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Evaluation of a Multidisciplinary Team Approach for Generating Survivorship Care Plan Treatment Summaries in Patients With Breast Cancer.

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quality in action

Evaluation of a Multidisciplinary Team Approach for Generating Survivorship Care Plan Treatment Summaries in Patients With Breast Cancer

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abstract

INTRODUCTION The optimal structure for survivorship care plan (SCP) programs and methodology for generating treatment summaries (TSs) has not yet been defined, but the Commission on Cancer and the National Accreditation Program for Breast Centers both mandate that participating oncology programs implement SCP-TS processes for patients that have completed treatment.

METHODS We used the Institute for Healthcare Improvement's Plan-Do-Study-Act model for conducting a quality improvement project evaluating two different SCP-TS programs implemented at the Henry Ford Health System/Henry Ford Cancer Institute's Breast Oncology Program in Detroit, Michigan. System I involved TSs drafted by nonspecialist breast clinic staff; System II involved TSs vetted through a multidisciplinary breast specialist conference approach. Accuracy of basic documentation entries related to dates and components of treatment were compared for the two approaches.

RESULTS Seventy-one System I and 93 System II documents were reviewed. Documentation was accurate in at least 90% of documents for both systems regarding delivery of chemotherapy and/or endocrine therapy and for documenting the identity of the various members of the cancer treatment team. Both systems had notable inaccuracies in documenting type of surgery performed, but System II had fewer inaccuracies than System I (33.78% *v* 51.67%, respectively; $P = .05$). System II, compared with System I, had fewer inaccuracies in documenting date of diagnosis (9.68% *v* 25.35%, respectively; $P = .01$) and had less missing information for dose of radiation delivered (9.33% *v* 33.9%, respectively; $P < .01$).

CONCLUSION A multidisciplinary team approach to drafting and reviewing SCP-TS documents improved content accuracy for our program, but ongoing education regarding documentation of various surgical procedures is warranted.

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INTRODUCTION

The Institute of Medicine issued recommendations in 2006 that survivors of cancer receive a treatment summary (TS) and survivorship care plan (SCP) as a strategy to improve coordination of health care and to optimize understanding and management of long-term sequelae of oncologic therapies.[1] The Commission on Cancer (CoC) subsequently issued a mandate and time line for all CoC-approved programs to enact an SCP process that included delivery of TS to patients who have completed their cancer treatment.[2] The National Accreditation Program for Breast Centers has adopted a comparable set of SCP standards.[3] Although the basic components of these SCP-TS documents are described, the methodology for generating and delivering these documents was left to the discretion of individual cancer programs. Wide variation exists in integration of physicians, midlevel providers, and the electronic medical record (EMR) into SCP-TS clinical processes, and little is known about the accuracy of the resulting documents.

METHODS

The Henry Ford Health System/Henry Ford Cancer Institute serves the diverse metropolitan Detroit patient population. The Henry Ford Health System/Henry Ford Cancer Institute is CoC approved, and its multidisciplinary breast program is accredited by the National Accreditation Program for Breast Centers. Our Breast Program Leadership Committee (BPLC) convenes monthly and includes representatives from surgery, medical oncology, radiation, pathology, radiology, oncology nursing/nurse navigators, and physical therapy/rehabilitation medicine. The agenda for these meetings routinely accommodates presentations of new initiatives and quality improvement efforts.

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In March 2015, we initiated plans to comply with the CoC mandate that SCP-TS documents be provided to 25% to 75% of eligible patients in a 2016 to 2018 phased-in process.[2] For breast cancer, eligible patients were initially defined as patients with invasive, nonmetastatic disease, and the SCP-TS document had to be drafted and shared with the patient within 1 year of completing treatment. The BPLC launched this effort by educating our multidisciplinary breast program clinicians regarding the CoC mandate and the components of an acceptable SCP-TS document. This process included conference calls, e-mails, Web-based teleconferences, and meetings with American Cancer Society and CoC representatives. Designated members of the BPLC (H.A. and D.S.) developed an EMR-accessible and CoC-compliant template for the SCP-TS document.

During the initial phase of our SCP-TS program (System I), individual members of each patient's treatment team were responsible for recognizing that the patient was due to receive and discuss her SCP-TS. System I survivorship documents were generated by either the breast oncology staff that happened to be seeing the patient during the relevant follow-up time line or one of the nurses designated by the overall cancer program as being responsible for drafting SCP-TS documents for patients with cancer seen across various disease sites.

By the second half of 2016, concerns were raised during BPLC meetings regarding inadequate monitoring of SCP-TS document accuracy. We decided to initiate a quality improvement project, and we hypothesized that a multidisciplinary, team-based approach to drafting and reviewing SCP-TS documents (System II) would improve content accuracy. We followed the Plan-Do-Study-Act (PDSA) approach as outlined by the Institute for Healthcare Improvement[4] (Fig 1).

Step 1: Plan

We developed a new system (System II) that aligned our SCP-TS program with the existing multidisciplinary tumor board program for evaluating new patients. In addition to mapping out appropriate treatment options, we began assigning anticipated SCP-TS needs. Patients requiring chemotherapy are assigned to have their SCP-TS drafted by a member of the medical oncology team; patients requiring surgery and no chemotherapy or radiation therapy are assigned to a member of the surgical team; and patients receiving radiation as a component of their care but no chemotherapy are assigned to a radiation oncology representative. The individuals ultimately responsible for completing the SCP-TS documents are either physicians or midlevel providers, but all are members of the Breast Oncology Program. A nurse (S.C.) and SCP supervising physician (E.P.) maintain an electronic database of these patients for monitoring of the time line regarding when each patient is due to receive the SCP-TS document.

A series of monthly multidisciplinary committee (MDC) SCP conferences was planned (immediately after the BPLC meetings), with attendees including physicians and midlevel providers. Other participants include representatives from the primary care provider staff, rehabilitation medicine, cardiac oncology, and psycho-oncology. A roster of patients who are within 1 to 3 months of their due date to receive their SCP-TS documents is drafted a couple of weeks in advance of each SCP conference, along with assignments of the breast program specialist responsible for drafting each document. These members of the specialty teams are then responsible for generating a preliminary SCP-TS document based on review of the EMR; they present a summary of the patient and TS content for the SCP conference.

Step 2: Do

The first monthly MDC-SCP conference convened October 2016. In June 2018, the SCP nurse (S.C.) generated a list of System I and System II SCP-TS documents for comparative review. Breast Oncology Program director (L.N.) drafted a code sheet for standardized assessment of SCP-TS accuracies regarding names of treatment team, date of diagnosis, disease stage, tumor phenotype, and treatment delivered.

Step 3: Study

Impartial non-BPLC physicians (T.I. and H.N.) were tasked with completing code sheets to verify accuracy of key elements in SCP-TS documents. An epidemiologist (L.S.) was tasked with generating the database, and a statistician (Y.C.) was tasked with analyzing the data. System II was also evaluated in real time during ongoing BPLC open discussions.

Step 4: Act

Results of comparative System I versus System II analyses were shared with Breast Oncology Program colleagues, and plans were made regarding continuation of System II.

RESULTS

We evaluated the accuracy of 71 SCP-TS documents generated before launching the MDC-SCP program (System I) and 93 SCP-TS documents generated through the MDC-SCP program (System II). As shown in Table 1, accuracy of the entries of the System II SCP-TS documents was never inferior to those of System I documents. Both presented accurate information in more than 90% of documents regarding identification of treatment team members. Both systems had notable inaccuracies in documenting type of surgery performed, but System II had fewer inaccuracies than System I (33.78% *v* 51.67%, respectively; $P = .05$). System II documented the correct date of diagnosis more often than System I (90.3% *v* 73.2%, respectively; $P = .01$) and more often correctly listed all surgeries in patients requiring multiple operative

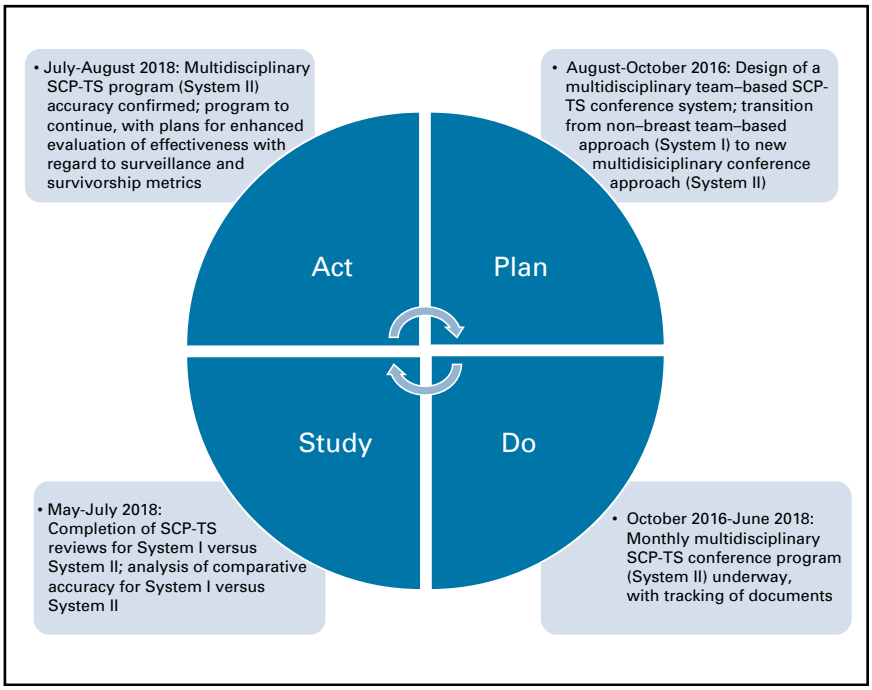

FIG 1. Implementation of a Plan-Do-Study-Act (PDSA) strategy to evaluate and improve the accuracy of breast cancer survivorship care plan (SCP) treatment summaries (TSs) using a multidisciplinary team approach. Our goal was improved oversight and accuracy of SCP-TS through application of a multidisciplinary conference–based system.

procedures (64.9% *v* 48.3%, respectively; $P = .05$). Among patients receiving radiation, the dose was documented correctly more often in System II SCP-TS documents compared with System I documents (76.0% *v* 49.2%, respectively; $P < .01$). Both systems functioned poorly in documenting correct surgery dates in patients requiring multiple operative procedures (54.5% for System I and 52.6% for System II; $P = .62$).

DISCUSSION

The CoC previously mandated that at least 25% of eligible patients receive SCP-TS documents by the end of 2016, at least 50% by the end of 2017, and at least 75% by the end of 2018. This mandate has been revised, currently requiring that at least 50% of eligible patients receive SCP-TS documents by the end of 2018.[2] The actual mechanism for implementing the SCP program was left to the discretion of individual sites. Ongoing uncertainty persists regarding the assignment of responsibilities (to physicians *v* advanced practice provider; to specialists *v* nonspecialists) for drafting and discussing the SCP-TS with the patient.

As reviewed by Nekhlyudov et al,[5] tremendous progress has been made with integrating survivorship needs into oncology follow-up programs, but significant gaps remain in assessment of program effectiveness. Burke et al[6] used focus groups to demonstrate the need for patient education regarding the transition between active cancer treatment and survivorship. Nonetheless, an umbrella meta-analysis conducted by D'Souza et al[7] revealed the paucity of actual data regarding best practices in survivorship care planning.

Preliminary studies are emerging that evaluate accuracy of TS documents and effectiveness of SCP activities in achieving the overarching goal of improved health and well-being among survivors of cancer. Tevaarwerk et al[8] analyzed the TS component of the University of Wisconsin SCP program and reported an overall error rate of 25%. Maly et al[9] conducted a prospective randomized controlled trial (to our knowledge, the first ever to assess SCPs) in a California-based cohort of 212 low-income and predominately Latina patients with breast cancer. Patients either participated in a nurse-run SCP-TS program or received the usual medical care. The intervention group was found to have improved enactment of strategies to control symptoms such as depression and hot flashes. Palmer et al[10] documented high rates of patient satisfaction with SCP-TS documents.

Others have explored novel mechanisms to support SCP-TS programs, such as use of lifestyle consultants.[11] EMR-based systems to provide automated infrastructure to the SCP-TS program are potentially attractive,[12] but as demonstrated by Donohue et al,[13] special training is often necessary to facilitate efforts of health care providers in locating and using these systems.

We chose to focus initially on assessing accuracy of the TS provided to our patients with breast cancer. We aimed to address anecdotal concerns regarding the accuracy of our standard clinic-based approach, featuring TSs drafted and delivered to patients by individual providers. Of note, our multidisciplinary team opted to include some details in our templated SCP-TS documents that are not required by the CoC. For example, we include radiation dose as well as year and month for documentation of dates, whereas the CoC makes the documentation of month optional. We conducted a PDSA-type quality improvement review to

TABLE 1. Evaluation of Accuracies in Documentation Entries Within Survivorship Care Plan Treatment Summaries Generated by a Traditional Clinic-Based and Nonspecialist Approach (System I) Compared With Those Generated by a Multidisciplinary, Breast Specialist Conference-Based Approach (System II)

Documentation Element and Entry	No. of Documents (%)		*P**
	System I (n = 71)	System II (n = 93)	
Members of treatment team			
Surgeon			.11
Correct	66 (92.96)	92 (98.92)	
Incorrect	4 (5.63)	1 (1.08)	
Missing	1 (1.41)	0 (0.00)	
Medical oncologist			.03
Correct	66 (92.96)	92 (98.92)	
Incorrect	1 (1.41)	1 (1.08)	
Missing	4 (5.63)	0 (0.00)	
Radiation oncologist			.51
Correct	60 (84.51)	77 (82.80)	
Incorrect	1 (1.41)	0 (0.00)	
Missing	10 (14.08)	16 (17.20)	
Primary care provider			1.00
Correct	69 (97.18)	91 (97.85)	
Missing	2 (2.82)	2 (2.15)	
Histology			.40
Correct	68 (95.77)	92 (98.92)	
Incorrect	2 (2.82)	1 (1.08)	
Missing	1 (1.41)	0 (0.00)	
Date of diagnosis			.01
Correct	52 (73.24)	84 (90.32)	
Incorrect	18 (25.35)	9 (9.68)	
Missing	1 (1.41)	0 (0.00)	
Staging information† (tumor size and nodal status)			.131
Correct	66 (93)	85 (91.4)	
Incorrect	3 (4.2)	8 (8.6)	
Missing	2 (2.8)	0 (0.00)	
Among patients receiving neoadjuvant chemotherapy, staging information†			.863
Correct	6 (85.7)	14 (87.5)	
Incorrect	1 (14.3)	2 (12.5)	
Among patients not receiving neoadjuvant chemotherapy, staging information†			.139
Correct	60 (93.8)	71 (92.2)	
Incorrect	2 (3.1)	6 (7.8)	
Missing	2 (3.1)	0 (0.00)	
Estrogen receptor status			.72
Correct	69 (97.18)	92 (98.92)	
Incorrect	1 (1.41)	0 (0.00)	
Missing	1 (1.41)	1 (1.08)	

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TABLE 1. Evaluation of Accuracies in Documentation Entries Within Survivorship Care Plan Treatment Summaries Generated by a Traditional Clinic-Based and Nonspecialist Approach (System I) Compared With Those Generated by a Multidisciplinary, Breast Specialist Conference-Based Approach (System II) (continued)

Documentation Element and Entry	No. of Documents (%)		*P**
	System I (n = 71)	System II (n = 93)	
Progesterone receptor status			1.00
Correct	69 (97.18)	91 (97.85)	
Incorrect	1 (1.41)	1 (1.08)	
Missing	1 (1.41)	1 (1.08)	
HER2/neu status			1.00
Correct	68 (95.77)	90 (96.77)	
Incorrect	0 (0.00)	0 (0.00)	
Missing	3 (4.23)	3 (3.23)	
Among patients undergoing single surgical procedure, the date of surgery was documented accurately			.16
Correct	58 (96.67)	72 (97.30)	
Incorrect	0 (0.00)	2 (2.70)	
Missing	2 (3.33)	0 (0.00)	
Among patients undergoing one single surgical procedure, type of surgery was documented accurately			.05
Correct	29 (48.33)	48 (64.86)	
Incorrect	31 (51.67)	25 (33.78)	
Missing	0 (0.00)	1 (1.35)	
Among patients undergoing multiple surgical procedures, all surgery dates were documented accurately			.62
Correct	6 (54.5)	10 (52.6)	
Incorrect	3 (27.3)	3 (15.8)	
Missing	2 (18.2)	6 (31.6)	
Among patients undergoing multiple surgical procedures, type of all procedures was documented accurately			.27
Correct	5 (45.45)	9 (47.37)	
Incorrect	5 (45.45)	4 (21.05)	
Missing	1 (9.09)	6 (31.58)	
Among patients receiving chemotherapy, adjuvant *v* neoadjuvant sequence was documented accurately			NA
Yes	16 (100)	51 (100)	
Among patients receiving chemotherapy, regimen was documented accurately			NA
Yes	16 (100)	51 (100)	
Among patients receiving endocrine therapy, medication(s) was documented accurately			.85
No	2 (3.45)	1 (1.25)	
Yes	54 (93.10)	76 (95.00)	
Missing	2 (3.45)	3 (3.75)	

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TABLE 1. Evaluation of Accuracies in Documentation Entries Within Survivorship Care Plan Treatment Summaries Generated by a Traditional Clinic-Based and Nonspecialist Approach (System I) Compared With Those Generated by a Multidisciplinary, Breast Specialist Conference-Based Approach (System II) (continued)

Documentation Element and Entry	No. of Documents (%)		*P**
	System I (n = 71)	System II (n = 93)	
Among patients receiving radiation, dose was documented accurately			< .01
No	10 (16.95)	11 (14.67)	
Yes	29 (49.15)	57 (76.00)	
Missing	20 (33.90)	7 (9.33)	
Among patients receiving radiation, fields and tangents were documented accurately			.86
No	4 (6.78)	7 (9.33)	
Yes	38 (64.41)	49 (65.33)	
Missing	17 (28.81)	19 (25.33)	

Abbreviations: HER2/*neu*, human epidermal growth factor receptor 2; NA, not applicable.
**P* values were obtained using the Fisher's exact test. The missing category was included in the statistical testing.
†Staging information included tumor size and nodal status.

evaluate an alternative SCP-TS program. The alternative program featured a multidisciplinary conference–based review of SCP-TS documents prepared in advance by specific members of the breast program team on the basis of the treatment history of the individual patient. The multidisciplinary breast program–based discussion of the TSs improved content accuracy and is being continued. Our hope is that multidisciplinary review will minimize the human error associated with individual, nonreviewed data entry. Therefore, we anticipate expansion to other cancer disease sites. For our patients with breast cancer, a follow-up PDSA will evaluate documentation of surgical procedures more closely, and we will evaluate additional metrics, such as confirming that patients resume overall health maintenance plans and have addressed control of cancer treatment toxicities.

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST AND DATA AVAILABILITY STATEMENT

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AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

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