

# Outcomes of Cancer Survivorship Care Provided by Advanced Practice RNs Compared to Other Models of Care: A Systematic Review

Julie A. Spears, APRN-CNS, DNP, AOCNS<sup>®</sup>, Melissa Craft, PhD, APRN-CNS, AOCN<sup>®</sup>, and Sara White, APRN-CNS, MSN, OCN<sup>®</sup>

Spears is a clinical nurse specialist (CNS) at Oklahoma Cancer Specialists and Research Institute in Tulsa; Craft is an assistant professor, director of the CNS program, and codirector of the doctor of nursing practice program in the Fran and Earl Ziegler College of Nursing and the Health Sciences Center at the University of Oklahoma in Oklahoma City; and White is a CNS at Oklahoma Cancer Specialists and Research Institute.

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All of the authors contributed to the conceptualization, design, analysis, and manuscript preparation. Spears and White completed the data collection and provided statistical support.

Spears can be reached at [jaspears@yahoo.com](mailto:jaspears@yahoo.com), with copy to editor at [ONFEditor@ons.org](mailto:ONFEditor@ons.org).

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**Problem Identification:** Advanced practice RNs (APRNs) have become leaders in providing survivorship care. However, outcomes of survivorship care provided by APRNs compared to other providers remain unclear.

**Literature Search:** A systematic literature search included articles published after 2005 that described a survivorship model of care and use of a survivorship care plan (SCP), as well as reported outcomes.

**Data Evaluation:** Sixteen studies were appraised and ranked by strength. Literature was evaluated based on the model of care, which included physicians, nurses, and APRNs who provided or reviewed SCPs. Outcomes evaluated were satisfaction, quality of life (QOL), and process/cost efficiency.

**Synthesis:** Survivorship care is reimbursable when provided by APRNs secondary to the ability to bill for services. Improved patient satisfaction and QOL are demonstrated when survivorship care is provided by APRNs. Incorporation of SCPs into health records improves process/cost efficiency.

**Conclusions:** Patient satisfaction was reported in all models of care. When compared to groups who received no survivorship care, no differences were reported in QOL, but survivorship care required extensive use of resources. Survivorship care provided by APRNs demonstrated improvement in satisfaction, QOL, and process/cost efficiency.

**Implications for Nursing:** Incorporating descriptions of care models and associated outcomes into randomized, controlled trials of survivorship care would provide stronger evidence to guide practice. Studies evaluating outcomes of process/cost efficiency should be considered for future research. Outcome research is needed regarding the incorporation of SCPs into electronic health records.

Survivorship care for patients with cancer has become an essential part of the treatment process. Because of improvements in cancer treatment, about 15.5 million cancer survivors are currently living in the United States, and this is predicted to increase to an estimated 20.3 million by 2026 (American Cancer Society, 2016). This growing population will require ongoing health care because cancer treatments can produce physical and psychological late effects that may not be apparent for years. As a new standard of care in oncology, survivorship care is vital to the cancer treatment process to promote recognition and management of comorbid chronic conditions that may be caused or exacerbated by cancer treatment and to monitor for signs of recurrence. The Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine (HMD) recommends the provision of a survivorship care plan (SCP) at the completion of cancer treatment to facilitate communication between providers (Hewitt, Greenfield, & Stovall, 2006). The SCP also documents cancer treatments delivered, follow-up guidelines, and recommended screening, and it lists symptoms of late effects from treatment

and signs of recurrence (Hewitt et al., 2006). Research has focused on patient survivorship needs, SCPs, and survivorship care models. Advanced practice RNs (APRNs), who may include clinical nurse specialists or nurse practitioners, have emerged as important leaders and providers of survivorship care (Halpern et al., 2014). Identifying APRN-provided interventions that lead to positive outcomes will provide motivation for organizations and payors to support survivorship care. The purpose of this systematic review is to evaluate the outcomes of providing survivorship care, as outlined by HMD, when delivered by an APRN as compared to other models of care.

## Methods

A systematic search was performed to identify and evaluate studies that describe a model of care for survivorship. Study participants were patients with nonmetastatic cancer and curable disease. Survivorship interventions evaluated included the provision of an SCP, which is often reviewed with the survivor by a medical professional. Outcomes were satisfaction, quality-of-life (QOL) measures, and process/cost efficiency.

### Search Strategy

Ovid MEDLINE, CINAHL®, Google Scholar, Embase, and the Cochrane Database of Systematic Reviews were searched from January 2005 to October 2015 to evaluate the effect of the HMD recommendations on

survivorship research and practice. Varying combinations of the search terms *survivorship*, *survivorship program*, *survivorship care plan*, *advanced practice nurse*, *clinical nurse specialist*, *nurse practitioner*, and *cancer* were used.

### Inclusion and Exclusion Criteria

Articles selected for the review were limited to those describing a survivorship model of care for adult cancer survivors that used an SCP, as recommended by HMD, and reporting on the associated outcomes. Types of studies included were quantitative, qualitative, and mixed methods. Only articles written in English were included. Studies evaluating survivorship in childhood cancers were excluded. The articles identified with reasons of exclusion are described in the flow diagram shown in Figure 1.

### Data Extraction

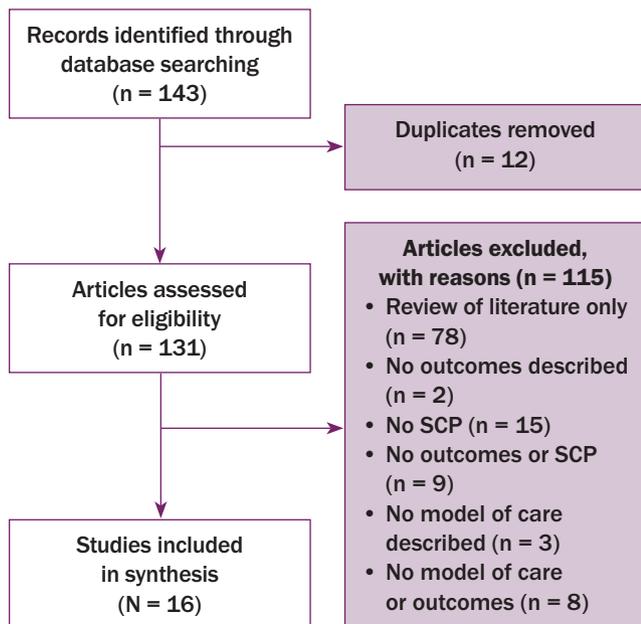
The literature was critically appraised independently by two of the current authors using a structured appraisal tool to identify the strengths and weaknesses of the methodologic quality. Discrepancies in the assessment of methodologic quality were resolved through discussion and agreed on.

### Strength of Evidence

The rating system developed by the American Association of Critical-Care Nurses to categorize and rank nursing literature based on research design was used to rank the studies; it may be used to make informed practice decisions or changes (Armola et al., 2009). The levels of evidence are described with alphabetical labels ranked from A (highest) to E (lowest), with M showing the manufacturer's claim.

**FIGURE 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) Flow Diagram of Articles Considered for Inclusion**

SCP—survivorship care plan



## Results

### Study Selection

The initial search of abstracts rendered 143 studies. After duplicates and articles that did not meet criteria were removed, a total of 16 studies were included in the review. Two studies featured multiple models of care, which made assessing the impact of the specific model of care on the outcomes described difficult (Campbell et al., 2011; Grant, De Rossi, & Sussman, 2015). However, these two studies were included because inclusion criteria were met with a description of a model of care, provision of an SCP, and a description of outcomes. See Table 1 for a summary of the results.

### Study Characteristics

Many of the studies included in this review featured specific descriptions of the preparation and delivery

**TABLE 1. Summary of Evidence (N = 16)**

Study	Methods, Model, and Evidence Level	Measure
Miller, 2008	Pilot study; nurse model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• Post-SCP interviews with patients produced positive remarks, with clarification of several issues.</li> <li>• Interviews with the PCP revealed increased knowledge of the patient's health status and were felt to be a valuable communication tool.</li> </ul>
Campbell et al., 2011	Mixed methods; multiple models; C	<p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• Organization and leadership commitment and program champions were identified as factors supporting survivorship.</li> <li>• Institutional size was identified as a barrier because of higher numbers of patients and inefficiencies in coordination of care.</li> <li>• Lack of financial support and poor reimbursement for clinical services were identified as barriers. The use of nurse practitioner services was beneficial in overcoming this barrier.</li> <li>• Difficulties related to the extensive amount of resources needed for preparation of the SCP were identified as barriers.</li> </ul>
Grunfeld et al., 2011	Multicenter randomized trial; nurse model; B	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• At 12-month visits, no statistically significant differences were noted regarding cancer distress or other outcomes.</li> </ul>
Jefford et al., 2011	Pilot study; nurse model; C	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• Thirty percent of patients experienced distress at baseline, and 38% reported distress at follow-up.</li> <li>• Patients had an average of 7 of 35 unmet needs at baseline and an average of 4 at follow-up.</li> <li>• Quality of life was ranked at an average of 71 (with a top score of 100 representing higher quality of life) at baseline, compared to 69 at follow-up.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• On average, end-of-treatment consultation took about one hour, follow-up telephone calls took about 10 minutes, and SCP preparation took about one hour to one-and-a-half hours.</li> </ul>
Curcio et al., 2012	Pilot study with pre- and post-test; APRN model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• Patient satisfaction was ranked high when the protocol was used.</li> <li>• PCPs reported satisfaction with the protocol.</li> <li>• Medical oncology staff satisfaction was reported.</li> </ul> <p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• Anxiety scores trended downward.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• The mean time to complete an SCP was 54.7 minutes, and the mean time to review the protocol was 58.8 minutes.</li> </ul>
Brothers et al., 2013	Randomized, nested, cross-sectional design; physician model; B	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• No differences in patient satisfaction were noted.</li> </ul> <p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• No differences were reported in distress and quality of life.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• The mean SCP preparation time was 90 minutes, with an estimated cost of \$19 per hour or \$28.50 per patient.</li> </ul>
Dulko et al., 2013	Descriptive pilot study; APRN model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• Most patients reported that the SCP and visit were useful and that they were satisfied.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• The most frequently reported barrier was time to prepare SCP; the mean SCP preparation time was 53.9 minutes.</li> </ul>

*(Continued on the next page)*

APRN—advanced practice RN; PCP—primary care provider; SCP—survivorship care plan  
 Note. The levels of evidence are ranked from A (highest) to E (lowest).

**TABLE 1. Table of Evidence (N = 16) (Continued)**

Study	Methods, Model, and Evidence Level	Measure
Hershman et al., 2013	Randomized, controlled trial; APRN model; B	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• At three months, no statistically significant difference was measured on the cancer worry subscale of the Assessment of Survivor Concerns.</li> <li>• No difference was noted in total scores or subscale scores on the Functional Assessment of Chronic Illness Therapy–Treatment Satisfaction–Patient Satisfaction, Functional Assessment of Cancer Therapy, or Center for Epidemiologic Studies Depression Scale.</li> <li>• Results of the health worry subscale of the Assessment of Survivor Concerns revealed less worry in the intervention group initially but showed no difference at six months.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• Significant costs were associated with the intervention group secondary to increased use of costly healthcare resources.</li> </ul>
Sevedge et al., 2013	Pilot study with pre- and post-test; APRN model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• Patient satisfaction was reported as being high.</li> </ul> <p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• Quality-of-life scores trended downward, indicating better quality of life reported with survivorship care.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• Survivorship care was provided during a billable visit, billed as an established patient visit for patients within the system and as a consultation visit for patients outside of the system.</li> </ul>
Coyle et al., 2014	Randomized, controlled trial; nurse model; B	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• A slight increase was observed in Quality-Adjusted Life Year scores over time in the SCP group.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• Initially, little difference was noted between the groups, but during a two-year time span, the SCP group was associated with higher societal and healthcare costs.</li> </ul>
Huang et al., 2014	Prospective, descriptive study; APRN model; C	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• Many participants experienced chronic symptoms, like pain, fatigue, and depression.</li> <li>• Seventy-five percent of participants reported adherence to the program, and many reported being up-to-date on other cancer screening.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• Provided validation of the ability of the APRN to provide quality care to patients with complex needs</li> <li>• Financial feasibility was established because of the ability to obtain reimbursement from visits (covers the cost of the APRN's salary).</li> </ul>
Mayer et al., 2014	Prospective, descriptive study; APRN model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>• The majority of patients reported that the SCP was easy to use and understand.</li> <li>• Survivors reported high satisfaction.</li> <li>• Positive written comments were received from PCPs.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• The average time to complete a surgery SCP was 49 minutes and 90 minutes for a surgery and chemotherapy SCP.</li> <li>• Delivery of the SCP took an average of 16 minutes for surgery and 26 minutes for surgery and chemotherapy.</li> </ul>
McCollum et al., 2014	Quasi-experimental study; APRN model; C	<p><b>Quality of Life</b></p> <ul style="list-style-type: none"> <li>• Overall improvements in quality-of-life scores were noted. A subset analysis revealed improvements in physical, psychosocial, and spiritual well-being. Social well-being showed decreased scores. None of the findings were statistically significant.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>• The intervention identified referral needs and patterns that could be used for further development of future survivorship programs.</li> </ul>

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APRN—advanced practice RN; PCP—primary care provider; SCP—survivorship care plan  
 Note. The levels of evidence are ranked from A (highest) to E (lowest).

**TABLE 1. Table of Evidence (N = 16) (Continued)**

Study	Methods, Model, and Evidence Level	Measure
Rosales et al., 2014	Mixed-methods program review; APRN model; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>Of the 50 patients who were reached by telephone, 86% strongly agreed or agreed that the visit met their needs.</li> <li>Patient comments were positive, and patients who expressed negative comments also voiced concerns about receiving a bill for the visit because they were unable to afford additional expenses.</li> </ul> <p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>The average associated reimbursement for each visit was 55% of the billed amount. The average cost when compared to the average reimbursement showed a return on investment of about 6%.</li> </ul>
Tevaarwerk et al., 2014	Pilot study; physician model; C	<p><b>Process/Cost Efficiency</b></p> <ul style="list-style-type: none"> <li>Time to prepare the SCP ranged from 2–12 minutes.</li> </ul>
Grant et al., 2015	Descriptive; multiple models; C	<p><b>Satisfaction</b></p> <ul style="list-style-type: none"> <li>Of 752 responses received from survivors, 87% (n = 654) reported high satisfaction, and 85% (n = 639) reported feeling adequately prepared for the transition.</li> </ul>

APRN—advanced practice RN; PCP—primary care provider; SCP—survivorship care plan  
 Note. The levels of evidence are ranked from A (highest) to E (lowest).

of an SCP. Studies often described the use of an SCP tool, such as the templates offered by the American Society of Clinical Oncology, Journey Forward, and Livestrong (Campbell et al., 2011; Curcio, Lambe, Schneider, & Khan, 2012; Dulko et al., 2013; Mayer et al., 2014; Sevedge et al., 2013). Only one study described an SCP generated using an electronic health record (Tevaarwerk et al., 2014). Four randomized, controlled trials were included. Patient populations were mostly convenience samples. Most data were gathered through interview or survey. Some studies incorporated a specific QOL measurement tool; these included Quality-Adjusted Life Years, QOL for Cancer Survivors, Impact of Event Scale, Generalized Anxiety Disorder 7, Functional Assessment of Chronic Illness Therapy–Treatment Satisfaction–Patient Satisfaction, Impact of Cancer, Assessment of Survivor Concerns, Functional Assessment of Cancer Therapy, and Center for Epidemiologic Studies Depression Scale (Coyle et al., 2014; Hershman et al., 2013; McCollum, Wood, & Auriemma, 2014).

### Methodologic Quality

Four randomized, controlled trials were included in the review, representing the highest strength of evidence. The model of care in two of the randomized, controlled trials used an oncology nurse to provide and review the SCP (Coyle et al., 2014; Grunfeld et al., 2011). A physician provided survivorship care in one study, whereas an APRN was used in another (Brothers, Easley, Salani, & Andersen, 2013; Hershman et al., 2013). None of the randomized, controlled

trials demonstrated improvement in QOL measures or satisfaction with survivorship care when compared to the control group whose members did not receive survivorship care. However, extensive use of resources and higher costs were consistently reported with survivorship care (Brothers et al., 2013; Coyle et al., 2014; Grunfeld et al., 2011; Hershman et al., 2013).

Two mixed-methods studies were included in the review. One study evaluated multiple models of care and identified the need for extensive resources to provide survivorship care as a barrier (Campbell et al., 2011). The other study used an APRN to provide survivorship care and reported improved patient satisfaction and increased financial feasibility secondary to the ability to bill for care (Rosales et al., 2014).

Ten studies were considered to be descriptive, quasi-experimental, or pilot studies. An APRN was the primary provider of survivorship care in five of the studies, which all demonstrated improvements in QOL measures and satisfaction (Curcio et al., 2012; Dulko et al., 2013; Huang et al., 2014; McCollum et al., 2014; Sevedge et al., 2013). Increased use of resources was commonly reported, but financial feasibility was also improved because an APRN can provide care during a billable visit (Huang et al., 2014; Sevedge et al., 2013). Three of the studies used a nurse to provide survivorship care, which demonstrated increased satisfaction and extensive use of resources but no improvements in QOL measures (Jefford et al., 2011; Mayer et al., 2014; Miller,

2008). Another study used a physician to provide survivorship care with an SCP that was generated electronically through the electronic health record, demonstrating increased efficiency (Tevaarwerk et al., 2014). One study evaluated multiple models of care and reported increased satisfaction (Grant et al., 2015).

### Intervention and Control Characteristics

Four of the studies were randomized, controlled trials using a control group that did not receive an SCP, whereas the intervention group received an SCP. No statistically significant differences were found in QOL measures or satisfaction. However, the SCP groups were associated with increased resource use and higher costs (Brothers et al., 2013; Coyle et al., 2014; Grunfeld et al., 2011; Hershman et al., 2013).

### Outcome Measures

**Satisfaction:** Of the eight studies that measured satisfaction, only one reported free-text responses indicating dissatisfaction from patients about survivorship care. The comments referenced concerns about receiving a bill and being financially responsible for a survivorship appointment with the APRN (Rosales et al., 2014). One study indicated that primary care providers perceived barriers to survivorship care, such as inadequate access for survivors and inadequate recommendations, but whether these providers were caring for patients who had received survivorship care with an SCP was unclear (Dulko et al., 2013). Those who provided survivorship care reported satisfaction with this care, but often reported the time to prepare the SCP and lack of reimbursement as barriers (Dulko et al., 2013).

**Quality of life:** QOL indicators are physical and/or emotional symptoms that affect the ability of a cancer survivor to enjoy life. All four randomized, controlled trials reported no difference in QOL measures (Brothers et al., 2013; Coyle et al., 2014; Grunfeld et al., 2011; Sevedge et al., 2013). Of these four randomized, controlled trials, two studies used a non-APRN (either a licensed practical nurse or an RN, but not specified) to provide survivorship care; one used an APRN; and one used a physician. Three studies demonstrated improvement in QOL measures, and all three used an APRN to provide survivorship care (Curcio et al., 2012; Dulko et al., 2013; Sevedge et al., 2013). A pilot study reported no improvement in QOL measures with survivorship care provided by a nurse (Jefford et al., 2011).

**Process/cost efficiency:** Cost efficiency is the cost and reimbursement for resources used to provide survivorship care, whereas process efficiency is the work required to provide survivorship care, such

as time spent on creating an SCP. The most common reported process/cost efficiency outcome was extensive use of resources to create the SCP, which was often portrayed as a barrier (Brothers et al., 2013; Campbell et al., 2011; Curcio et al., 2012; Dulko et al., 2013; Hershman et al., 2013; Jefford et al., 2011; Mayer et al., 2014). However, use of an APRN was described as a positive outcome because reimbursement could be obtained with a billed visit (Campbell et al., 2011; Huang et al., 2014; Rosales et al., 2014; Sevedge et al., 2013).

## Discussion

### Outcomes

This review reflected positive outcomes with overall satisfaction when survivorship care is provided by an APRN. Elements of survivorship care that lead to increased patient satisfaction include education provided verbally and in a written format during an appointment with review of the common elements of an SCP (Boyajian et al., 2014). An APRN is well suited to provide these elements of survivorship care because of educational preparation, clinical expertise, and the abilities to spend more time with patients and to bill for services (Economou, Edgington, & Deutsch, 2010). Although financial concerns were listed as a possible negative aspect of patient satisfaction with care provided via the APRN model, this could be a potential concern with any of the models and should be further investigated (Rosales et al., 2014).

The use of an APRN for survivorship care was the only model of care that supported improvement in QOL measures and process/cost efficiency (Curcio et al., 2012; Dulko et al., 2013; Rosales et al., 2014; Sevedge et al., 2013). QOL measurements varied, including knowledge of survivorship issues, psychosocial well-being, and physical symptomology. Some were measured with the previously mentioned tools, whereas others were measured with nonstandardized questionnaires and/or interviews. The nurse- and physician-led models of care did not demonstrate improvement in QOL measures, suggesting that an APRN model of care may lead to improved QOL when compared to other models. However, no studies specifically compared these models of care.

Survivorship care features completion and discussion of an SCP, education about late effects and symptoms of recurrence, and surveillance (including history taking and physical examination at specific intervals); such care is commonly reported to be resource-intensive for oncology providers, regardless of the model of care being used. When the

APRN provides survivorship surveillance, services can be billed for reimbursement and physicians can be freed to evaluate additional newly diagnosed patients (Downs-Holmes, Dracon, Svarovsky, & Sustin, 2014). The use of APRNs can also address the growing demand for oncology care and has been shown to increase oncology practice productivity while improving patient satisfaction (Towle et al., 2011). When compared to other models of care, survivorship care provided by an APRN consistently demonstrates more positive process/cost efficiency outcomes.

## Barriers

Significant barriers prevent implementation of survivorship care. Preparation of the SCP requires time and resources. Incomplete information within the health record, time to prepare the SCP, inadequate funding, and lack of knowledge by healthcare providers have all been identified as barriers to providing survivorship care (Dulko et al., 2013; Irwin, Klemp, Glennon, & Frazier, 2011). Another issue identified is the lack of integrated SCPs with the electronic health record (Parry, Kent, Forsythe, Alfano, & Rowland, 2013). One study included in this review evaluated the use of the electronic health record to generate an SCP and demonstrated increased process/cost efficiency (Tevaarwerk et al., 2014). No clear financial incentive to organizations exists for the preparation and provision of survivorship care (Balogh et al., 2011). However, APRNs are able to bill for services and have contributed to advancement of process/cost efficiency (Campbell et al., 2011; Huang et al., 2014; Rosales et al., 2014; Sevedge et al., 2013).

## Research Gaps

Survivorship care models reported in the literature have focused on the process of preparing and reviewing the SCP with patients. Limited descriptions were available of the care that takes place before or after the SCP is completed. Evaluating the model of care in its entirety, beginning at diagnosis and moving through the surveillance period of care, would be beneficial, offering guidance to duplicate or revise the process. Primary outcomes reviewed were related to satisfaction, QOL, and efficiency. Other outcomes (e.g., triage calls, referrals, wait times, hospitalizations, complete cost-benefit analysis) were not consistently assessed. Research evaluating these outcomes may lead to improved process/cost efficiency. Only one study examined an SCP generated using an electronic health record, which demonstrated reduced SCP preparation time, suggesting greater efficiency and use of fewer resources (Tevaarwerk et al.,

## Knowledge Translation

- Survivorship care is reimbursable when provided by advanced practice RNs (APRNs) because of the ability to bill for services.
- Improved satisfaction and quality of life are demonstrated with survivorship care provided by APRNs.
- Incorporation of survivorship care plans into health records improves process efficiency.

2014). More research is needed on processes such as electronic health record-generated SCPs, which can streamline practices and reduce costs.

## Limitations

A primary limitation is the number of studies included in the review, which restricts the ability to generate conclusions based on a relatively small amount of literature. The lack of randomized, controlled trials that describe an SCP and associated outcomes limits the ability to generalize findings. Although some standardized measurement tools were used, such as those measuring QOL issues, the majority of the studies in the review used a survey or interview format, which limits the ability to duplicate the study. The variability in survivorship models of care, including those provided by an APRN, makes identifying which processes resulted in favorable outcomes difficult. Survivors of childhood cancers were also excluded, which can limit the available information on long-term outcomes because this patient population has likely been researched for longer periods of time. Even with these limitations, the review does illustrate differences in the outcomes of survivorship care provided by APRNs, providing direction for future research.

## Conclusion

Survivorship care is becoming an expected standard of the oncology treatment process, but barriers, such as a strain on organizational resources and lack of reimbursement, continue to be problematic. As the cancer survivor population grows, the demand for efficient models of care to promote positive outcomes will increase. The Commission on Cancer (2012), an accrediting organization for cancer centers, has added the survivorship standards to improve the quality of and adherence to survivorship care. To meet this standard, oncology providers may benefit from the use of an APRN for survivorship care; the research, although limited, suggests that doing so increases satisfaction, improves QOL measures, and expands

reimbursement. Incorporating descriptions of care models and associated outcomes into randomized, controlled trials would provide stronger evidence that can further guide practice. APRNs are a key component of the survivorship care model, and studies evaluating outcomes that further improve process/cost efficiency should be considered for future research. Preparation of an SCP has been described as a resource-intensive task. Therefore, information entered into the electronic health record should be used to generate a modifiable SCP. As more research becomes available, survivorship care models with the most favorable outcomes can be identified and implemented.

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