Journal of Community Hospital Internal Medicine Perspectives

Volume 12 | Issue 6

Article 2

2022

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Recommended Citation

Riano, Ivy; Pomares-Millan, Hugo; Prasongdee, Klaorat; Kiel, Lauren; Park, Robin; and Florez, Narjust (2022) "Evaluating Internal Medicine Residents' Awareness on Cancer Survivorship Care Plan: A Pilot Survey," *Journal of Community Hospital Internal Medicine Perspectives*: Vol. 12: Iss. 6, Article 2. DOI: 10.55729/2000-9666.1126

Available at: https://scholarlycommons.gbmc.org/jchimp/vol12/iss6/2

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Evaluating Internal Medicine Residents' Awareness on Cancer Survivorship Care Plan: A Pilot Survey

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Evaluating Internal Medicine Residents' Awareness on Cancer Survivorship Care Plan: A Pilot Survey

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Abstract

Introduction: Survivorship care plan (SCP) is a tool to improve communication between oncologists and primary care physicians. Internal medicine residency curricula are lacking training for cancer survivorship and SCPs. Here, we aimed to assess the awareness and utilization of SCPs in medicine trainees.

Methods: A pilot survey investigating awareness and experience with SCPs was distributed among internal medicine trainees in an outpatient setting. Participants were stratified by program type (transitional and categorical) and year of training. Differences in proportions were tested with parametric and non-parametric tests.

Results: All thirty-seven participants who were administered a survey responded; 32.4% and 67.6% were transitional and categorical trainees, respectively; 54% were PGY-1, 21.6% PGY-2, and 24.3% PGY-3. None of the trainees reported following a SCP for cancer-free patients nor plans to use SCP as a source to obtain information. Up to 78.3% and 92.6% of participants reported that they were not taught about SCPs during their residency or medical school, respectively. The most frequent barriers to discuss cancer history and SCP with their patients were: insufficient or lack of information about SCPs (83.8%), patients' information as a source deemed "unreliable" (81.1%), and uncertainty if the patient has SCP (81.1%).

Conclusions: Awareness and use of cancer SCPs among internal medicine trainees is limited, furthermore, a sizeable proportion reported not having accessed or received any training for SCPs. Efforts intended to facilitate SCP use and educate trainees about cancer survivorship may prove to be an effective strategy to increase the quality of care to cancer survivors.

Keywords: Survivorship care plan, Cancer survivors, Medical education, Internal medicine residency, Primary care physicians

1. Introduction

A ccording to the United States (U.S.) National Cancer Institute (NCI), the survivorship care plan (SCP) is a tool with a detailed plan given to a patient after cancer treatment ends to guide transition to primary care providers. The SCP includes a summary of the patient's cancer history, along with recommendations in the follow-up care to address medical and psychosocial challenges that may arise after treatment.¹ The SCP provides a channel to coordinate oncologists, primary care physicians, and patients, with the goal to improve post-treatment cancer care.² The National Academies of Sciences, Engineering, and Medicine (NASEM) Health and Medicine Division (formerly known as Institute of Medicine) in its report "*From Cancer Patient to Cancer Survivor: Lost in Transition* (2005)," recommends that every patient should receive a personalized SCP which includes: i) recurrence of primary cancer, ii) development of secondary malignancies, iii) short- and long-term adverse effects of cancer treatment, iv) mental health adjustments, and v) lifestyle changes to

Received 18 July 2022; revised 30 August 2022; accepted 9 September 2022. Available online 7 November 2022

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https://doi.org/10.55729/2000-9666.1126 2000-9666/© 2022 Greater Baltimore Medical Center. This is an open access article under the CC BY-NC license (http://creativecommons.org/licenses/by-nc/4.0/). prevent comorbidities.³ However, the implementation of SCPs into primary care and oncology practices have proven unsuccessful.^{2,4} Multiple barriers to utilize SCPs by primary care physicians have been reported previously, including insufficient time to find or review the plan within the electronic medical record (EMR), lack of awareness of SCPs and the need to promote training, resulting in inadequate coordination of care, poor health outcomes, omission or duplication of services, and cost increases to the healthcare system.^{2,5,6}

Although many cancer survivors establish longterm follow-up with their oncologists, they often discuss cancer-related issues during primary care clinic visits, thus, it is important to ensure that physicians (other than oncologists) are informed and prepared to provide post-treatment care in cancer survivors.² With recent advancements in cancer treatment, it is widely acknowledged that novel pharmacotherapies are improving overall survival in patients with cancer, hence, the number of patients transitioning from active clinical treatment to survivorship is expected to increase up to 22 million by 2030⁷; higher numbers in long-term survivors will require that physicians outside of the oncology realm become capable to follow and tailor cancer-specific health needs.

In view of the substantial improvements in cancer survival, it is essential to involve medicine trainees, who eventually will become primary care physicians of patients who have survived cancer. Resident physicians have reported low levels of comfort, confidence, and satisfaction when it comes to managing long-term care of cancer survivors.8-10 Currently, the residency training curricula for both internal medicine and family practice lack formal training about cancer survivorship and SCPs¹¹; therefore, receiving medical education on survivorship care is expected to improve trainees' confidence and ultimately enhance clinical outcomes. Here, we aimed to evaluate the awareness of internal medicine trainees toward SCPs. Moreover, we assessed the comfort-level of resident physicians managing cancer survivors and identified perceived barriers in the collection of cancer-related information in a primary care setting.

2. Methods

2.1. Study sample

We administered cross-sectionally a self-reported questionnaire to 37 trainees from categorical and transitional internal medicine residency programs. From September 14, 2020, to October 12, 2020, participants received a hand-delivered paper-based survey and responses were collected within 4 weeks. Participants responded anonymously and were asked to agree to the consent before they could proceed further to respond. The study was conducted in the internal medicine resident continuity clinic at MetroWest Medical Center, a community hospital located in Framingham, Massachusetts (within greater Boston area), that attends to ~ 400 patients monthly. The ambulatory clinic is overseen by board-certified internal medicine attending physicians and utilizes the web-based EMR software AthenaClinicals® for clinical care. The study was approved by the Institutional Review Board of MetroWest Medical Center and informed consent was obtained from all participants.

2.2. Survey development

We designed a questionnaire to explore and assess the trainee's awareness towards SCPs, and to determine standard practices and perceived barriers to documenting data related to post-treatment cancer. The survey included multiple-choice and openended questions. We used Likert scale responses as a standard procedure since there are no validated questionaries in this field, yet similar instruments have been proposed elsewhere.¹⁰ The survey was anonymized. We extracted demographic data, i.e., gender, residency program (categorical or transitional), post-graduation year (PGY) and type of medical graduated background (international or U.S.). The survey included domains such as i) adequacy of training during medical school and residency program, ii) documentation about cancer history, iii) how familiar the participant was with SCPs, and iv) its clinical utility in their decisionmaking process. Moreover, questions to determine perceived barriers that prevented from a discussion about survivorship care with their patients were interrogated.

2.3. Statistical analysis

Descriptive statistics were calculated, and proportions were obtained for categorical data. The combined sample was partitioned by residency program type (categorical and transitional) and years of training in groups, as strata. Differences between responses were tested using parametric (t test) and non-parametric (chi-square test) methods; statistical significance was set at p value < 0.05. All analyses were performed in R software version 3.6.2.

3. Results

All thirty-seven internal medicine trainees responded to the administered survey. Demographic characteristics are detailed in Table 1. Twenty-five (67.6%) resident physicians were a part of the categorical residency program and 12 (32.4%) were a part of the transitional residency program. Twenty trainees were PGY-1s (54%), 8 were PGY-2s (21.6%), and 9 were PGY-3s (24.3%). None of the participants reported following any SCP for cancerfree patients, nor plans to use SCP as a source to obtain cancer-related information in the future. Up to 78.3% and 94.6% of participants indicated that they were not taught about SCPs during residency or medical school, respectively (Table 2). Most participants (73%) reported perceiving cancer history as "unreliable" when it was obtained directly from the patient, and 75% indicated that cancer-related information was not even accessible during the encounter with the patient. When participants were about how cancer-related information, asked including past diagnosis and treatment plan, was obtained for the encounter, the main sources of information were: directly asking the patient or family members (97.3%), obtaining outside records (83.8%), and reviewing oncology notes (86.5%) (Table 2).

Furthermore, categorical trainees were more likely than transitional trainees to spend a longer period of time for screening tests based on cancer history obtained during the encounter (92% *vs.* 50%, respectively; p = 0.031). Differences in residents' levels of comfort when addressing patients' concerns about cancer recurrence or new malignancies were observed among the various years of training (p = 0.864).

The most common barriers to utilize SCP or discuss cancer history with the patient included: insufficient information from patients (83.8%), lack

Table 1. Demographic characteristics	s of	the inte	rnal med	icine trainees.
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Characteristics	n (%)
Gender	
Male	23 (62.2)
Female	14 (37.8)
Residency Program	
Categorical	25 (67.6)
Transitional	12 (32.4)
PGY	
1	20 (54.1)
2	8 (21.6)
3	9 (24.3)
Type of Medical Graduate	
IMG	29 (78.4)
U.S.	8 (21.6)

n, number; PGY, post-graduate year; IMG, international medical graduated; U.S., United States.

of awareness of the SCP (81.1%), patients' information as a source deemed "unreliable" (81.1%), missing SCP in the EMR (75.7%), and trainees' lack of knowledge about side effects of cancer therapies (70.3%). Patients' gender (5.4%) and type of medical insurance (21.6%) did not represent factors associated with SCP utilization (Fig. 1).

4. Discussion

The awareness and utilization of cancer SCPs among internal medicine trainees is poor, and many have not accessed or received appropriate training in survivorship care nor SCPs utilization. At present, formal medical education covering physical and psychosocial needs of cancer survivors is missing.^{10,12} In a pilot study examining the educational gaps in primary care medicine residency programs, only 27% of the resident physicians reported receiving formal education in adult cancer survivorship care, moreover, the authors suggested a substantial gap between academic training and expectations in primary care practice among trainees.¹⁰ Our results are consistent with these findings, yet the surveyed medicine residents reported inadequate training not only during their residency programs, but earlier (i.e., medical school).

In our study, a sizeable portion of medicine trainees reported low levels of comfort when providing follow-up care after cancer treatment ends. These results are in line with previous data reporting that most trainees do not feel confident when taking care of cancer survivors, identifying cancer recurrence, and managing potential long-term effects of cancer treatment (13%, 21% and 15%, respectively).¹⁰ Importantly, the participants reported that they felt more comfortable when being supervised by an attending physician in the continuing clinic (49%), and differences were observed among PGYs levels, yet no statistical significance was achieved.

Educational initiatives to address learning gaps in cancer survivorship care have been implemented elsewhere.^{13–17} The American Cancer Society (ACS) and the George Washington University Cancer Center developed The National Cancer Survivorship Resource Center in 2010, which offers key tools such as The Cancer Survivorship E-Learning Series for Primary Care Providers (E-Learning Series). This is a no-cost, self-paced, 10-module online continuing education series focused on post-treatment cancer care. The E-Learning Series proved to be an effective educational tool to increase learners' confidence in providing cancer survivorship care

PGY-2, n

7

8

0

0

PGY-3, n

9

q

0

0

Total, n (%)

29 (78.4)

35 (94.6)

0 (0.0)

1 (2.7)

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Not very important	1	0	0	1 (2.7)	
Somewhat important	3	0	1	4 (10.8)	
Very important	6	2	0	8 (21.6)	
Extremely important	10	6	8	24 (64.9)	
How detailed is the cancer history obta	ined by you?				
Not at all	1	0	0	1 (2.7)	
Not very detailed	6	2	4	12 (32.4)	
Somewhat detailed	6	4	2	12 (32.4)	
Very detailed	4	1	1	6 (16.2)	
Extremely detailed	3 (15.0)	1 (12.5)	2 (22.2)	6 (16.2)	
Do you believe the cancer history obtain	ined from your pat	ients is reliable?			
Not at all	1	3	0	4 (10.8)	
Not very reliable	6	1	3	10 (27.0)	
Somewhat reliable	9	1	3	13 (35.1)	
Very reliable	3	3	3	9 (24.3)	
Extremely reliable	1	0	0	1 (2.7)	
During your encounters, was there can	cer-related informa	tion you needed but o	could not obtained?		
Yes	16	4	8	28 (75.7)	
Do you feel comfortable obtaining can	cer history?				
Not at all	0	0	0	0 (0.0)	
Not very comfortable	1	0	3	4 (10.8)	
Somewhat comfortable	9	3	1	13 (35.1)	
Very comfortable	6	4	3	13 (35.1)	
Extremely comfortable	4	1	2	7 (18.9)	
During an encounter with a cancer surv	vivor, what sources	do you use to obtain	cancer-related information	ation? *	
SCPs	0	0	0	0 (0.0)	
Asking patient/family member	19	8	9	36 (97.3)	
Review of oncology notes	17	6	9	32 (86.5)	
Asking for outside records	15	7	9	31 (83.8)	
Have there been any circumstance whe	re pertinent finding	gs from a cancer histo	ry affected the patient	's management? How did	
this affect the care of the patients? *					
Counseling	13	8	8	29 (93.5)	
Ordering test or procedures	13	8	8	29 (90.6)	
Changing the timing of	11	7	9	27 (81.8)	
screening test					
Referral to specialists	12	8	8	28 (84.8)	
Initiation of medications	6	5	5	16 (61.5)	
Do you feel confident managing a canc	er-free patient witl	h the resources in the	clinic and the supervis	ion from attending physic	cian?
No	11	5	5	21 (51.1)	
Do you feel comfortable responding to	patient's concerns	about recurrence or n	ew cancers?		
Not at all	3	1	2	6 (16.3)	
Not very comfortable	5	3	3	11 (29.7)	
Somewhat comfortable	4	3	2	9 (24.3)	
Very comfortable	5	0	2	7 (18.9)	

Table 2. Results from survey questions stratified by post-graduated year of training.

Have you been taught during residency about what the SCP is?

In your opinion, how important is to obtain a cancer history?

Have you been taught during medical school about what the SCP is?

PGY-1. n

13

18

0

1

Item

No

No

Not at all

Extremely comfortable

Not very important

PGY: post-graduate year; n, number; SCP: survivorship care plan. * Participants were asked to select all-that-applied.

1

3

(pre- and post-assessments p < 0.0001).¹⁴ Additionally, a group from the University of Temple presented a 3-day workshop series to integrate cancer survivorship care into the curriculum of the internal medicine residency program. The course consisted in a simulated case, given to medicine residents, which included discussion about SCPs, prevention for recurrence or secondary cancers, side effects from chemotherapy, and psychological challenges. This curriculum successfully raised awareness among trainees regarding survivorship terminology and improved their comfort level in the long-term management of the survivors.¹³ Another was a casebased curriculum focused on childhood cancer

4(10.8)

0

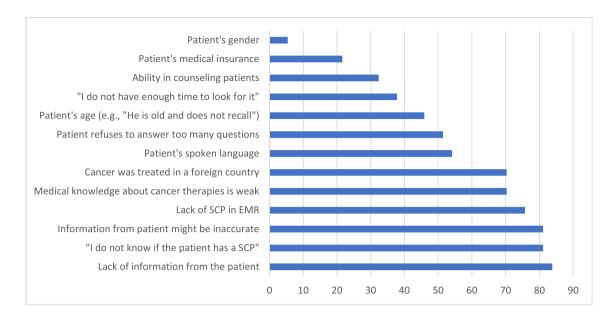


Fig. 1. Perceived barriers to discuss about cancer history and/or survivorship care. SCP, survivorship care plan; EMR, electronic medical record.

survivorship developed by the University of California Los Angeles (UCLA), which reported a significant increase in trainees' knowledge, clinical skills, and comfort discussing topics relevant to survivorship care such as fertility (p < 0.05).¹⁵

These innovations in medical education are promising and may motivate curricular changes, such as introducing standardized curricula across medical schools and/or residency programs to improve healthcare delivery for cancer survivors. Accordingly, the American Society of Clinical Oncology (ASCO) Survivorship Committee, in partnership with the ASCO Professional Development Committee, created a core curriculum for not only physicians, but allied health professionals and policy-making organizations, to develop expertise in the rapidly expanding body of evidence-based and best practice recommendations in survivorship care.¹⁸ Thus, core competencies such as surveillance of cancer recurrence, screening for secondary malignancies, management of long-term adverse effects from cancer therapies, health promotion, and assessment of mental health adjustments should be incorporated into formal curriculum,^{1,11} that may increase the comfort level of primary care residents when managing the rising number of cancer survivors.

Currently, the utilization of SCPs in the U.S. cancer programs is highly heterogeneous,^{19,21} and no single mechanism exists to ensure a care plan is available for primary care physicians.²⁰ ASCO advocates the use of EMR to have a better integration and harmonization of treatment plans and summaries, however, they also accept the use of written communications to provide a care roadmap to ensure survivor-appropriate services and delineate roles and responsibilities.²² According to our study, a barrier to SCP integration was the lack of EMR integration. Despite all advancements in EMR, healthcare systems still face challenges when integrating and maintaining all patients' records. An educational pilot program led by University of Wisconsin-Madison to inform primary care providers of the availability and content of the SCP identified difficulties in locating the plan within EMR. After implementation of the course, physicians demonstrated a significant improvement in knowledge of SCPs and their ability to identify it within EMR (pre- and post-assessment 9% vs. 59%, respectively, p < 0.0001).²³ Other strategies that successfully increased SCPs utilization into clinical practice included making SCPs revision part of the employees' routine tasks, developing of active leadership, identifying dedicated champions, and automatizing SCPs implementation.^{16,24,25} Thus, leveraging from existing platforms, i.e., EMR, to generate individualized SCPs, may result in an efficient way to integrate SCPs into current clinical practice which, in turn, may improve cancer survivorship care.

Our study is not without limitations. First, the cross-sectional analysis was conducted in a single center that included a small sample of trainees, which may not be nationally representative; thus, interpretation of the results warrants caution when generalizing. Moreover, it is likely that these

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analyses were underpowered, and negative findings may, by consequence, be positive, therefore, future research may benefit from larger and multi-center confirmatory studies. Second, although we interrogated SCP utilization, controversy remains on how to measure the uptake and potential benefits of SCP utilization.²³

5. Conclusion

Internal medicine trainees lack awareness about SCPs as a tool of communication between specialized and primary care settings. Efforts intended to integrate the use of SCPs into clinical routine practice may be effective in improving the transition from oncology to primary care clinics. Most resident physicians have not received appropriate training in survivorship care during medical school or residency program. Therefore, formal medical education in cancer survivorship care is needed to improve knowledge and experiences when participating in follow-up attention, which eventually may positively impact the quality of care provided to all survivors of cancer.

Funding

The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

Prior presentations

This manuscript is our original work and has not been presented, published and is not under consideration for presentation or publication elsewhere.

Conflict of interest

Drs. Ivy Riano, Hugo Pomares-Millan, Klaorat Prasongdee, Lauren Kiel and Robin Park declare that they have no conflict of interest.

Dr. Narjust Duma consulting and advisory for: Merck, Janssen, BMS, Pfizer, BI oncology, Neogenomics Astrazeneca, Genentech and Nexus Oncology.

Acknowledgments

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Ivy Riano, MD, Hugo Pomares-Millan, MD and Narjust Duma, MD. The first draft of the manuscript was written by Ivy Riano, MD, and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript. There are no other acknowledgments to report.

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