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FINDINGS BRIEF

RURAL & MINORITY Health Research Center

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The Involvement of Rural Health Clinic Practitioners in Cancer Treatment Decisions and Survivorship Care

- More than a third of Rural Health Clinic (RHC) practitioners were involved in primary decision making (e.g., assessing treatment preferences, goals setting) regarding their patients' cancer treatment.
- RHC practitioners were involved in specific cancer treatment decisions (e.g., surgery, clinical trial enrollment) to a lesser extent, ranging from 10.4-24.1% of practitioners.
- The majority of RHC practitioners were involved in aspects of survivorship care (e.g., screening for recurrent cancer), with nearly all practitioners (>90%) involved in survivorship care related to smoking cessation, diet and physical activity counseling, treating sexual dysfunction, or treating depression/anxiety among cancer survivors.
- Roughly two-thirds of RHC practitioners indicated that they were engaged in bidirectional communication (e.g., RHC practitioners providing relevant medical history to cancer specialists and cancer specialists providing survivorship plans to RHC practitioners) with cancer specialists either "always" or "often."

INTRODUCTION

Rural residents have higher cancer mortality rates compared to their urban counterparts.[1] Rural residents are also more likely to be diagnosed with cancer at a more advanced stage which may subsequently require more complex treatment regimens.[2] These challenges may be complicated by the longer distances to cancer specialists that rural cancer patients must travel compared to urban patients.[3] Further, rural cancer survivors tend to report poorer health status, experience more comorbid conditions, and are more likely to engage in poorer health behaviors (e.g., smoking, limited physical activity) compared to their urban counterparts.[4,5] Taken together, these factors underscore the importance of ensuring rural cancer patients and survivors receive the care necessary to ensure optimal short- and long-term outcomes.

The intent of the RHC program is to increase access to primary care services in rural communities.[6] Because of their longer-term relationships with patients, primary care practitioners in rural communities may play an important role in cancer care across the cancer control continuum including treatment decision making, side-effect management, surveillance, and survivorship processes.[7] RHC primary care services are provided using a team approach (i.e. physicians working with non-physician clinicians) as the clinic must be staffed 50% of the time with nurse practitioners (NPs) and/or physician's assistants (PAs). RHC designation affords enhanced reimbursement rates

for both Medicare and Medicaid services. According to the Health Resource and Services Administration data explorer, as of April 2022, there were 4,959 RHCs in the United States.[8]

Although RHCs can play an important role in cancer treatment decisions, management of side effects, surveillance, and survivorship care, it is unknown the extent to which practitioners at RHCs are involved in these aspects of cancer care. Therefore, our objective, in part, was to survey RHCs throughout the country to examine practitioner involvement.

FINDINGS

Rural Health Clinic Characteristics

We received survey responses from 153 RHCs across 36 states. Responses by region largely mirrored the distribution of all RHCs across the country: 41.2% responses from the South, 41.2% from the Midwest, 13.7% from the West, and 3.9% from the Northeast (**Table 1**). Most clinics (60.8%) were provider-based (e.g., owned and operated as part of a hospital participating in Medicare), and 39.2% were independent (e.g., freestanding clinics owned by a provider or provider entity but not qualifying for or have not sought provider-based status). The average number of practitioners by type across RHCs was 2.2 physicians, 2.1 advanced practice nurses, and 1.3 PAs. Nearly a third (29.9%) of RHCs were a patient-centered medical home (PCMH), and 43.2% participated in an accountable care organization (ACO) of any kind.

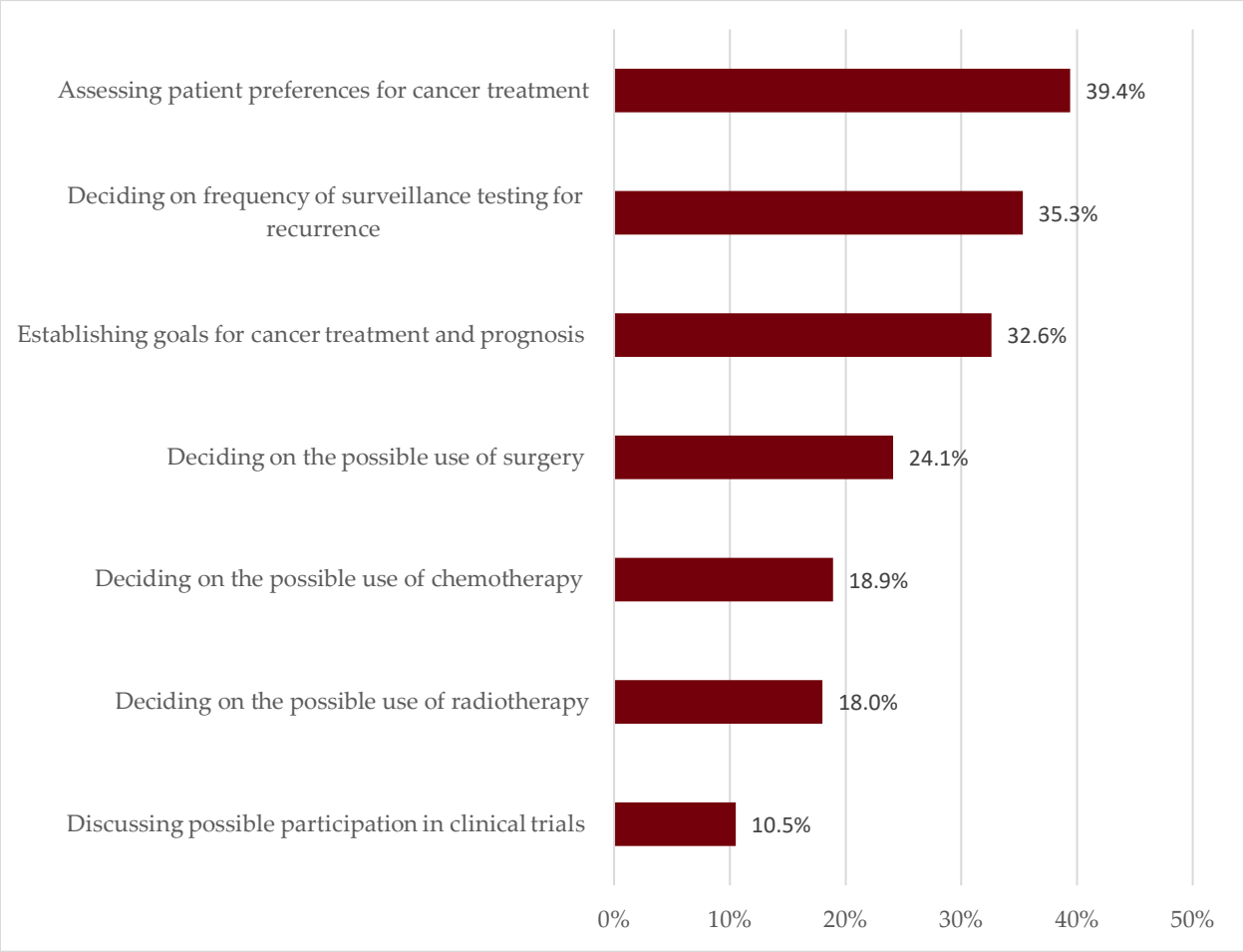
Table 1: RHC characteristics

	N (%) or mean (standard deviation) (n=153)
Region	
Northeast	6 (3.9%)
South	63 (41.2%)
Midwest	63 (41.2%)
West	21 (13.7%)
RHC type	
Provider-based	93 (60.8%)
Independent	60 (39.2%)
Number of practitioners, mean	
Physicians (MD or DO)	2.2 (1.8)
Advanced practice nurses	2.1 (1.5)
Physician's assistants	1.3 (1.1)
Primary source of patient coverage, mean	
Medicare	28.2 (16.5)
Medicaid	24.2 (17.5)
Dual-eligible	6.6 (9.4)
Private insurance	23.7 (15.2)
Other	3.1 (3.9)
Uninsured/self-pay	6.3 (7.5)
Patient-centered medical home, yes	41 (29.9%)
Accountable care organization, yes	51 (43.2%)
Note: Percentages are calculated based upon the number of RHCs responding to a given question which may be fewer than the 153 RHCs completing the survey.	

RHC Practitioners' Role in Cancer Treatment Decisions

Roughly a third of practitioners at RHCs indicated that they are involved in assessing patient treatment preferences (39.4%), recurrence surveillance testing frequency (35.3%), and setting goals for cancer treatment and prognosis (32.6%) (**Figure 1**). Less than a quarter (<25%) of RHC practitioners reported being involved in specific treatment decisions such as surgery, chemotherapy, radiation therapy, or involvement in clinical trials.

Figure 1: Proportions of RHC practitioners who provide care, co-manage, or engage in joint decisions with another practitioner



RHC Practitioners' Roles and Experiences in Care for Cancer Survivors

Roughly half or more (49.3-94.9%) of RHC practitioners indicated that they provided or shared the responsibility of providing various aspects of care for cancer survivors (**Table 2**). For care involving screening, 49.3% of RHC practitioners were involved in screening for recurrent cancer, but a much larger percentage (74.3%) were involved in screening for new primary cancers. RHC practitioners were more involved in counseling on preventive health behaviors than screening and evaluations. Over 90% of RHC practitioners reported being involved in counseling cancer survivors on physical activity and smoking cessation. Similarly, for survivorship care, over 92.8% of RHC practitioners were involved in treating cancer survivors for depression, anxiety, fatigue, and sexual dysfunction, but only 63.5% were involved in pain management.

Table 2: RHC practitioner roles in cancer survivorship care		
	I provide/order this care myself or share the responsibility with an oncology specialist N (%)	The oncology specialist or other specialist orders or provides this service N (%)
Screening		
Screening for recurrent cancer (n=140)	69 (49.3%)	71 (50.7%)
Screening for other new primary cancers (n=140)	104 (74.3%)	36 (25.7 %)
Evaluation of health status		
Evaluating patients for cancer recurrence (n=137)	82 (59.9%)	55 (40.2%)
Evaluating patients for adverse late or long-term physical effects of cancer or its treatment (n=137)	78 (56.9%)	59 (43.1%)
Evaluating patients for adverse psychological effects of cancer or its treatment (n=137)	91 (66.4%)	46 (33.6%)
Counseling		
Counseling on diet and physical activity (n=138)	127 (92.0%)	11(8.0%)
Counseling on smoking cessation (n=138)	131 (94.9%)	7 (5.1%)
Treatment		
Treating pain related to cancer treatment (n=137)	87 (63.5%)	50 (36.5 %)
Treating depression and/or anxiety (n=138)	128 (92.8%)	10 (7.3%)
Treating fatigue (n=138)	128 (92.8%)	10 (7.3%)
Treating sexual dysfunction (n=137)	126 (92.0%)	11 (8.0%)
Managing adverse late or long-term outcomes of cancer (n=137)	94 (68.6%)	43 (31.4%)
Note: Percentages are calculated based upon the number of RHCs responding to a given question which may be fewer than the 153 RHCs completing the survey.		

Roughly two-thirds or more of RHC practitioners indicated that they "always" or "often" engaged in bidirectional communication with their patients and their patients' oncology team (**Table 3**). Specifically, 72.5% report "always" or "often" sharing non-cancer history with the oncology team, and 72.8% reporting that they "always" or "often" received a treatment summary from their patients' oncology team. Just over 62% of RHC practitioners reported receiving a follow-up care plan from the oncology team. More than 60% of RHC practitioners indicated that they have a specific discussion with their patients with cancer about future care and surveillance.

Table 3: Experiences with follow-up care for cancer survivors	
	N (%)
Receive a treatment summary from the oncology team (n=132)	
Always/almost always	48 (36.4%)
Often	48 (36.4%)
Sometimes	22 (16.7%)
Rarely	8 (6.1%)
Never	6 (4.6%)
Provide a non-cancer history to the oncology team (n=131)	
Always/almost always	62 (47.3%)
Often	33 (25.2%)
Sometimes	25 (19.1%)
Rarely	8 (6.1%)
Never	**
Experience difficulties in transferring responsibilities between you and oncology team (n=125)	
Always/almost always	8 (6.4%)
Often	10 (8.0%)
Sometimes	31 (24.8%)
Rarely	61 (48.8%)
Never	15 (12.0%)
Receive an explicit follow-up care plan documenting recommendations for future care/surveillance (n=132)	
Always/almost always	32 (24.2%)
Often	50 (37.9%)
Sometimes	32 (24.2%)
Rarely	13 (9.9%)
Never	5 (3.8%)
Have a specific discussion with the patient about future care/surveillance (n=132)	
Always/almost always	27 (20.5%)
Often	54 (40.9%)
Sometimes	32 (24.2%)
Rarely	14 (10.6%)
Never	5 (3.8%)
Note: Percentages are calculated based upon the number of RHCs responding to a given question which may be fewer than the 153 RHCs completing the survey and may slightly exceed 100% due to rounding.; ** indicates suppressed data due to cell count fewer than 5.	

DISCUSSION

We surveyed RHCs to examine how practitioners are involved in their patients' cancer treatment and survivorship decisions. Roughly a third of practitioners were involved in overarching decision making regarding their patients' cancer treatment (e.g., goal setting) and were involved in specific treatment decisions (e.g., chemotherapy, clinical trial enrollment) to a lesser extent. The majority of RHC practitioners were involved in each of the surveyed factors around survivorship care. Nearly all practitioners reported being involved in counseling on healthy behaviors such as physical activity and in treating side effects or long-term effects related to cancer treatment and survivorship (e.g., sexual dysfunction, depression). Two-thirds or more of RHC practitioners reported bidirectional communication with oncology specialists regarding survivorship plans, past medical history, and follow-up care and surveillance.

Less than 40% of practitioners at RHCs were involved in the provision or co-management of cancer treatment decisions. This is a much lower percentage than reported in previous studies which have shown that, for example, nearly two-thirds of primary care practitioners across different clinical settings and geographies are involved in the assessment of patient treatment preferences.[9] However, although previous studies have shown greater practitioner involvement, they have also shown decreasing involvement with greater specificity of treatment decisions which is aligned with the current findings. Studies suggest that primary care has an increasing role in cancer care across the continuum, not only prevention and screening, as care pathways have evolved and treatment has become increasingly integrated.[10] RHCs are founded on the principle of team-based care which is also imperative for cancer care specifically as this care should involve teamwork not just among the oncology team but also between the oncology team and the primary care practitioners.[11]

The majority of RHC practitioners surveyed here were involved in the survivorship care of their patients with greater involvement in counseling related to healthy behaviors (e.g., healthy eating, smoking cessation). It is imperative that RHC practitioners serve as important resources in the survivorship care of their patients, especially as studies have shown that compared to urban cancer survivors, rural cancer survivors are more likely to report poorer health status, higher smoking rates, lower rates of physical activity, higher psychological stress, and presence of multiple comorbidities.[4,5,12] Further, studies have consistently shown that rural patients report barriers to pain management services suggesting that primary care practitioners such as RHC practitioners may be able to assist in providing these services.[13] Although most RHC practitioners reported being involved in aspects of survivorship care, there remain opportunities to increase the proportion of practitioners involved in all aspects of survivorship care such as pain management, recurrent cancer screening, and evaluation. Increased involvement in survivorship care is particularly critical. Prior single-state studies have indicated that rural primary care practitioners report a lack of confidence in managing some needs of cancer survivors related to treatment side effects.[14] Educational interventions that target rural primary care practitioners have been effective at increasing practitioner knowledge of aspects of survivorship care such as psychosocial concerns, long-term sequalae, and addressing recurrent and secondary cancers with qualitative findings indicating that such training had an impact on clinical practice.[15] Such programming may be helpful to expand to broader rural healthcare settings.

Similarly, most RHC practitioners indicated bidirectional communication with oncology specialists regarding their patients' medical history, survivorship plans, responsibility transfer, and future care and surveillance. However, previous research has shown that rural primary care

practitioners experience organizational and knowledge barriers to implementing survivorship plans.[16] Lack of clarity around the role of primary care practitioners in implementation has been an important barrier.[16,17] This underscores the importance of the National Advisory Committee on Rural Health and Social Services' recommendation on increasing educational campaigns around cancer care delivery and utilization of Medicare codes on care coordination.[18]

CONCLUSION

Our survey of RHCs found that rural practitioners were involved in cancer care in varying capacities across the continuum with less involvement in cancer treatment decisions and greater involvement in elements of cancer survivorship care including bidirectional communication with oncology specialists. These findings underscore the importance of addressing the health challenges of cancer survivors, the role of team-based care not only within RHCs but also between RHC primary care practitioners and oncology specialists, and the critical need for educational campaigns and interventions to increase the knowledge and confidence of rural primary care practitioners.

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APPENDIX

Methodology

Survey Development

A survey was developed that included questions related to RHC characteristics, COVID-19 care characteristics, the impact of the pandemic on RHC operations and cancer prevention and control efforts, involvement of RHC practitioners in cancer patients' treatment decisions and survivorship care, evidenced-based strategies used for cancer screening, and federal and organizational recommendations followed for HPV vaccination and cancer screening. This brief includes findings related to RHC characteristics and the involvement of RHC practitioners in cancer patients' treatment decisions and survivorship care.

Some questions related to RHC characteristics and alignment of cancer-related services with recommendations were adapted from a prior Rural and Minority Health Research Center survey. Health information technology questions in the RHC characteristics section were adapted from a study at Stanford Medicine on physician perceptions of electronic health records.[19] To gauge the impact of COVID-19 on RHC operations, questions from the Primary Care Collaborative survey on Primary Care providers and the HRSA Health Center COVID-19 Survey were adapted.[20,21] To assess the impact of the pandemic on cancer prevention and control efforts, all cancer-related prevention activities were considered that had an "A" or "B" recommendation from the United States Preventive Services Task Force, were recommended by the American Committee on Immunization Practices (ACIP), were screenings likely to be performed despite lack of evidence (e.g., PSA testing), or were other cancer-related procedures that may be performed in a primary care setting (e.g, skin cancer removal).[22,23] Additional questions related to cancer prevention, screening, treatment, and survivorship services were adapted from the Survey of Physician Attitudes Regarding the Care of Cancer Survivors (SPARCCS) and a National Cancer Institute (NCI) and American Cancer Society (ACS) survey on the role of primary care physicians in cancer care. Additional questions were developed by the study team.[9,24]

The research team drafted a survey including questions pulled or adapted from the aforementioned sources or developed by the study team. The project team circulated drafts for review and edits until a consensus draft was developed. Feedback was obtained from a member of the South Carolina Office of Rural Health, and the survey was piloted with a South Carolina RHC. After multiple rounds of edits, the survey was finalized for administration in both paper and Qualtrics formats.

Sampling and Recruitment

A stratified randomized sample of 1,900 RHCs was obtained from the list of RHCs downloaded from HRSA's map tool as of November 2, 2020. The list was stratified by U.S. Census Region to facilitate a representative regional distribution: 39.7% of the RHCs were located in the Midwest, 39.4% in the South, 3.5% in the Northeast, 17.4% in the West.

In April 2021, a postcard was sent to the study sample to inform them that the study team would be sending a survey in 1 week. A hardcopy survey was then sent with an informational cover letter that informed the RHC of the opportunity to complete the hardcopy or complete the survey online through a shortlink or a QR code on the cover letter. Participants were offered a $50 incentive for completing the survey. A reminder postcard was sent 2 weeks later. The initial protocol

was modified to enhance the response rate, resending the survey to non-responding RHCs during June 2021 and calling RHCs to remind them to complete the survey and offering alternative methods of administration (e.g., fax). Surveys were completed between April and September 2021. Ultimately, the response rate was 8.0%.

Statistical Analysis

Frequencies and percentages were calculated for questions with categorical options. For continuous variables, means and standard deviations were calculated. Pairwise deletion was used when data were missing due to lack of response from participants.

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