Survivorship Care Plan: A Pilot Implementation in Colon Cancer Survivors

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Abstract

Cancer survivorship has been identified as separate stage in cancer treatment posing unique issues that arise from the diagnosis of cancer, as well as late effects associated with treatments. Evidence shows that cancer survivors demonstrate suboptimal follow-up care, and report high levels of unmet needs related to their cancer experience. To improve care for the increasing number of cancer survivors in the United States, survivorship care plans (SCPs) have been proposed as way to strengthen care coordination and improve patient outcomes. Research suggests that SCPs have favorable impact on patient satisfaction and quality of life, however little research to date investigates the utility of SCPs in improving patient outcomes, adherence to follow-up recommendations, or patients' confidence in self-care management. To further understand the role of SCPs in survivorship care, a pilot implementation of SCPs in colon cancer patients was implemented to gather data on the identified gaps.

Keywords: colon cancer, survivorship, care plan, confidence, adherence

Survivorship Care Plan: A Pilot Implementation in Colon Cancer

According to the Surveillance, Epidemiology, and End Results (SEER) program, cancer incidence has declined by approximately 1% annually over the last 10 years; however, the number of cancer survivors has steadily increased, with estimates of 15.5 million people in the United States currently living with a cancer diagnosis (Miller et al., 2016). By the year 2026 the number of survivors is projected to increase to 20.6 million. Of those affected, colorectal cancer is the second leading cancer among men and women, accounting for 1.6 million survivors in the United States today; with projected 5 and10 year survival of 65% and 58% respectively (Miller et al., 2016).

Problem Statement

Cancer survivors face unique disease and treatment related changes that evolve along their care continuum. Cancer and its related treatment is known to cause atypical presentation of common health conditions, increased risk for infections, accelerated age related changes, recurrence and increased risk for acquisition of secondary cancers (McCabe et al., 2013). Additionally, cancer survivors experience a spectrum of psychosocial, financial, emotional, and spiritual challenges related to their cancer experience (Center for Disease and Control [CDC], 2016). Hematology and oncology specialist, as well as larger organizations that guide oncology care such as the American Society of Clinical Oncology (ASCO), the CDC, and the National Cancer Institute (NCI) recognize that cancer survivors have complex needs which require tailored risk assessments, and personalized care planning (Hewitt, Greenfield & Stoval, 2005). The 2005 Institute of Medicine (IOM) report illuminated the under-addressed needs of cancer survivors in current practice and proposed the integration of survivorship care plans (SCP) to address the comprehensive needs of cancer patients. The report recognized survivorship to be a distinct phase in cancer care, and recommended that upon completion of cancer treatment, patients receive a comprehensive care plan summary and follow-up care plan that can be used across health care specialties to optimize care and outcome for patients along their survivorship trajectory (Hewitt, Greenfield, & Stovall, 2005). Following the release of the IOM report, the Center of Excellence (COE) was founded by the LIVESTRONG foundation, which has served to pilot and research survivorship care strategies (Campell et. al., 2011). In response to these initiatives American college of Surgeons (ACoS) Commission on Cancer (CoC) announced its mandate for SCP implantation; the most recent accreditation requirements propose that accredited cancer centers should have provided SCPs beginning in 2015 to 10% of patients who meet survivorship criteria. Survivors are to receive a survivorship care plan at completion of initial cancer treatment, with incremental increases annually to reach projections 75% of qualifying patients receive a SCP by 2018 (CoC, 2014).

Purpose and Rationale

A high quality SCP would provide four essential elements: description of specific cancer diagnosis, treatments received, instruction for follow-up care, and health promotion recommendations. These elements would provide an explanation of associated late and long-term effects (LLTE) and foster adherence for disease surveillance and secondary cancer screening. In addition the SCP would include resources to for healthy lifestyle recommendation, disease prevention, and coping and psychosocial support (Jabson, 2015). The integration of a high quality SCP not only serves as way to improve satisfaction and adherence to follow-up recommendations, but also serves as a way to instill confidence in self-efficacy in health promotion and disease prevention.

Background and Significance

With a survival rate of 84% 12 months post treatment, adults with colorectal cancer are projected to account for a large percentage of long-term cancer survivors (Faul, et al., 2012). Despite favorable survival statistics, 20-40% of colorectal cancer survivors go onto to develop secondary malignancies (NCI, 2013). In addition, depression, chronic fatigue, body image concerns, bowel dysfunction, and sexual dysfunction are among the common adverse sequela for colon cancer survivors (Faul et al., 2012). Unfortunately many colorectal patients experience poorly coordinated care after treatment. This results in distress and unmet needs following their cancer care. Only 50% of patients report satisfaction with care addressing their psychosocial problems (Wieldraaijer et al., 2016). These findings are congruent with the IOMs national report by Hewitt, Greenfield, and Soval (2005), "From Cancer Patient to Cancer Survivor: Lost in Transition", which emphasized that personalized and well- coordinated care planning is imperative to meet the complex aftercare needs for colon-cancer survivors.

Despite acknowledged value of SCPs, integration and implementation in practice has been slow; to date less than half of the LIVESTRONG survivorship centers of excellence sites are delivering SCPs in accordance to the IOM and CoC's current recommendations (Kvale, 2016). The process of creating and disseminating SCPs is a resource-intensive process, posing significant challenges in many health care delivery systems (Brennan, Gormally, Butow, & Spillane, 2014). Lag in implementation is likely exacerbated by failure of SCP's to demonstrate conclusive evidence that SCP delivery improves outcomes of cancer survivors, as concluded by Mayer, Birken, Check, and Chen (2015). Unfortunately many of the randomized control trials (RCTs) conducted and reviewed, demonstrate flawed design, and poorly selected variable measurements (Mayer, Birken, Check, & Chen, 2015). Recent published data however, has demonstrated a more promising shift in outcomes. Kvale, et al. (2016) conducted an RCT with 79 cancer survivors, where usual SCP delivery was compared to “Patient owned SCP” and focused coaching session. A Patient owned SCP was described as an individualized care plan that is created during a focused coaching session. The intervention group reported lower social role limitations ($p=0.014$) and demonstrated higher self-reported health ($p=0.017$). Significant changes were also observed in several quality of life (QOL) domains: physical role ($p=0.0009$), bodily pain ($p= 0.03$), and emotional role ($p= 0.04$) were demonstrated and depression was significantly decreased ($p= 0.003$) (Kvale, et al., 2016). These findings provide evidence to support not only SCPs, but also emphasize the importance of the delivery, suggesting that dedicated survivorship visits are useful to enhance SCP use for patients. Similarly Palmer, et al. (2015) utilized survivorship visits to deliver SCPs in a pilot study of 139 breast cancer survivors; each participant attended a “survivorship visit” where a SCP was delivered and explained., At the end of the visit participants completed a survey assessing satisfaction, use of SCP material, knowledge of care, and care coordination. The same survey was used three months post visit, and compared to baseline data. Results demonstrated high satisfaction, with a report of 90% of participant being satisfied or more with the SCP. In addition, patient perceived knowledge about follow-up care, and care coordination were significantly improved (all $P< 0.001$) (Palmer et al.,2015). In a cross-sectional study of 1129 colon cancer patients demonstrated similar findings with SCPs, with a satisfaction rate of greater than 87% and reported use of SCP in care coordination by 69% of participants (Frick et al., 2017). Satisfaction and QOL metrics are heavily studied in the body of SCP research. While satisfaction and QOL serve utility in SCP appraisal, metrics pertaining to outcomes are critically important to quantify and little research has focused on these areas. Hawkins et al. (2015) evaluated adherence to recommended follow-up guidelines in 593 cancer survivors, using a cross sectional design. The sample included survivors who received verbal explanation of follow-up instruction in conjunction with written instruction (SCP), one or the other, or none at all. It was found that survivors who received specific follow-up instructions from health care providers, verbal or written, were associated with adherence to guide line recommendation follow-up and screening. Colonoscopy's are part of the National Comprehensive Cancer Network (NCCN) (2017), recommendation for follow-up care for all stages of colon cancer and play a crucial part in the identification of colon cancer recurrence. Adherence to colonoscopies was significantly greater (p=0.05) if a patient received specific instruction for follow-up (Hawkins et al., 2015). Confidence is an important indicator for appropriate self-management of disease. Rosenberg et al. (2015) examined SCPs and their impact on self-management in a cohort study of 1615 cancer survivors. At one year following the receipt of SCP at an individualize risk associated visit, 94% of survivors felt more confident communicating about their treatment, 90% were more confident in recognizing signs/symptoms to report and 98% were more aware of community services and programs (Rosenberg et al., 2015)

A hospital system that is National Cancer Institute-designated cancer center was identified for implementation of a Doctorate of Nursing Practice project to facilitate effective pilot implementation of SCP in colon cancer patients using a developed SCP that can be adapted to the current electronic medical record (EMR). This hospital organization lacked a uniform mechanism to deliver and meet the most recent updates for CoC accreditation despite serving an estimated 130,000 cancer patients at its combined sites annually (Etzioni et al., 2016). At this particular site it serves an estimate of 200 new colorectal patients annually (Etzioni et al., 2016). Although the CoC accreditation is not mandatory to deliver cancer treatment, loss of accreditation would be a significant insult to this hospitals reputation as a recognized leader in cancer care (Etzioni et al., 2016). The goal of addressing the fragments in care for cancer survivors is to shift current methods of care delivery to utilization of comprehensive, individually tailored care plans that support seamless post-treatment care to all cancer survivors. Additionally this will serve to provide access to adequate tools, resources and guidance to patients, family members, primary care providers, and others in the communities at large that are involved with cancer care. These assumptions lead to the need for a pilot implementation of SCPs and development of the PICO question: In colon cancer survivors(P), how does a survivorship care plan(I) compared to standard follow up care(C) affect confidence in self-care, satisfaction, and adherence to NCCN follow-up recommendations? (O)

Search Strategy

To address the clinical questions regarding SCPs in colon cancer survivors, an exhaustive search of current evidence was performed. An online database search of CINHAL, Medline, and PsychINFO using keywords and Boolean connectors was used to obtain all available literature concerning the clinical questions of interest. Search was initiated in January 2017, and updated through March 2017. Keywords included: *cancer survivor, neoplasm, colon cancer, colorectal neoplasm, care plan, survivorship care plan, follow-up care, adherence, follow-up care, satisfaction, self-efficacy, self-management, and confidence.* The initial search was intended to include data on all malignancies; searching title and abstracts in each database for (cancer survivor or neoplasm) AND (care plan or survivorship care plan). This resulted with 376 from CINAHL, 324 from Medline, and 43 from psychINFO. The search was further refined by the following limits: peer reviewed studies, publication in English, Adults, and publication within the last five year; resulting in 176 from CINAHL, 67 from Medline, and 26 from PsychINFO.

The search was altered to examine colorectal cancer by adding (colon cancer or colorectal neoplasm) with AND Boolean to each search. This generated 22, 25 and 32 from CINAHL, Medline and psychINFO respectively. To focus on the clinical questions of interest; (satisfaction), (confidence or self-efficacy), (confidence or self-management), and (adherence or follow-up care) were added independently and in combination to initial search and refined colorectal search on each database. Demonstration of search can been found in Appendix A (CINAHL), Appendix B (Medline), and Appendix C (PsychINFO).

Saturation was met with the addition of focused keyword search; a robust yield of abstracts 62 were assessed and approximately 30 studies were selected for further review and quality appraisal. Studies were selected if they had strong statistical and methodological integrity, relevance to clinical question and population, and clear documentation. Studies were discarded if the population had metastatic disease or palliative intent, if they examined health care providers only, or had a weak study design. A total of 11 studies, two randomized control trials (RCTs), four systematic reviews (SR), four cross sectional studies, and two prospective cohort studies (PCS) were selected for further analysis for quality, relevance, and application to clinical PICO question (Appendix D).

Critical Appraisal & Synthesis

Rapid Critical Appraisal (RCA) was used to ascertain quality and strength of the 11 selected studies; evaluation of data is found in the evidence table (Appendix D). All but one study utilized quantitative methodology, with exception of one qualitative systematic review. The majority of the studies provide high level of evidence; with four level I, four level II, and three level VI as demonstrated in synthesis table (Appendix E). Sample sizes ranged from 79-1615 in the RCT, prospective cohort studies and cross-sectional studies (Appendix E). Thorough description of data analysis was found in 10 of the 11 studies, with each study noting specific level of significance (p) standard deviations (sd), confidence interval (CI), and correlation coefficient *(r)*. Appraisal of statistical methods found congruency with each study design (Appendix D).

Reliability is confirmed by consistency in outcomes across homogeneous studies, in addition each study demonstrated at least one significant finding and reported use of validated measurement tools in each investigation. Three studies (2 RCT, 1 PCS) examined SCP with focused visits, each study demonstrated significant improvement in satisfaction and at least one other metric measured (appendix E). Collectively SCP demonstrated increased patient satisfaction (6) increase in care coordination (5) and increase in survivor knowledge (4). Validity is confirmed in the RCTs through randomization and use of control. All four of the experimental studies (2 RCTs, 2 PCS) used control procedures for false discovery rate, therefore increasing their power (Appendix D). Validity is accepted for the four systematic reviews (SR) for their comprehensive description of search strategies, use of validated tools for SR, and inclusion of published RCTs and report of appropriate patient data (appendix D).

All 11 studies investigated SCPs, however heterogeneity in content and delivery was observed. Three studies (2 cross sectional, and one SR) evaluated treatment summaries (TS) and SCPs. Four studies (two PCS and two RCT) investigate the delivery of individualized SCP with a focused survivorship visits. The remaining four studies evaluated SCPs, however consistency in SCP methodology was weak between studies (Appendix D). Outcomes of interest varied; six studies evaluated satisfaction, four studies evaluated quality of life, five evaluated patient knowledge, eight evaluated care coordination, one evaluated guideline adherence, and one evaluated self-efficacy. Across the 11 studies, the use of SCPs resulted in inconclusive results, many studies demonstrated positive outcome, however failed to reach significance (n=6). Studies that investigated the use of focused survivorship visits (n=4) demonstrated greater significance in results.

The majority of the studies were done in the United States (n=9), with foreign contribution from Canada (n=1) and Australia (n=2). Homogeneity was observed in cancer type, 9 of the 11 studies evaluated the use of SCPs in breast cancer survivors, therefore a greater representation of females (Appendix D). Although useful for reproducibility in this population, it does limit insight to generalizability to other cancers. Despite a mean age variation between studies of 37=74.7, most studies provide data from adult cancer survivors between 50-60 years of age. No biases were revealed, however homogeneity of demographics could influence data outcomes based on role characteristics and tendencies.

Conclusions

Despite the variability in the early evidence of SCPs, improved designs and focus on implementation has shifted outcomes related to SCPs in recent years. The culmination of evidence does demonstrate appreciable improvement in patient care and reported outcomes such as care coordination and satisfaction. The generation and dissemination of SCPs demonstrates to be an important element in SCP functionality and benefit, and further research efforts should be focused to develop strategies that are scalable across settings and disease types. Data regarding SCPs and their influence in guideline adherence and confidence in care ownership is sparse, and warrants further investigation. The evidence does support that SCPs are beneficial tools in survivorship care; however the utility of SCP is greatly improved when patients are provided a specific visit to review the care plan and discuss survivorship. Therefore, research suggests efforts should be combined to develop workflows where individualize care plans are delivered in person, and reviewed at a focused visit to optimize the effectiveness of SCPs for both patients and involved care provided. Utilization of current research to guide quality improvement and evidence based practice projects in SCP delivery would be a useful way to generate data and improve processes.

Conceptual Framework and EBP

Application of the chronic care model (CCM) was adopted to guide the utilization and implementation of SCP to colon cancer survivors at the selected academic institution. The CCM incorporates six essential elements to facilitate optimal chronic disease care, and has demonstrated useful application in larger healthcare systems. Each identified element: community, the health system, self-management support, clinical information system, decision support and delivery system design; utilizes specific evidence base change concepts (Wagner, 1998). Incorporating these elements enhances patient provider communication and encourages patient participation in their care through informed decision-making, behavior change and utilization of appropriate health care and community resources (Wagner, 1998). This is useful in SCP planning by assisting in resource allocation, role organizations, and facilitation of communication with patient’s and amongst interdisciplinary teams such as oncology and primary care.

To facilitate this proposed practice change, The Mayo Clinic Nursing Evidence-based Practice Model (MCNEBP) is utilized (Appendix G). The MCNEBP provides guidance to facilitate practice change, and quality improvement initiatives through evaluation and application of evidence based practice (EBP) (Mayo Clinic, 2017). This model utilizes a seven-step process, which facilitates a unique problem solving approach to improving cancer survivorship care through SCP implementation. The MCNEBP stepwise process encourages critical evaluation of the evidence, and comparison of current practice, the evidence, and desired future state (Mayo Clinic, 2017). With contextual consideration of the identified stakeholders, and care teams this model enhances appropriate application of EBP to guide quality improvement and evidence based practice.

Purpose

To promote the use of SCPs in survivorship care, and develop a standardized method to achieve the CoC.3.3 standards, an evidence based practice project was implemented in an adult colorectal cancer practice. This population was selected for its short treatment duration, and volume of cancer survivors. Given a six-month time frame for project implementation and assessment, these elements were necessary to adequately observe adherence to practice change and progress towards meeting accreditation requirements, as well as measuring the effect of practice change on patient care. To evaluate the impact of project implementation, the following metrics were evaluated: SCP effects on patient knowledge, confidence, and satisfaction, the practice adherence to SCP delivery, and systems progress to meet COC 3.3 accreditation requirement

Methods

The practice intervention included use of a vended product to create a personalized SCP, and delivery of SCP at a focused survivorship consultation with a survivorship or oncology provider. Prior to project implementation, Institutional review board approval (IRB) was obtained from project site, and Arizona State University. The project entailed multi- phase implementation. During the planning phase, physicians, nurse practitioners, physician assistance and registered nurses in the colon and rectal cancer practice received focused education and training for the SCP product, and workflow redesign specific to each professional role. The workflow was designed to maximize multi-disciplinary scope of practice and facilitate optimal delivery of SCP for both patients and providers. At the completion of treatment, oncology providers place consult for a "survivorship consult"; this scheduled visit prompts the RN coordinator to create the personalized SCP using the vended software product. The RN sends draft SCPs to of provider for review, where the document is finalized for delivery at the survivorship consult visit. The survivorship visit for colon patients was led by the survivorship MD, and survivorship visits for rectal patients was lead by trained oncology physician assistant. The visit focused on thorough review and explanation of SCP

The organization's cancer registry assisted in retrospective identification of patients who were eligible to receive SCPs based on date of diagnosis and had completed therapy prior to pilot implementation. Eligibility was determined based upon CoC 3.3 standards and inclusion criteria; 18 years of age or greater, lives within a 50 mile radius of Phoenix, diagnosed with cancer stage I-III, and received treatment with curative intent.

Beginning in August 2017 practice change was initiated and identified colorectal (CR) cancer patients were scheduled for survivorship consults. Chart review and cancer registry was used to capture the baseline number of SCPs delivered to colorectal (CR) cancer survivors prior to pilot initiation. To track the number of SCPs delivered chart review of identified patients were assessed for documented SCP in medical record. Percentage increase was tracked through February 2018. Patient's perceived knowledge and confidence in self-care, and care satisfaction was measured using the modified Confidence in Survivorship Information (CSI) survey. The CSI is a 13-item measurement tool used to assess confidence in survivorship using a three point likert scale, response options range from one, "not at all confident" to three, "very confident". Confidence is assessed in two subscales: Confidence in knowledge of cancer diagnosis and treatment details (3 items, reliability: 0.77) and knowledge and confidence in health promotion, personal cancer risk, disease prevention and available resources (10 items, reliability: 0.95) (Palmer, Jacobs, Mao, & Stricker, 2012). Psychometric properties of this tool have been evaluated in a sample of 209 diverse cancer survivors, which yielded a two-factor (past and future knowledge) that accounted for 58.4% of the variance. With permission three investigator-developed items to assess satisfaction and health-promotion were added to CSI questionnaire. The additional three items utilized a 5-point Likert scale; with responses ranging from one, not at all satisfied to five, very satisfied. Surveys were delivered and completed by patients prior to their survivorship consultation, and receipt of SCP. In February 2018 DNP student contacted survivors who completed initial survey, and received an SCP. Utilizing the IRB approved phone script the follow-up CSI survey was completed by using verbatim language of survey. Please see appendix I for survey.

Results

The total number of identified patients equaled 18, of those 16 received the prescribed intervention of a focused survivorship visit, with delivery of a personalized SCP. This reflected an 88% adherence to the practice change. Of the 16 patients who attended their survivorship visit, fifteen completed a pre-survey and seven completed a post survey. Data was collected on the fifteen patient participants who completed a pre-survey. There were six females and nine males, with an average age of 65. Paired T-test analysis with an alpha of .05 was used to analyze the knowledge and confidence of survivors' pre and post intervention, through CSI response. Paired analysis demonstrated an overall increase in survivors' confidence in cancer self-care knowledge and care satisfaction after receiving focused survivorship visit and personalized SCP. Statistical significance was achieved in improvement of patient's confidence and knowledge in strategies to prevent disease recurrence or secondary cancer (p= .001); how to prevent (p= .015) and how to treat (p=. 018) late and long term physical effects of cancer or it's treatment; how to prevent (p= .045) and treat (p= .047) emotional effects of cancer diagnosis. Overall satisfaction with survivorship care improved from an average response of 4 or satisfied to 4.9 or "very satisfied" (p= .015) after receiving intervention. For comprehensive statistical findings in each area analyzed by CSI survey reference appendix G. Graphical demonstration of average response of each question of CSI survey pre and post intervention is displayed in appendix H.

Discussion

A team-based approach demonstrates to be a useful framework to implement practice change, and adoption of SCPs into cancer practice. In addition to the CR practice, the organizations breast cancer practice was also include in the pilot. Both patient populations demonstrated positively improved confidence and knowledge in survivorship care. When comparing outcomes between practices the colorectal cancer demonstrated more significant finding in improvement post intervention. This is likely observed due factors involving consistency in practice habits by the providers, and adherence to the prescribed workflow. The colon and rectal cancer practice remained stable with two providers who were trained in the survivorship workflow, use of SCPs tool and recognized the value of providing high quality survivorship care. This resulted in appropriate identification of eligible patients and referral to survivorship consult. During CR survivorship visits, providers adhered to workflow designed visit where personalized SCPs were reviewed, and questions were addressed regarding SCP and cancer survivorship. When compared to breast cancer practice, transition occurred with the providers responsible for the survivorship consultation visit throughout the project. Due to unexpected leave of absence, not all by providers delivering SCPs received the focused training on workflow, or valued the importance of SCPs. This resulted in some variation in the identification of eligible patients, resulting in missed survivorship consult referrals. These lapses in congruency resulted in some variation in breast cancer practice. It was observed where not all patients received discussion and review of their care plan at their survivorship visit. This comparison confirms what has been demonstrated in previous research, where value and effect of SCPs are maximized when delivered by a trained survivorship provider, and elements of the care plan discussed in a focused visit.

Although improvement, and statistical significance was observed in the areas of CR survivor’s confidence and knowledge; generalization of these outcomes must considered in the context of a relatively small sample size, which is recognized as a limitation. Additional limitations include short timeframe and observation. The restriction to only 6 months of observation of intervention limited the DNP student to observation of only the CSI metrics. Observation of at least 12 months would have allowed for more robust data collection, and insight to the practice change include larger population size, and additional metrics that evaluate patient outcomes and behavior, such as adherence to applicable NCCN follow-up guidelines, and to health promotion behavior such as vaccinations, and smoking cessation. The survivorship work flow, including the focused survivorship is not absent of labor intensive demand, and increased cost with use of vended SCP product, which is a limitation for some practices, however this can also be viewed as “value added” to care provided. This is important to discuss, because although it may pose some disruption and challenge, over the long-term trajectory, improving survivorship care is likely to mediate reduced cost of care due to improving patient’s self-efficacy, and health practices. Self-efficacy and optimized health promotion and disease prevention practices is likely to reduce comorbidity, and therefore lessen the burden of unnecessary or improper use of health care resources.

Although some adjustments are needed to improve provider compliance to practice change, ongoing dissemination of practice change is advised. Future efforts should focus on delivery process specific to each unique practice, and optimizing SCP tool to benefit each practice. Further data collection of patient's adherence to NCCN follow-up recommendations and health promotion practices ought to be completed to add knowledge of SCP efficacy, and value in practice.

Conclusion

Strategic implementation of a structured survivorship visit and delivery of SCP has demonstrated to be an effective framework to improve the care of cancer survivors. Additionally the pilot project provides a useful framework to assist in widespread implementation to all cancer specialties, which will assist the organization to maintain accreditation as a recognized cancer center. Joining the use of individualized SCPs with a focused visit fosters patient ownership in care, and empowers self-management. Through discussion of treatment summary and disease, patients glean greater understanding of risks, and awareness to recommended follow up care. The SCPs provide tools to promote health and prevent future disease, which in turn can reduce healthcare cost by reduction of complications of poor health management, decrease misuse of specialty services and increase use of community resources. Overall, the adoption of this evidence base practice change encouraged high quality survivorship and generated data that will assist to direct and improve survivorship care moving forward.

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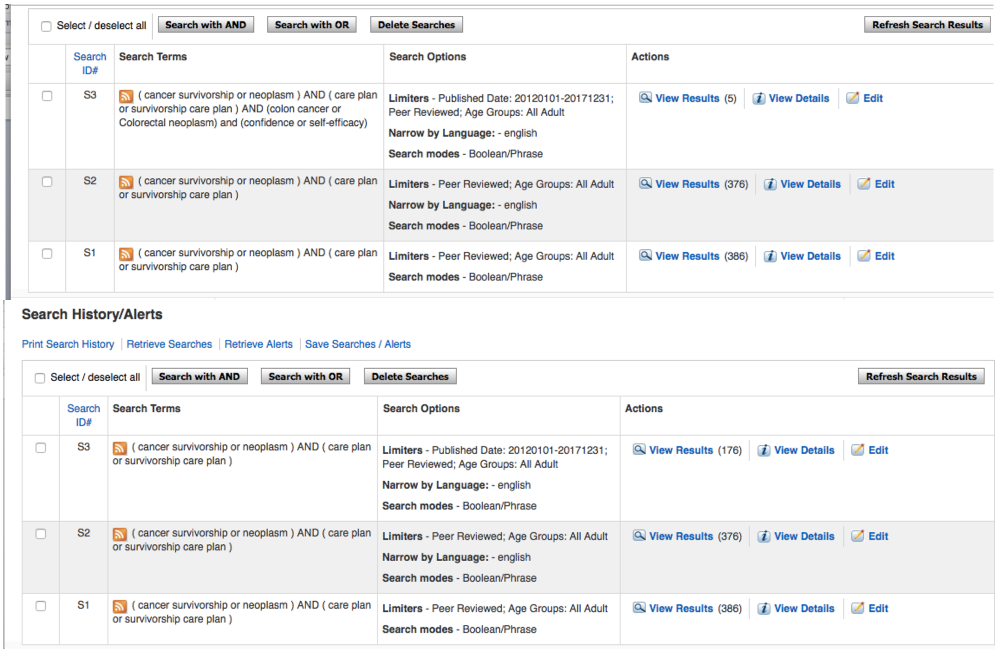
Rosenberg, C. A., Flanagan, C., Brockstein, B., Obel, J. C., Dragon, L. H., Merkel, D. E., ... & Hensing, T. A. (2016). Promotion of self-management for post treatment cancer survivors: evaluation of a risk-adapted visit. *Journal of Cancer Survivorship*, *10*(1), 206-219.

Wagner, E. H. (1997). Chronic disease management: what will it take to improve care for chronic illness?. *Effective Clinical Practice 12*(1), 2-4

Wieldraaijer, T., Duineveld, L. A. M., van Asselt, K. M., van Geloven, A. A. W., Bemelman, W. A., van Weert, H. C. P. M., ... & ICARE study group. (2017). Follow-up of colon cancer patients; causes of distress and need for supportive care: Results from the ICARE Cohort Study. *European Journal of Surgical Oncology (EJSO)*, *43*(1), 118-12

Appendix A
Search Strategy: CINHAL

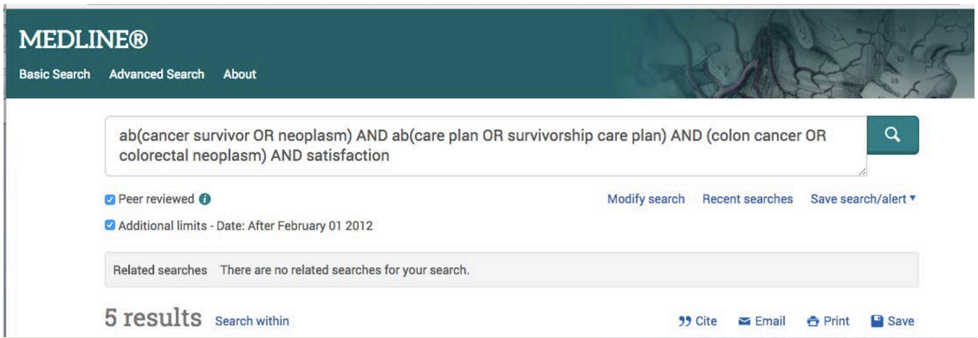


	Search ID#	Search Terms	Search Options	Actions
☐	S3	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan) AND (colon cancer or Colorectal neoplasm) and (confidence or self-efficacy)	**Limiters** - Published Date: 20120101-20171231; Peer Reviewed; Age Groups: All Adult **Narrow by Language:** - english **Search modes** - Boolean/Phrase	View Results (5) | View Details | Edit
☐	S2	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan)	**Limiters** - Peer Reviewed; Age Groups: All Adult **Narrow by Language:** - english **Search modes** - Boolean/Phrase	View Results (376) | View Details | Edit
☐	S1	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan)	**Limiters** - Peer Reviewed; Age Groups: All Adult **Search modes** - Boolean/Phrase	View Results (386) | View Details | Edit

Search History/Alerts

	Search ID#	Search Terms	Search Options	Actions
☐	S3	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan)	**Limiters** - Published Date: 20120101-20171231; Peer Reviewed; Age Groups: All Adult **Narrow by Language:** - english **Search modes** - Boolean/Phrase	View Results (176) | View Details | Edit
☐	S2	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan)	**Limiters** - Peer Reviewed; Age Groups: All Adult **Narrow by Language:** - english **Search modes** - Boolean/Phrase	View Results (376) | View Details | Edit
☐	S1	(cancer survivorship or neoplasm) AND (care plan or survivorship care plan)	**Limiters** - Peer Reviewed; Age Groups: All Adult **Search modes** - Boolean/Phrase	View Results (386) | View Details | Edit

Appendix B
Search Strategy: Medline



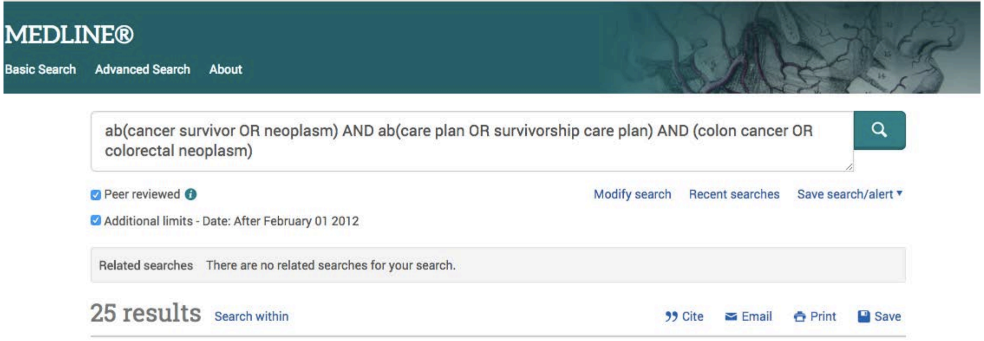
ab(cancer survivor OR neoplasm) AND ab(care plan OR survivorship care plan) AND (colon cancer OR colorectal neoplasm) AND satisfaction

☑ Peer reviewed

☑ Additional limits - Date: After February 01 2012

Related searches There are no related searches for your search.

5 results



ab(cancer survivor OR neoplasm) AND ab(care plan OR survivorship care plan) AND (colon cancer OR colorectal neoplasm)

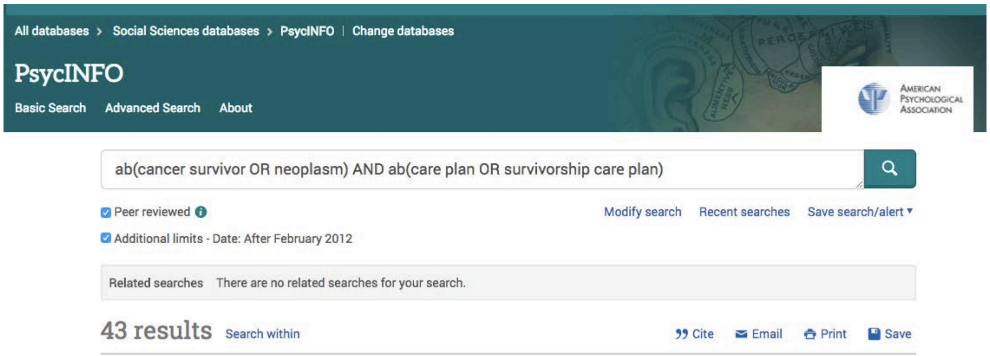
☑ Peer reviewed

☑ Additional limits - Date: After February 01 2012

Related searches There are no related searches for your search.

25 results

Appendix C
Search Strategy: PsychINFO



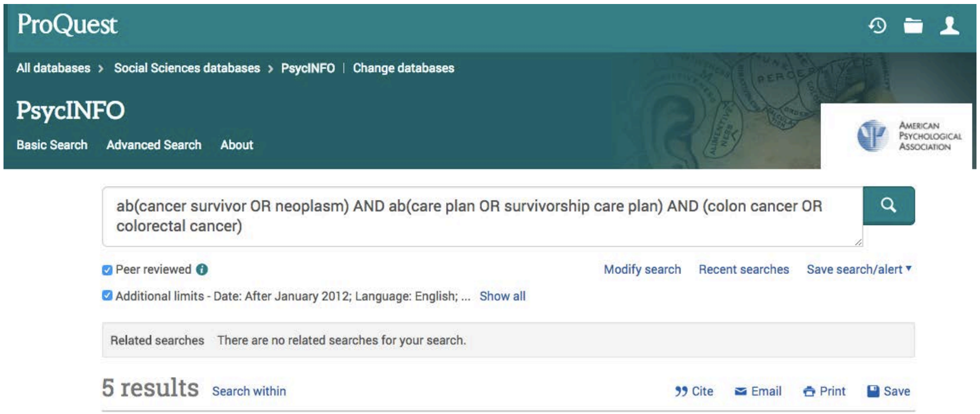
ab(cancer survivor OR neoplasm) AND ab(care plan OR survivorship care plan)

☑ Peer reviewed

☑ Additional limits - Date: After February 2012

Related searches There are no related searches for your search.

43 results



ab(cancer survivor OR neoplasm) AND ab(care plan OR survivorship care plan) AND (colon cancer OR colorectal cancer)

☑ Peer reviewed

☑ Additional limits - Date: After January 2012; Language: English; ...

Related searches There are no related searches for your search.

5 results

Appendix D
Evaluation Table

Citation	Conceptual Framework	Design/Method	Sample/Setting	Major Variables & Definitions	Measurement	Data Analysis	Findings	Decision for Use in Practice/Application to Practice
Brennan, M., E. (2014). Survivorship care plans in cancer: A systematic review of care plan outcomes Country: Australia No disclosure/COI mentioned. Funded in part by “the Friends of The Mater Foundation	Not explicitly stated; inferred: Henderson need theory	**Design: SR** **Purpose:** To review evidence of SCP implementation in practice.	N=2,286 participants. Studies N=10 RCT: n=5 non RCT: n=5 TC: BC, CC, GC Age range: 37-62 **Inclusion criteria:** original studies evaluating written care plans for CS, and reporting HQOL **Exclusion criteria:** Articles evaluating SCP in metastatic disease, and studies that evaluated a single variable of care. **AT:** N/A	IV1– paper based/online SCP IV2: oncologist/nurse/PCP delivered SCPs IV3: Other SCP templates DV1: Survivor distress DV2: CCC DV3: oncological outcomes. DV4: Understanding of SCP and FU care (also ability to Identify FU provider.) DV6: change in unmeet needs.	Cancer survivor unmet needs scale. Multiple likert scales EORTC quality of life questionnaire. Breif symptom inventory-18	“QualSyst” tool for SR Descriptive statistics, Multivariate regression and T-test used as appropriate .	SCP had no significant findings in related to distress, care coordination, satisfaction, or cancer outcomes. SCPs improved patient’s ability to identify clinicians responsible for survivorship care. (p=.005) SCPs demonstrated reduced amount of survivors unmet needs. (NS) Survivors rated Satisfaction with SCPs, understanding and receptiveness of SCP (NS)	LOE: I **Strengths:** great heterogeneity in SCP content. Represent data from 2,288 cancer survivors. **Limitation:** small body of heterogeneous literature; few RCTs. Studies lack of homogeneity amongst cancer type and stage of disease. Lack of consistency in evaluation tools. Ceiling effect in SCP satisfaction. **Applicability:** evidence supports favors in patient satisfaction and self-reported understanding of survivorship care. **Feasibility**: More research is needed to identify SCPs effects on psychological,

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								oncological, and resource outcomes.
Hawkins, N., A. (2015). Examining adherence with recommendations for follow-up in the prevention among colorectal cancer survivors Country: US COI/Disclosures: None acknowledged.	Not explicitly stated: Inferred: Health belief model	**Design: Cross sectional** **Purpose:** To evaluate if recommendation for FU were more effective if received in written form (SCP) or by verbal instruction.	**N=593** **F: n=296** **M: n=295** **Age** **> 50: n=28** **50-89: n= 540** **</= 90: n=24** **TC: Colorectal cancer** **Setting: Community survey: CCR** **AT: n/a** **Inclusion:** Non-MC, no previous cancer, California resident at diagnosis, >/=18 at diagnosis, current vital status, no participation in previous CCR study. Absent of do not contact flag on CCR **Exclusion: i**nability to complete survey related to language barrier, physical, or mental	IV 1: Verbal FU instruction IV 2: Written FU instruction DV1: Adherence to guideline recommendations	Prevention amongst colorectal cancer survivors (PACCS) survey. General health status was measured using 5-point likert scale. Questions and close ended response modified from the cancer control model from the NIHS to evaluate last routine checkup, colonoscopy, mammogram or pap test was.	Descriptive statistics for demographics. Noted to calculated base weights for the race and ethnicity totals. Rao-scott chi-square test. Multivariate logistic regression SAS and SUDAAN version 10 was the statistical software used.	Adherence to colonoscopy was significantly increased in patients who received FU instructions compared to those who received none. Adherence to additional FU recommendations was increased, but not significantly in other selected domains.	LOE: IV Strengths: large sample size, homogeneity of cancer. Higher cooperation rate of participants. Diverse sampling Limitations: adjusted response rate of only 46%. Self-reported methods do not allow for validation of follow-up. Under and over reporting potential due to reliance on participant recall. Applicability: Quality and engaged communication is essential for facilitating successful follow up care to cancer survivors. Oncology nurses can play an important role in SCP delivery and optimizing survivorship care coordination and outcomes. Feasibility: Nursing is in a strong position to monitor health behaviors

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			incompetence.					of survivors.
Jefford, M. (2016). A randomized controlled trial of a nurse led supportive care package (SurvivorCare) for survivors of color rectal cancer Country: Australia Disclosures/COI: authors deny financial relationships. Disclosures listed.	Not explicitly stated; inferred: SCT	**Design: RCT** **Purpose:** evaluate effectiveness of SCP and care package on psychological distress, HQOL, unmet informational needs, and psychosocial outcomes in CR CS.	N: 217 N I: 106 N C: 110 Median age: 64 (M: 52% F:48%) TC: CC(56%), RC (35%), OLS (10%) SOD: S1 (7%) , S2 (22%), S3 (71%) AT: 1 **Inclusion criteria:** diagnosis of CC stage I-III disease, treatment with curative intent. >18 English speaking. **Exclusion criteria:** deemed too unwell to participate, previous malignancy, or enrollment in a conflicting	IV1: SuvivorCare IV2: Usual Care DV1: Psychological distress DV2: HQOL DV3: Change in Unmet needs.	BSI-18 and Global Severity index (GSI) European organization for research and treatment (EORTC QLQ C-30) Ideals of Survivorship care survey (self developed) Cancer survivors' unmet needs measure (CaSUN)	SPSS statistics. Descriptive statistics T test (Mann-whitney U) and Chi-square tests as appropriate. Hochberg's modifiy Bonferroni test for primary outcome analysis.	Distress and HQOL were similar between IV1 and IV2 IV1 were significantly more satisfied with multiple aspects of post treatment care.(p<.05)	**LOE: II** **Strengths:** strong sensitivity with Assessment tools are validated, have high sensitivity, and appropriate for selective measurements. N>100, Diagnosis homogeneity **Limitations:** Heterogeneity of baseline cancer distress and time since diagnosis. **Applicability:** Intervention demonstrates useful elements in survivorship care. Demonstrates highest usefulness in patients with higher CaSUN scores. **Feasibility:** Future research needs to carefully identify study endpoints. Revised use

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			supportive care trial.					of Intervention in
Keesing, S. (2015). Cancer survivors' experiences of using survivorship care plans: A systematic review of qualitative studies Country: US Disclosures/COI: Authors declare no COI	Not explicitly stated; inferred Self-care theory. Addresses knowledge and experience influences cancer patient self-reliance and responsibility for care.	**Design:** Systematic review **Purpose:** Review and document current qualitative literature that examines CS's experience using SCPs.	N: 11 qualitative studies. Interview (4), focused groups (6) Action research (1) Range of number of participants: 7-40. TC: BC (7), CC (2), other (3) **Inclusion criteria:** >/= 18 y/o, publication 2000-2014, published in English. **Exclusion criteria:** Abstract only, studies that examined palliative phase of disease, or experience of cancer treatment. AT: N/A	IV: Use of SCP DV: CS perspective on SCPs and experiences of SCP use in care.	KMET (Klose method) 14 item Community based participatory framework. Individual interviews	Critical appraisal using: Standard quality assessment criteria for evaluating primary research papers from a variety of fields by Kmet, lee and cook.	SCP significantly reduced duplication of materials, improved coordination of care, and increased communication between cancer survivor and their health care provider.	LOE: I Strengths: first published qualitative systematic review. 11 databases included in search. Utilized Validated methods/tools for conducting systematic review. Limitations: Disparity in amount of qualitative data. Applicability/Feasibility: SCPs found to be a useful practical tool in survivorship care. Need for continued research to examine practical issues related to delivery or across a variety of care contexts.

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Kenzik, K, M. (2016). Treatment summaries and follow-up care instructions for cancer survivors: Improving survivor self-efficacy, and healthcare utilization Country: US Disclosure/COI: unreported Funding: Grant from department of health and human services.	Not explicitly stated; inferred Self-efficacy theory.	**Design**: Cross-sectional **Purpose:** Examine how treatment summaries (SCP) both written and verbal are associated with self-efficacy and healthcare utilization.	N= 441 MA: 74.7 F(60%) M (40%) TC: prostate and BC Mean time from diagnosis: 4.6 years Setting: Hospital based; 12 different sites across Alabama, Georgia, Mississippi, Florida, Tennessee AT= 0 **Inclusion Criteria:** CS who had completed treatment, follow completion of initial survey and were >/= 2 years	IV1: Delivery of Written summary of cancer treatment w/ verbal explanation of SCP by health professional IV2: written summary of SCP w/o explanation. IV3: Verbal delivery of follow-up care plan w/o written summary. DV 1: ER Visits DV 2: hospitalizations.	Stanford chronic illness self-efficacy scale Study pertinent developed questions: SCP type and delivery. ER visits in last year, hospitalized in the last year.	Primary analysis: Three multiple linear regression models to estimate association. Exploratory analysis: Mediation analysis was used to estimate association between chosen variables Post Hoc analysis: performed	V1 demonstrated increased self-efficacy scores (SD=0.27,p=0.009) and decreased emergency room visits and hospitalization DV1 and DV2: decreased significantly with IV1	LOE: IV Strengths: large sample size, evaluation of multiple health care sites. Provides evaluation of older cancer survivors, which has been under studied. Use of validated measurement tool. Limitations: reliance on patient self-report of SCP type and delivery. Patient-provider relationship, and recollection of information have potential to influence self-efficacy scores. Lack of insight to content of SCP, and/or standardization of SCPs. Applicability/feasibility:

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			Exclusion criteria: incomplete survey, < 2 years post treatment					Data suggest that SCPs influence survivor's behavior, and health outcome. Future research directed to examine how SCPs help survivors. Identify strategies to effectively implement verbal explanation of SCP.
Klemanski, D., L. (2016). Survivorship care plan preferences of cancer survivors and health care providers: A systematic review and quality appraisal of the evidence. Country: US Disclosure/COI: authors declare no COI	Not explicitly states; inferred: Explanatory theory	**Design: SR** **Purpose:** To describe and examine the use of treatment summaries and SCP in current practice, as well as critically appraise relevant literature regarding preferences and usefulness of SCP in practice.	N: 29 total QTS (19) RCT (3) Pre/post test (1) Survey with descriptive analysis (15) QLS(10) Study characteristics: Survivor perspectives (N=20) Cancer survivor perspective only (N=14) Survivor and provider perspective (N=6) TC: BC (n=10) CC (n=3) GC (n=1), other malignancies	IV: SCP use IV2: usual care Patient variables: DV 1: Survivorship experiences DV 2: quality of care DV 3: Satisfaction (with collaborative communication between care providers) DV4: Perceived gaps in CS care DV 5: Delivery of SCP Provider variables: DV 1 : perceived barriers to SCP implementation	Focus groups, individual interviews Mixed methods appraisal tool. Transparent reporting of evaluation with non randomized design.	Critical appraisal of data using: Quality assessment tool for QTS Joanna Briggs Institute's qualitative assessment and review instrument.	PCPs perceived enhance coordination of care with oncologist. SCPs improved survivors understanding of their cancer and ongoing survivorship care.	LOE: I Strengths: Included large body of heterogeneous data Limitations: many studies were exploratory studies. Narrow gender and cancer type focus (ie.breast cancer heavily researched) heterogeneity in SCPs format, and health care settings. Applicability/feasibility: Demonstrates improved care from both provider and patient perspective in survivorship follow up care. Future research

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			(n=6) Settings: Cancer Centers Oncology clinics Tertiary care centers Community cancer centers Inclusion: QLS or QTS related to preference of items to be incorporated in SCPs, reported by CS, care givers, or health care providers, published 1/052005-12/2013 Original work/ PR, English, Exclusion: PC/hospice/EOL care, pertained mortality statistics, pediatric or adolescent oncology, secondary works. AT: N/A	DV 2: role clarification in SCP DV 3: Confidence in management of CS care.				needed to identify and prioritize patient preferences regarding survivorship care, and standardized delivery across settings.

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Kvale, E., A. (2016). Patient-centered support in the survivorship care transition: outcomes from the patient-owned survivorship care plan intervention Country: US COI/Disclosures: three authors receive support from NIH grant P30 CA13148 Funding: Grant support from American cancer society.	Explicitly stated: Derived from chronic care model of Wagner and Care transition intervention model by Colemen.	Design: RCT Purpose: To determine the “POST-CARE” intervention’s impact on patient outcomes and care coordination.	N: 79 I: n-40 C: n=39 MA, I: 57.23 MA, C: 59.51 TOC: breast TOT, I: LNB: n=32 LND: n=17 CT: n=23 RT: n=27 S: n=40 TOT C; LNB: n=30 LND: n=9 CT: n=18 RT:n=26 S: n=39 Inclusion: age >/= 19y, non-metastatic disease, completion of treatment with in one year. Exclusion: outside of one year of active treatment. AT: 1	IV 1: POSTCARE intervention IV 2: usual care DV1: HQOL DV2: Depression DV3: Self efficacy and self-management	Health literacy: Rapid estimate of adult literacy in medicine-short form. Comorbidity: Charleston comorbidity index HQOL: 36-item short-form health survey Depression: PHQ-9 Limitations, social role/activities: 4-item social/role activities limitation. Self-management: 13-item patient activation measure-short form. Self efficacy: Self efficacy for managing chronic disease 6-item scale	SPSS: Version 22 and SAS version 9.4. Descriptive analysis: demographics and treatment characteristic. Chi-square test for comparison between groups regarding frequency. Student t test for within group comparison. Generalized linear model used to examine effect of intervention coordination and patient reported outcomes.	IV 1: reported lower social role limitations, (p=0.014) and trend towards higher self-efficacy (p=0.07). IV 1: reported higher self reported health (p=0.017). IV 1: Three domains of HQOL had meaningful improvement at 3 mo. FU. Physical role: (p=0.009) Bodily pain (p=0.03) emotional role (p=0.04)	**LOE: II** **Strengths:** examines robust amount of variables, using validated tools and measurements. **Limitations:** conducted on breast patients only, outcomes may not be generalizable across all cancer types. Modest sample size. Limited power. Limited time window, does not capture long-term effect. **Applicability:** Data supports and emphasizes the importance of not only providing an SCP but also health care providers role in discussing content. **Feasibility:** Need for future research to examine if/how identified health care provider can deliver SCP interventions effectively, timely, and impactful.

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Mayer, D., K. (2015). Summing it up: An integrative review of studies of cancer survivor care plans Country: US Disclosures/COI: none Funding/bias: funded by University of North Carolina University cancer Research fund and NCI.	Mentions Donabedian Model, but otherwise no explicit theory stated. Inferred use of explanatory theory.	**Design: Integrative Review** **Purpose:** To summarize current scientific knowledge, and empirical data regarding SCP in adult CS, and identification of knowledge gaps in survivorship care.	N: 42 studies Populations: CS HCP Categories of Focus: 1.Content of SCP 2.Dissemination/ Implementation 3.Survivor/provider outcomes. AT: 0 Inclusion Criteria: articles must include: results of empirical study, CS diagnosed at 18 y/o, relate to cancer and report findings that associated with SCPs Exclusion Criteria: Abstracts or presentations, focus on adult survivors of COC and non-empirical data	IV: SCP DV1: SCP dissemination DV2: SCP content DV3: HCP/survivor outcomes	Interviews,, focus groups and surveys. Survey tools not specified.	Preferred reporting items for systematic reviews and meta analysis (PRISMA) Forward stepwise selection. Multivariable logistic regression	Discrepancy between health care providers, and cancer survivors in the content desired Survivors report utility with Paper/electronic SCPs Many studies failed to study time preference of delivery. In studies that did, patients elected right before treatment or directly after. Of 10 cancer programs only 12.5% of patients received SCP. SCP receipt improved PCP reported CCC and confidence in knowledge (P=0.05)	**LOE: I** **Strength:** Large body of evidence evaluated. Evaluated both provider and patient perspective. **Limitations:** Only four high evidence studies availability. Limited generalizability due to lack of diversity. Lack of systematic testing of data collection tools. **Applicability:** SCP receptivity, and implementation remains low. **Feasibility:** Future research needed to address methodology of SCP use, their context and their outcomes.

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Oancea, S., C. (2016). Psychological distress among adult cancer survivors: Importance of survivorship care plan. Country: US COI: declared no COI Funding: none	Not explicitly stated; inferred HBM.	**Design:** Cross-sectional **Purpose:** To examine association between recipient of SCP and psychological distress in adult cancer survivors post treatment.	N: 3,191 G1: CS 1-5 y from diagnosis N:1046 Median age: 58.85 F (n=610) M (n=436) Received FCI: n:789 Recieived TS: n:366 G2: CS >5 y from diagnosis N:2145 Median age: 64.52 F (n=1463) M (n=682) Received SCI: n=1424 Received TS; n=611 Setting: Telephone survey based from BRFSS registry Inclusion criteria: Cancer diagnosis at >/=18y/o, not pregnant at time of study, >1 year post diagnosis. Exclusion: incomplete survey completion,	IV 1: TS only IV: FCI only IV: TS + FCI IV 4: no TS or FCI DV 1: PD	Behavioral risk factor surveillance system questionnaire. Cancer survivorship and anxiety and depression modules	Descriptive statistics. Critical analysis: SAS b 9.4, using survey procedures. Multivariable weighted logistic regression to investigate association between chosen variables.	Short-term cancer survivors: Distress was three times higher for those who received FCI only, as compared to FCI and TS. (AOR=3.14 95% CI [1.29-7.65]) Long-term cancer survivors: distress was twice as high if FCI, but no TS was delivered, compared to receiving FCI and TS. (AOR= 2.18, 95% CI [1.14-4.19])	**LOE:** **Strengths:** Large sample size. First study to investigate long-term distress. **Limitations:** Sub group who received TS, but no FCI were under-represented. Pain severity, and other comorbid conditions could not be controlled for or assessed using selected survey. Questions subject to recall bias due to being phone survey. **Applicability:** SCPs can be used to enhance short and long-term psychological well-being. **Feasibility:** Research needed to investigation of barriers to SCP implementation.

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Palmer, S., C. (2015). Outcomes and satisfaction after delivery of a breast cancer survivorship care plan: Results of a multi-center trial Country Disclosers/COI: Disclosures provided by author Funding: Funded by LIVESTRONG foundation.	Not explicitly stated; inferred: Theory reasoned action. Explains relationship between attitude/behavior and human action; specifically expected outcomes to from this behavior.	**Design:** prospective cohort study **Purpose: Explore the outcomes associated with delivery of comprehensive SCP to BC survivors.**	N: 139 MA: 53.93 Mean MFD: 3.43 Stage at diagnosis: Stage 0: n=10 Stage 1: n=52 Stage 2 n=51 Stage 3 n=21 TOT: CT; 93 HT: 96 Setting: Seven NCI designated comprehensive cancer centers and their community practices. Inclusion criteria: >/= 18 y/o, diagnosis and treatment of primary BC or DCI,	IV1: Care prior to SCP IV2: SCP delivery DV1: SCP utilization DV2: satisfaction DV3: knowledge DV4: CCC	Quality of Life: Medical study short form (SF)-12 Use of SCP materials: 16-item investigatory developed survey see table 2. Satisfaction: global satisfaction on 5-likert scale. Perceived coordination, perceived knowledge, perceived provider knowledge, and	Poorly described statistical methods: software unlisted. Descriptive statistics for demographics. Cronchbach's alpha, and t-test as appropriate.	SCP utilization: IV2: 64% used SCPs for decision to exercise, 62% used it for dietary changes, and 62% used SCPs for directing follow up care. SCP satisfactions: 90% were satisfied with SCP Knowledge: IV2 demonstrated improved perceived personal and provider survivorship knowledge and care coordination. (P=<0.001)	**LOE: II** **Strengths:** well-characterized sample, variety of cancer care settings. Pre and post assessment was obtained, high retention. Standardized visits and materials across settings. **Limitations:** Quasi-experimental design, narrow demographic population, use of self-developed tools. Self reported versus chart abstraction leaves room for mis-reporting. **Applicability:** results suggest SCPs and delivery can be standardized across diverse settings and

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			completion of cancer therapy, and scheduled survivorship visit at SCOEN. Exclusion criteria: Unable to complete inform consent d/t barriers, and previous recipients of SCP.		provider behavior was assessed by investigator developed available by request.			providers. Useful in breast cancer survivors, particular those who are new survivors. **Feasibility:** Success at all study sites with recruiting and completion suggest that with Institutional commitment, and financial and logistical support SCPs can be delivers effectively to patients.
Rosenberg, C., A. (2015). Promotion of self-management for post treatment cancer survivors: evaluation of risk-adapted visit Disclosures/COI: All authors report no conflict of interest. Disclosures noted in article Funding: none.	Not explicitly stated: Inferred: individual and family self management theory	**Design:** prospective cohort study	Completed initial survey: N=1615 Completed survey at one year: N=488 TC: BC: n=1173 GC::n=131 CC: n=56 Other: n=255 Last treatment: < 6mo: n=1156 6-12mo n=175 >12-18mo: n=284 Setting: Northshore medical center Inclusion: referral to program within year of treatment completion. Treatment completed at	IV: SCP w/ Risk adapted visit LIFE program DV1: SCP utility DV2: lifestyle changes DV3: wellness goals	LIFE program Pre- and Post Risk adapted visit questionnaire.	All Surveys reviewed, tabulated and recorded by the physician director of LIFE. Descriptive statics of evaluations performed.	At 1 year, respondents report SCP with risk adapted was useful for the following: 100% useful tool to summarize medical information 97% FU care, 85% recognizing symptoms of recurrence, 93% in improving health and lifestyle practices,	**LOE: II** **Strengths:** Large sample size, 6 years of 1 year survivor FU data 7 years of comprehensive data. Difference in initial and 1 year out for BC survivors reached significance. **Limitations:** Lack of generalizability to due specific population characteristic. Results could be influenced by compliance characteristic of population. Low response rate at 1 year**.** **Applicability:** Discussion, and explanation of SCP assist survivors to

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			Northshore medical Exclusion: > 18 months since treatment completion					understand their cancer experience and have potential to promote long-term self management. **Feasibility:** Risk adapted visits is resource intense; for both creating and delivering SCP. RN is ideal to establish SCP to optimize resources and patient outcomes.

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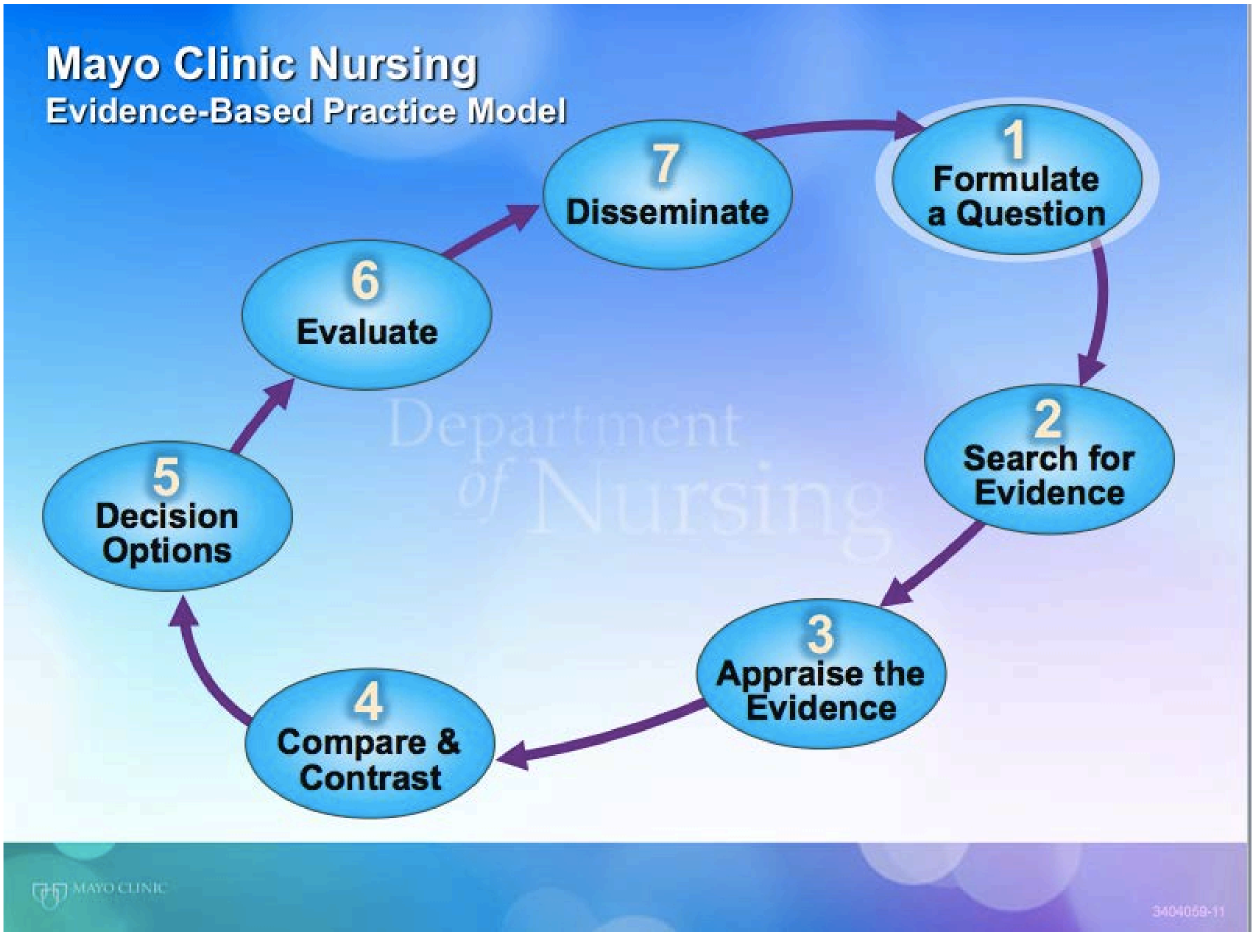
Appendix E
Synthesis Table

Studies	Brennan	Hawkins	Jefford	Keesing	Kenzik	Klemanski	Kvale	Mayer	Oancea	Palmer	Rosenberg
Year	2014	2015	2016	2015	2016	2016	2016	2015	2016	2015	2015
LOE	I	VI	II	I	VI	I	II	I	VI	II	II
Design	SR	CS	RCT	SR	CS	SR	RCT	SR	CS	PCS	PCS
Length	N/A	1d	6m	N/A	1d	N/A	3mo	N/A	1d	3mo	1y
SCP	X	X		X	X	X		X	X	X	
SCPFV			X				X				X
TS					X	X			X		
QOL			NS			NS	↑				
SF	↑		↑			↑		↑		↑	
SCK	↑							↑		↑	↑
CC	↑			↑		↑	NS	↑		↑	↑
GA		↑									
D	NS		NS			NS	↓		↓		
HB										↑	↑
SE					↑						

CC: care coordination **CS**: cross sectional study **D**: distress **GA**: guideline adherence, **HB**: health behavior
LOE: level of evidence, **PCS**: prospective cohort study, **NS:** Not significant **QOL:** quality of life,
RCT: randomized control trial, **SCK:** survivor knowledge, **SCP:** survivorship care plan,
SCPFV: Survivorship care plan and focused visit, **SE:** Self-efficacy, **SF:** satisfaction,
TS: treatment summary

Appendix F

Mayo Clinic Nursing Evidence-Based Practice Model



Mayo Clinic Nursing
Evidence-Based Practice Model

1 Formulate a Question

2 Search for Evidence

3 Appraise the Evidence

4 Compare & Contrast

5 Decision Options

6 Evaluate

7 Disseminate

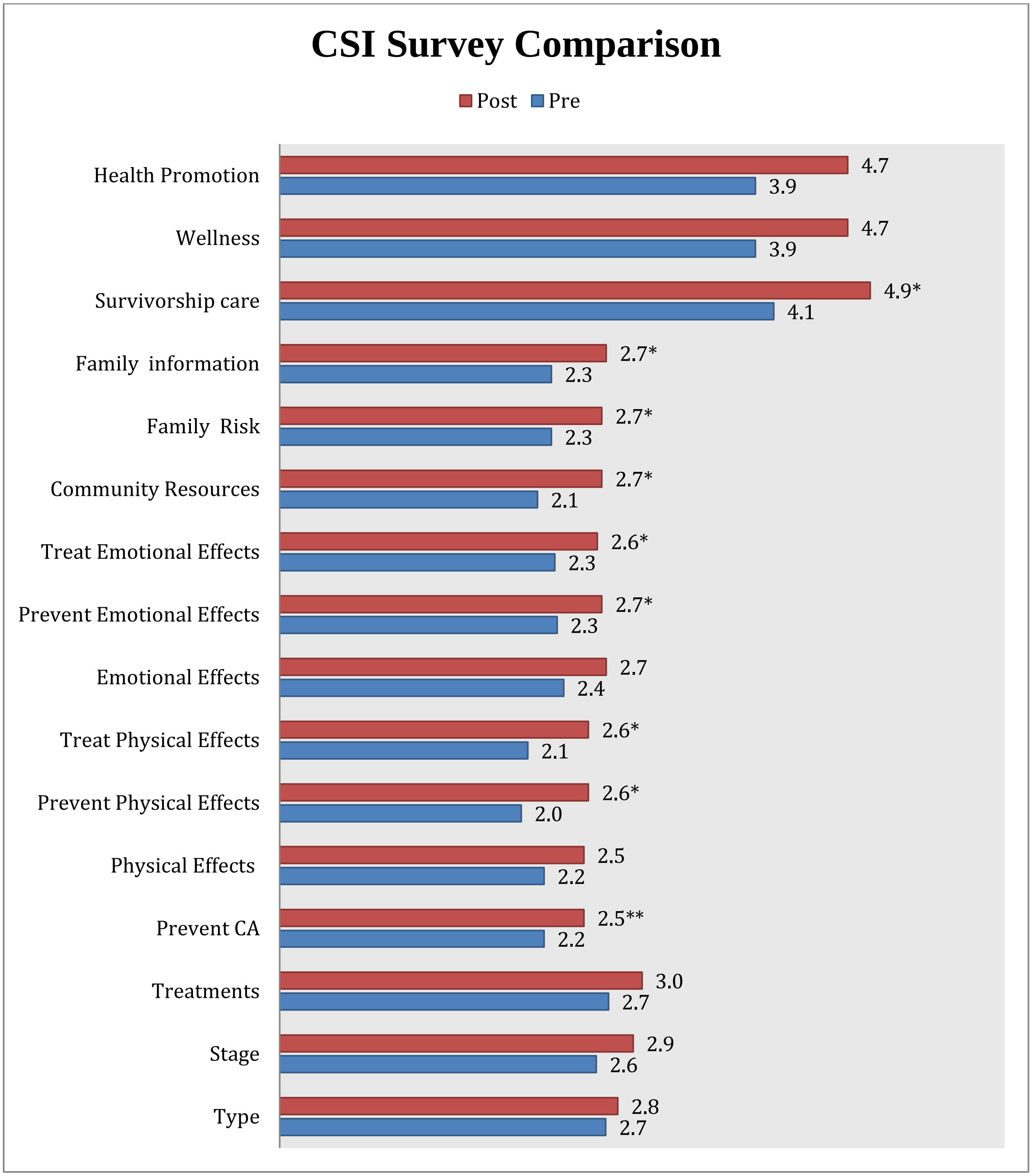
Appendix G
Confidence in Survivorship Information Analysis

Paired Samples Test

		Paired Differences 95% Confidence Interval of the Difference Upper	t	df	Sig. (2-tailed)
Pair 1	Type - Type2	.207	-1.000	6	.356
Pair 2	Stage - Stage2	.165	-1.987	6	.094
Pair 3	Treatments - Treatments2	.413	-1.000	6	.356
Pair 4	Prevent - Prevent2	-.508	-6.000	6	.001
Pair 5	Physical Effects - Physical Effects2	-.505	-4.382	6	.005
Pair 6	Prevent Physical Effects - Prevent Physical Effects2	-.311	-3.361	6	.015
Pair 7	Treat Physical Effects - Treat Physical Effects2	-.245	-3.240	6	.018
Pair 8	Emotional Effects - Emotional Effects2	-.025	-2.521	6	.045
Pair 9	Prevent Emotional Effects - Prevent Emotional Effects2	-.025	-2.521	6	.045
Pair 10	Treat Emotional Effects - Treat Emotional Effects2	-.015	-2.500	6	.047
Pair 11	Community Resources - Community Resources2	-.154	-2.828	6	.030
Pair 12	Family Risk - Family Risk2	-.015	-2.500	6	.047
Pair 13	Family information - Family information2	-.025	-2.521	6	.045
Pair 14	Survivorship care - Survivorship care2	-.621	-3.361	6	.015
Pair 15	Wellness - Wellness2	-.307	-2.931	6	.026
Pair 16	Health Promotion - Health Promotion2	.068	-2.335	6	.058

Appendix H

Average Difference Following SCP Intervention



** p-value= 0.001

* p-value= >0.05

Appendix I
Confidence in Survivorship Information Survey

Confidence in Survivorship Information Questionnaire*

How confident are you about your knowledge of each of the following aspects of your cancer and cancer-related follow up care?

Please select only one box per question.

	Not at all Confident	Somewhat Confident	Very Confident
The type of cancer you have/ had?	☐	☐	☐
The stage of cancer you have/ had?	☐	☐	☐
The treatments you received/are receiving for cancer?	☐	☐	☐
Things you can do to help prevent your cancer from recurring?	☐	☐	☐
The long-term physical effects you may experience from cancer and its treatment?	☐	☐	☐
Strategies for *preventing* long-term physical effects of cancer treatment?	☐	☐	☐
Strategies for *treating* long-term physical effects of cancer treatment?	☐	☐	☐
The long-term emotional effects you may experience from cancer and its treatments?	☐	☐	☐
Strategies for *preventing* long-term emotional effects of cancer treatment?	☐	☐	☐
Strategies for *treating* long-term emotional effects of cancer treatment?	☐	☐	☐
Community resources available to help you deal with long-term effects of cancer and its treatments?	☐	☐	☐
Whether your family members are at increased risk for cancer?	☐	☐	☐
How your family members can get information on their risk for cancer?	☐	☐	☐

How satisfied are you with the survivorship care you received at Mayo Clinic?
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied
How your healthcare provider addressed ways to improve wellness?
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied
How your healthcare provider addressed ways to promote your health?
☐ Very Satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very Dissatisfied

*Used with permission from University of Pennsylvania.