Assessment of Chronic Illness Therapy - Treatment Satisfaction - Patient Satisfaction (FACIT-TS-PS) instrument. (4) The ACCESS survey instrument required 20-30 minutes to complete.

Analyses

Chi-square tests of association were conducted to determine if specific factors potentially associated with quality of cancer care differed in rural compared to non-rural counties of the state. To determine which counties of Wisconsin were rural, we used the National Center for Health Statistics Urban-Rural Classification Scheme for Counties. (5) This classification system assigns all counties into one of six categories while taking into consideration population density and worker commuting patterns. To examine whether study participants' reports of their cancer treatment

Summary

Objective – To examine variation in factors associated with the quality of cancer care between rural and non-rural cancer patients in Wisconsin.

Methods – A cross-sectional survey was completed by 1,841 participants diagnosed in 2004 with breast, colorectal, lung, or prostate cancer (67% response rate). The study survey included questions regarding cancer treatments, barriers to receiving care, quality of life, satisfaction with care, and demographic factors.

Findings – Results indicate disparities in access to radiation treatment, prostate and lung cancer specialists, and social workers in rural settings.

Implications – Although rural cancer patients do not report an overall lower satisfaction with cancer care, more research is needed to determine the impact of reduced access to oncologists, social workers, and radiation treatment in Wisconsin's rural counties.

experiences varied according to rural residence, we combined five categories (large central metropolitan, large fringe metropolitan, medium metropolitan, small metropolitan, and micropolitan) and compared these participants to the participants in the remaining rural category. Figure 1 shows the 34 Wisconsin counties that were classified as rural by this categorization.

RESULTS

Of the 1,841 ACCESS study participants, 282 (15.3%) resided in a rural county. Table 1 includes information on patient and treatment

factors in relation to rural residence. Participants from rural counties had similar overall satisfaction with cancer care and similar rates of health insurance coverage compared to participants from non-rural counties of the state. Both the extent of disease at diagnosis and the method of detection did not differ based on residence in a rural county. In addition, overall self-reported health-related quality of life did not differ between rural and non-rural areas of Wisconsin (p-value=0.26). However, the physical (p-value=0.03) and emotional (p-value=0.04) subscales of the FACT-G quality of life instrument suggested that participants from rural areas of the

state reported lower quality of life than participants from more metropolitan areas (subscale data not shown).

Patients living in rural counties were less likely to report consulting with a social worker during their cancer care. Compared to 63.5% of rural participants reporting having seen a social worker, 71.8% of non-rural participants reported having seen a social worker (Table 1). In addition, rural participants were less likely to report having discussed a Living Will or Health Care Power of Attorney with anyone; 82% of non-rural and 72% of rural participants reported that a member of the treatment staff discussed a Living Will or Health Care Power of Attorney with them.

The percent of participants that reported consulting with an oncologist or cancer specialist according to rural residence and cancer site is shown in Figure 2. Compared to non-rural participants, rural participants with lung and prostate cancer were less likely to consult with an oncologist. Approximately 90% of non-rural and 80% of rural participants with lung cancer reported consulting an oncologist. For prostate cancer participants, 58% of non-rural and 48% of rural participants reported consulting an oncologist.

Although perceived barriers to quality cancer care due to health insurance costs and coverage did not differ for participants living in rural compared to non-rural counties (data not shown), participants from rural counties traveled farther to receive cancer treatment (Table 2). Participants living in rural counties had a median travel time of 60 minutes to drive from home to the site where they received most of their cancer treatment. For non-rural participants, the median travel time was 20 minutes. Rural participants were also less likely to drive themselves to appointments and more likely to report travel difficulties.

Compared to non-rural participants, rural participants were equally likely to report having surgery and chemotherapy as part of their cancer treatment, and they were equally likely to report involvement in a clinical trial

Wisconsin Rural Geography

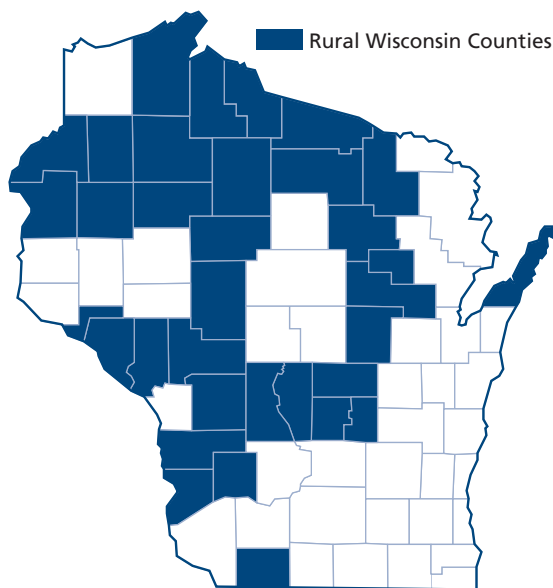


FIGURE 1. Wisconsin counties designated as rural by the CDC's 2006 National Center for Health Statistics Urban-Rural Classification Scheme.

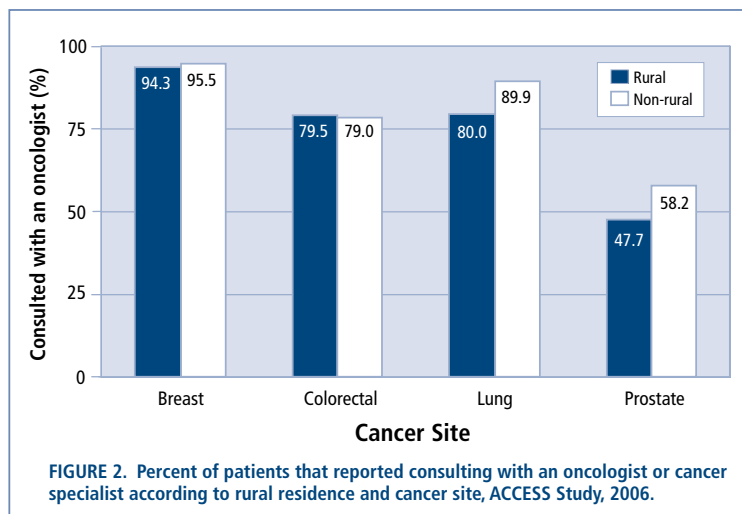


FIGURE 2. Percent of patients that reported consulting with an oncologist or cancer specialist according to rural residence and cancer site, ACCESS Study, 2006.

TABLE 1. Patient and treatment factors in relation to rural residence, ACCESS Study, 2006

Factor	Non-Rural Cases		Rural Cases		P-value*
	N	%	N	%	
Age					
<55	432	27.7	66	23.4	
55-64	533	34.2	115	40.8	
65-74	232	14.9	36	12.8	
75-80	362	23.2	65	23.1	0.20
Cancer site					
Breast	514	33.0	88	31.2	
Colorectal	447	28.7	83	29.4	
Lung	129	8.3	25	8.9	
Prostate	469	30.1	86	30.5	0.90
Race/ethnicity					
Non-Hispanic white	1427	91.5	266	94.3	
Other	132	8.5	16	5.7	0.11
Education					
No diploma	164	11.2	35	13.5	
High school	599	41.0	129	49.6	
Some college	335	23.0	55	21.2	
College degree	362	24.8	41	15.8	0.005
Discussed Living Will or Health Care Power of Attorney					
No	282	18.5	78	28.4	
Yes	1243	81.5	197	71.6	0.0002
Extent of disease at diagnosis					
Localized	967	67.3	168	65.6	
Non-localized	470	32.7	88	63.4	0.60
Method of tumor detection†					
Screening test	941	72.8	160	68.7	
Self-detection	192	14.9	37	15.9	
Health professional	159	12.3	36	15.5	0.34
Insurance					
No	59	3.8%	13	4.7%	
Yes	1489	96.2%	265	95.3%	0.50
Satisfaction with care					
Poor	241	17.1%	39	15.9%	
Fair	178	12.6%	33	13.4%	
Good	565	40.1%	105	42.7%	
Excellent	425	30.2%	69	28.1%	0.81
Quality of life (FACT-G Score)					
Poor (24 - 74)	248	17.7%	49	19.4%	
Fair (75 - 89)	359	25.7%	77	30.6%	
Good (90 - 99)	431	30.8%	67	26.6%	
Excellent (100 - 108)	360	25.8%	59	23.4%	0.26
Met with a social worker					
No	439	28.2	103	36.5	
Yes	1120	71.8	179	63.5	0.005

* Chi-square test

† Excludes lung cancer participants

(data not shown). However, rural study participants were less likely to report having radiation treatment. Overall 38.9% of rural participants reported having radiation treatment compared to 48.8% of non-rural participants (p-value=0.003). The percentage of participants reporting radiation treatment in rural and non-rural settings did not differ for colorectal cancer patients (22.0% of rural and 23.6% of non-rural), but did vary for breast (62.1% of rural and 74.0% of non-rural), lung (48.0% of rural and 53.5% of non-rural), and prostate cancer patients (28.4% of rural and 43.8% of non-rural).

COMMENTS

Although we found that the overall satisfaction with care was similar throughout Wisconsin, focusing on Wisconsin's rural cancer patients highlights variation in cancer care across the state. Rural study participants were less likely to consult with a social worker, less likely to discuss a Living Will or Health Care Power of Attorney, more likely to report travel difficulties, and less likely to report radiation treatment. In addition, prostate and lung cancer participants living in rural counties are less likely to consult with an oncologist as part of their care. Since these associations are based on cross-sectional self-reports, caution must be taken when interpreting these initial results. However, these results indicate disparities in access to radiation treatment, prostate and lung cancer specialists, and social workers in rural settings.

PROGRAM/POLICY IMPLICATIONS

Disparities in access to cancer care in rural areas were identified in the ACCESS study. However, it is unclear if these disparities affect the quality of cancer care or cancer patient prognosis. Although this study did not find differences in reported satisfaction with care for respondents living in rural and non-rural counties, more research is needed to determine the impact of reduced access to oncologists, social workers, and radiation treatment.

Transportation needs for rural cancer patients are likely associated with increased time, cost, and discomfort. Additional studies are needed to determine if increased investment in transportation services and in an increased oncology network would result in improvements in the quality of cancer care for rural patients.

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TABLE 2. Transportation factors in relation to patient rural residence, ACCESS Study, 2006

Factor	Non-Rural Cases		Rural Cases		P-value*
	N	%	N	%	
Mode of transportation for treatment					
Drove self	885	71.1	126	57.3	
Friends/family drove	334	26.8	103	40.0	
Volunteers (church, hospital, etc.)	232	14.9	36	12.8	
Difficulty receiving treatment due to travel distance					
No	1495	98.7	267	96.0	
Yes	20	1.3	11	4.0	0.002
Average length of time to drive to cancer treatment (minutes)					
0-15	394	33.6	23	11.7	
16-20	227	19.4	8	4.1	
21-30	262	22.3	24	12.2	
>30	290	24.7	142	72.1	<0.0001

* Chi-square test.

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