
**Protocol for a Systematic Review:
Behavioral, Psychological, Educational, and
Vocational Interventions to Facilitate
Employment Outcomes for Cancer Survivors**
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BACKGROUND

The Problem

In the U.S. alone, an estimated 1.5 million people are diagnosed annually with some type of cancer (American Cancer Society, 2011). Today, survivorship after diagnosis is higher than it has ever been: as of January 2008, about 11.9 million individuals in the U.S. had a history of a cancer diagnosis (Howlander et al., 2011). Drawing on more recent estimates from the working age population in particular, there are over 7 million cancer survivors in the U.S. between the ages of 15 and 69 years, and the number is expected to grow (American Cancer Society, 2012). The issues affecting cancer survivorship are complex, particularly when one considers the impact of this disability on employment specifically. De Boer and colleagues (2009) identified a rate of 33.8% unemployment among cancer survivors beyond the age of 18 compared to 15.2% among a healthy control population that included people from Europe, the U.S., and five other countries. Work is an important stabilizing factor for cancer survivors (Arnold, 1999). Greater awareness of the workplace issues that cancer survivors face can lead to more comprehensive rehabilitation plans and recovery (Center for Disease Control [CDC], 2011; Nathan, Haynes-Lattin, Sisler, & Hudson, 2011).

Cancer survivors face difficulties with activities of daily living, including employment, not only while their cancer is active, but for years afterwards. Mehnert, de Boer, and Feuerstein (2013) have developed a conceptual framework that summarizes various challenges to employment cancer survivors face. They divide these into three domains: individual and interpersonal factors; the short-, long-, and late-effects of cancer and treatments; and the work environment. The individual and interpersonal factors are described as "sociodemographics, socioeconomic status, educational professional training, life stage, personality, coping strategies, problem-solving skills, motivation, meaning of work, and social supports" (Mehnert et al., 2013, p. 2154). These factors affect the employment outcomes for any individual in the workplace, but cancer survivors have to rely more heavily on these various forms of individual-level resources to sustain employment. Blinder and colleagues (2011) noted that such challenges are even more difficult to overcome for people in low-income occupations.

Secondly, the effects of cancer specifically, whether short-, long-, or late-term, can be in the realm of "health status/comorbidity, continuity of care, quality of life, functional impairments, symptom burden, emotional and social well-being, change in identity and role functioning, social reintegration" (Mehnert et al., 2013, p. 2154). These barriers to employment all relate, in more direct or indirect ways, to a person's health, both mental and physical, and well-being, and obviously can dramatically affect an individual's participation in the work setting.

A third domain constitutes work environment traits that can influence survivors' work outcomes. Examples are "work conditions, work demands, employer accommodation, work

climate, flexibility and work gratification" (Mehnert et al., 2013, p. 2154). Cancer symptoms and treatment can necessitate changes in work conditions, such as reducing demands or changing work hours to accommodate treatment. In 2008, Title I of the Americans with Disabilities Act (ADA) was amended to include "major bodily functions" that interfere with daily living in the definition of disability, underscoring the disability classification and associated job protections to cancer survivors that the law had always offered to them. Analysis of claims filed show that cancer survivors more often have issues with job termination and terms of employment than employees with other impairments (Feuerstein, Luff, Harrington, & Olsen, 2007).

The Intervention

This review is focused on identifying interventions with behavioral, psychological, educational, or vocational content that facilitate cancer survivors' employment outcomes, including a) employment status, b) return-to-work, c) reducing absenteeism, and d) reducing time spent on work disability or sick leave. Interventions may include education, training, psychological support, environmental adjustments or accommodations, flexible or job-sharing work conditions, or job search and placement assistance. We are also interested in interventions that do not target employment specifically, but include it as a related outcome among those measured. These studies give insight into what practices might be adapted and included in new interventions for the explicit purposes of promoting employment.

How the Intervention Might Work

It is anticipated that the literature will identify a broad set of interventions with behavioral, psychological, educational, or vocational components. Pathways of effects to the outcomes will vary widely along with the setting, training of the facilitator, and whether delivered to individuals or groups by individuals or teams.

Approaches to addressing strain on individual and interpersonal resources—one of the domains Mehnert, de Boer, and Feuerstein (2013) identified—might include vocational components. Survivors are four times more likely to be employed when they receive employment assistance and support, such as job-hunting services or on-the-job training (Strauser et al., 2010). Basic components of interventions that U.S.-based vocational rehabilitation (VR) agencies use generally include diagnosis and vocational assessment, counselling, training, provision of accommodations, job placement, and post-employment services (Waddell, Burton, & Kendall, 2008). This proposed review will include studies of interventions for people seeking new jobs or dealing with issues of job retention. In an example of how VR, as a multi-component intervention, can be tailored to meet the needs of these two groups, Chiu and colleagues (2013) studied recipients of U.S. state vocational rehabilitation services who had cancer, and their chief finding was that those who were employed used different VR services than those who were not employed: "While some services were indeed used by a large portion of all clients such as assessment, diagnosis and treatment of impairments and VR counseling and guidance, which were major needs by over

half applicants in the current study—other services were contingent on the clients' employment status" (Chiu et al., 2013, p. 7). Employed clients needed services to support work adjustment and accommodation, such as diagnosis, treatment, "rehabilitation technology, disability-related augmentative skills training, technical assistance services, on-the-job supports and basic academic, remedial or literacy training" (Chiu et al., 2013, p. 7). Unemployed clients needed "job placement, job search, vocational training and job readiness training" (Chiu et al., 2013, p. 8), especially because there were significantly lower educational levels among the unemployed group. A pilot randomised controlled trial of VR services among women with breast cancer following surgery is currently underway in the United Kingdom, though in these countries VR is more heavily oriented toward interventions that focus on health, including "physiotherapy" (Kyle et al., 2011, p.1) and psychological counselling.

Approaches to addressing health and well-being include components targeting behavioral change and/or alleviation of physical symptoms or emotional issues, with a focus on symptom reduction and improvement in related quality of life. A review of psycho-social interventions in oncology noted that treatment options for cancer patients vary due to the diversity among forms of cancer and their treatment options, but that they included "counselling, cognitive-behavioral methods, information and educational treatments and complementary therapies" (Whatley & Milne, 1998, p. 1). Similar to the studies located in a meta-analysis of psychosocial interventions with adult cancer patients conducted by Meyer & Mark (1995), these intervention studies did not measure employment. Another intervention targeting barriers in this domain is a tool currently being developed and evaluated at the University of Wisconsin-Madison. Called "Work ability Improvement through Symptom management and Ergonomic strategies" (WISE), the tool is a website that guides breast cancer survivors through questions that help determine how to address on-going symptoms, particularly shoulder pain, and improve ergonomics at their offices (Garrett, 2012; National Rehabilitation Information Center, 2012, p. I-37). Educational interventions also seek to overcome barriers in this domain, such as a group educational and discussion group intervention for men with prostate cancer (Lepore, Helgeson, Eton, & Schulz, 2003). Another example is the cancer-related fatigue intervention trial 'CAN-FIT', that sought to reduce severity of fatigue among survivors who have had radiotherapy by sharing a handbook, presentations, a goal-setting sheet, and progress diary that aimed to increase participants' knowledge about radiotherapy side effects and strategies to reduce fatigue (Purcell, Fleming, Burmeister, Bennett, & Haines, 2011).

Approaches to addressing barriers to employment that express themselves in work environments are primarily educational. Several organizations, for example including some that belong to the U.S.-based National Cancer Legal Services Network (www.nclsn.org), provide training and information to both employers and survivors. Publications and other information on various Web sites offer information about cancer-related employment issues and how to address them through greater awareness of cancer survivors' needs for accommodation. Examples of such informational resources are published by Cancer and

Careers in the "At Work" section of their web site (see www.cancerandcareers.org/en/at-work) and Hoffman (2012). The American Cancer Society has an employer toolkit they make available to companies upon request (Jonas, 2013). While increasingly common, to date the efficacy of this type of approach has not been studied formally.

Given that the typical intervention includes more than one component targeting barriers to employment that straddle the domains outlined above, it is not surprising that a common approach to return-to-work interventions for cancer patients (a) emphasizes the involvement of multidisciplinary teams (Fleischman, Retkin, Brandfield, & Braun, 2006; Retkin, Antoniadis, Pepitone, & Duval, 2013; Vonk Noordegraff et al., 2012) or (b) at least seeks to improve communication among employers, survivors, and medical providers (Nieuwenhuijsen, Bos-Ransdorp, Uitterhoeve, Sprangers, & Verbeek, 2006; Tamminga, de Boer, Verbeek, & Frings-Dresen, 2010). Therefore, it is likely that many of the studies we identify will seek to meet a diverse set of survivors' needs, using a variety of intersecting mechanisms.

Why it is Important to do the Review

According to one systematic review of employment and work-related issues in cancer survivors, employer accommodation, flexible work, counselling, training and rehabilitation, educational levels, fewer physical symptoms, continuity of care, younger age, and male gender are associated with more positive work outcomes (Mehnert, 2011). However, little is known about how these factors relate to which interventions might be most effective at helping cancer survivors to become employed. Gensby et al. (2012) led a systematic review of workplace disability management programs that focused on return-to-work, but consistent with Tamminga's team found none that focused on cancer. In addition, there are few published instruments relevant to evaluating interventions related to cancer survivorship and work (Ladehoff, Sturm, & Mehnert, 2013).

In 2011, de Boer and colleagues conducted a Cochrane review of medical, psychological, and physical interventions that targeted return-to-work outcomes with cancer survivors. They found no studies of vocational interventions aimed at work-related issues. An example of a study of which we are aware that exemplifies what we would include, which was not part of the de Boer et al. review, is one mentioned above that measures, though did not target, employment (Purcell et al., 2011). This randomized controlled trial tested the use of education to reduce fatigue among radiotherapy patients in Australia, and among other outcomes, measured paid and unpaid employment. The researchers found that pre-radiotherapy fatigue education and support (pre-RFES) was associated with slower return to work, and post-RFES was associated with decreased levels of unpaid work. Data were collected before radio-therapy, post-radiotherapy, and again at 6-week follow-up. The intervention was associated with greater increases in physical activity when delivered before radiotherapy, and when delivered after radiotherapy, with improvements in walking levels. It did not improve level of fatigue.

Understanding the impact on employment of interventions that include behavioural, psychological, educational, and/or vocational content, as compared to medical, pharmaceutical, or surgical treatments that a narrower range of providers are certified to deliver, could promote cancer survivors' employment and yield greater rewards for employees and employers alike (Center for Disease Control, 2011; Kyle et al., 2011). Including interventions that measure, but do not necessarily target, employment allows for the review findings to be applied to a broader set of theories of change. Researchers designing impact evaluations of new interventions might choose to do longer-term follow-up, assume that the intervention intensity would need to be increased, or measure whether an intervention targeting an assumed barrier might inadvertently increase awareness of it and so contribute to its consequences (i.e., discussing fatigue might make people more concerned about it and more likely to avoid taxing their energies by employment until they feel energetic enough to return-to-work).

This proposed review will also conduct a broader search that includes more databases than those done on similar topics previously.

OBJECTIVE

This systematic review intends to examine experimental and quasi-experimental studies about interventions that (i) include one or more behavioral, psychological, educational, or vocational components, (ii) involve cancer survivors aged 18 years or older, and (iii) assess intervention outcomes on employment outcomes. The aims are both to describe the variety of interventions that have been studied using rigorous methods and to estimate intervention effects.

METHODOLOGY

Criteria for including studies in the review

Study designs

Randomized controlled trial (RCT) designs, quasi-experimental equivalent and non-equivalent comparison designs, and quasi-experimental designs that employ regression discontinuity will be included. Quasi-experimental designs with equivalent groups formed by matching or equating, or non-equivalent groups without matching or equating, will involve, for example, comparing the employment rate of a treatment group compared with the employment rate of a general population of cancer survivors that did not receive the intervention. Quasi-experimental designs will be evaluated on rigor regarding equating procedures and may be excluded if they are not appropriately valid or reliable. Our goal is to review a broad enough set of literature to allow us to describe the array of programs and interventions that have been studied with rigorous designs.

Type of participants

The participant sample must include (a) adults aged 18 years or older and (b) cancer survivors (i.e., have a past or present cancer diagnosis which occurred while the individual was aged 18 years or older). Studies of populations that include but are not limited to cancer survivors will be part of this review if the employment outcomes of the participants who are cancer survivors are reported independently from those of other participants. Studies of adults who are survivors of pediatric cancer are excluded, since these individuals may have participated in interventions as children, such as high school transition to work programs to which adult-onset populations would not have participated in but which could affect employment outcomes.

Types of interventions

The study must address the effectiveness of a behavioral, psychological, educational, or vocational intervention or component of an intervention with cancer survivors that facilitated their employment outcomes, including employment initiation, return-to-work, or decreasing absenteeism and use of work disability or sick leave. Interventions must include an element apart from medical or physical treatment (e.g., exercise, surgery, pharmaceutical treatment), and include: behavioral treatments such as self-care behaviors to reduce fatigue or behavioral therapies that help counsel patients in coping with their scars or other issues associated post-surgery; psychological interventions through individual or telephone counseling in adjusting to a cancer diagnosis or educational interventions through lectures on cancer survivorship; and vocational interventions through supported employment from a VR agency providing job supports, interview training, etc. Interventions that only provide a medical intervention such as a drug therapy or exercise will not be included.

Types of outcome measures

Eligible studies need to provide evidence for the effect of the intervention on employment status and/or related outcomes such as a measure, since disability onset, of time out-of-work (i.e., number of leave days taken, including sick, disability, or vacation); and/or rate of employment between the intervention and comparison group. If rate of employment is not reported, the research team will look for data that can be converted to this measure. For example, the study may focus on the outcome of wages, but in its reporting, make it clear the number of participants that were earning a wage versus those that were not. The reviewers can then use wage-earning as an index for employment and make the calculation of rate of employment per group.

Consistent with many aspects of the definition that U.S. federal agencies such as the Bureau of Labor Statistics and U.S. Census use, this review will consider study participants to be 'employed' if they have done at least one hour of work per week. This job could be as a paid employee or "in their own business, profession, or on their own farm." Also considered 'employed' are those who were not working but who "had jobs or businesses from which they

were temporarily absent because of vacation, illness, bad weather, childcare problems, maternity or paternity leave, labor-management dispute, job training, or other family or personal reasons, whether or not they were paid for the time off or were seeking other jobs” (Bureau of Labor Statistics, 2008).

This review will therefore include interventions that measure employment outcomes, even if they do not state employment as an intended outcome.

Exclusion criteria

Any studies that do not report on an intervention with behavioural, psychological, educational, or vocational content and/or do not measure employment status after treatment or do not report number of leave days taken will be excluded.

Studies of interventions that target as their outcome a volunteer, interim, or trainee position, or securing a position in a trial workshop, sheltered work, or non-integrated employment setting, will also be excluded from the review.

Search strategy

The search strategy for identification of relevant studies is highlighted below.

Electronic Search

Computerized database searches will be conducted. We will consult database thesauri where they are available to ensure that the universe of appropriate synonyms have been included in the intervention and outcome search term categories. Search terms and search strategies will be modified to fit individual databases.

Databases searched will include the following databases (and others may be added):

1. Academic One File
2. Academic Search Complete
3. Academic Source Complete
4. Business Source Complete
5. CINAHL Plus with Full Text
6. CIRRIE (Center for International Rehabilitation Research Information and Exchange Database)
7. Cochrane Central Registry of Controlled Trials
8. Ed Line and Electronic Texts in Education and Training
9. Education Full Text
10. ERIC
11. Professional Development Collection
12. ProQuest
13. Proquest Dissertations & Theses

14. PsychInfo
15. Psychology and Behavioral Sciences Collection
16. PubMed
17. Science and Technology Collection
18. Sociological Abstracts
19. Web of Science
20. WorldCat [for monographs]
21. MEDLINE
22. EMBASE
23. OSH-ROM (Occupational Safety and Health)
24. Abstracts of Review of Effectiveness (DARE)
25. ClinicalTrials.gov
26. Trialregister.nl
27. Controlled-trials.com

Search terms

We will include literature published between 1973 through August 2013. The rationale for the start date is that, during 1973, the U.S. Congress approved the Rehabilitation Services Act, catalyzing the development of VR programs and efforts to accommodate people with disabilities in the workplace. There was some attention to occupational health internationally for over a century; for example, the International Commission on Occupation Health was founded in 1906. This date was well before scholarly work on disability management began to develop. For example, the first conference of the International Disability Management Standards Council was not held until 2002. Similarly, the field of cancer survivorship studies is relatively recent because the population of cancer survivors who had employment-related issues was small until medical advances of the late 20th century (Hewitt, Greenfield, & Stovall, 2006). The end date is what we anticipate will be feasible given typical publication delays.

The search of databases will use four sets of keywords that pertain to the population, intervention, outcomes, and study design. Search strings' keywords will be customized to the particular thesaurus of each database. Keywords will be connected with "and"/"or" when searching titles and abstracts. Search terms will also be truncated to include variations in word endings, spellings, and database indices.

The following is an example of the types of terms we anticipate using; in the final review, all searches actually used will be included so that they can be replicated. All search terms will be truncated using the convention appropriate for the given database so that they will include variations in endings of words and in spelling. Terms from the four categories will be connected with "or" within each category and by "and" between categories.

1. *Population*: cancer, cancer survivor, neoplasm, leukemia

2. *Intervention*: intervention, model, program, practice, training, vocational rehabilitation, accommodation, occupational therapy
3. *Outcomes*: employment, return-to-work, job, wages, salary [Note: the terms ‘wages’ and ‘salary’ are included since they might help to locate employment-related studies, but there are not intended to be included as measure of intervention effect.]
4. *Study design*: experiment, control group, random, effect

A sample search strategy is:

((cancer* OR “cancer survivor” OR neoplasm* OR leukemia*) AND (interven* OR model* OR program* OR practice* OR train* OR “vocational rehabilitation” OR accommodat* OR “occupational therapy”) AND (employ* OR “return-to-work” OR job OR wages OR salar*) AND (experiment* OR “control group*” OR random OR effect*))

Grey literature

Grey literature that is identified through electronic searches will be submitted to the same inclusion criteria as other studies. A time range for these types of studies has not been specified in order to maximize consideration of all relevant grey literature. Reference lists from other systematic reviews and individual studies will be searched for potential studies to consider for inclusion.

We may inquire with researchers about any unpublished reports or completed research activity that may have a pending report. We will search the reference lists of identified articles and other systematic reviews, which may be helpful, for example, in locating dissertations and theses not identified by our database searches. Also, a search of popular search engines will be conducted. Using the search strategy described above, we will use Google, Google Scholar, and Yahoo! to uncover any relevant web materials or unpublished studies not accessible through electronic databases. In addition, searching ProQuest Dissertations and Theses will allow opportunities to uncover relevant unpublished doctoral dissertations and masters theses.

Cross-referencing of bibliographies

The references in relevant journal articles, systematic reviews, and other reports of research results will be scanned for new additions to our literature for review.

Conference programs

Recent conference programs and conference syntheses will be reviewed for leads about eligible literature for review. Professional organizations that will be reviewed include:

1. American Cancer Society

2. American Institute for Cancer Research
3. American Public Health Association
4. The Centers for Disease and Control and Prevention
5. Dana-Farber Cancer Institute
6. Livestrong
7. Macmillan Cancer Support
8. The National Cancer Institute
9. National Cancer Research Institute
10. National Cancer Legal Services Network
11. National Coalition for Cancer Survivorship
12. Organisation of European Cancer Institutes
13. The University of Texas MD Anderson Cancer Center
14. Work Disability Prevention and Integration
15. The International Disability Management Standards Council

Methods used in primary research

Study designs to be included are described above. In addition, if there are enough studies identified to make subgroup analyses possible, these dimensions will be analysed, when reported, as moderator analyses to assess their potential explanatory impact on the effect of the intervention: unit of assignment (e.g., individual vs. group/class); unit of analysis (e.g., intention to treat, test only, treated); attrition from pre-test to post-test; fidelity of implementation (e.g., following a replicable program of intervention); and blinding of assessors/interventionists.

Criteria for determination of independent findings

Multiple studies that use the same sample or data will not be included. The most rigorous study focusing on our desired intervention outcome will be selected for inclusion.

Only studies using a two group experimental or quasi-experimental design will be included in the data synthesis.

1. *Within-study synthesis*: the measures of effect will be the rate of employment and mean number of leave days taken since disability onset. If these are not reported directly, they will be calculated, if possible, from the outcomes that are reported. If such calculations are not possible, the review team will contact the authors and request the necessary information.

The review team will use a shifting unit of analysis approach (Cooper, 1998), which involves coding as many effect sizes from each study as exist as a result of variations in characteristics of the manipulation, sample, setting, and outcomes within the study. However, when calculating the overall effect size, the multiple effect sizes will be averaged to create a single effect size for each study. The shifting unit of analysis approach maximizes the amount of data from each study without violating the assumption of independent data points.

2. Across-study synthesis: The synthesis of effect sizes across conceptually similar constructs will be conducted in order to determine the magnitude of the effect when combining similar outcome effects from several studies. However, all cross study synthesis will utilize only one comparison effect size per study for any summary synthesis so that no single study outcome is represented more than one time in any analysis. For any group study (e.g., RCT, QED), any odds ratio effect sizes will be converted to a *d*-index effect size so that all effect sizes for all group studies will be presented in the same metric.

Details of study coding categories

Studies will be coded for inclusion/exclusion decisions at two stages, Stage 1: citation and abstract and Stage 2: full-text. Two coders will serve as independent reviewers at both stages. A third party will be used in the case that the reviewers disagree and cannot resolve a final coding value.

Citation and abstract stage

At Stage 1, the decision for advancing the retrieved citations and abstracts to the full text stage retrieval will be made by two independent reviewers based on meeting two items from 1, 2, 3, or 4 of the following questions or a designation by the reviewer of 'unsure' (item 5):

1. Are the participants identified, described, and defined as being cancer survivors?
2. Are the participants adults who are employed or seeking employment?
3. Is this abstract/citation about an intervention with behavioural, educational, or vocational content?
4. Does the study report employment status or relevant time-to-event data?
5. Unsure of meeting inclusion criteria?

If reviewers have conflicting opinions, a third party will be used to make a determination. If reviewers are 'Unsure' regarding any of the above criteria, the citation/abstract will be advanced to the Full-Text for a final inclusion decision.

Full-text level

At the full-text Stage 2 level, a full text of all citations advanced from Stage 1 will be obtained and coded for an inclusion/exclusion decision. Other data that will be extracted from the primary studies include: publication source, subject characteristics, sample source, employment setting, intervention characteristics, type of employment, type of cancer treatment, and outcome measurement (see Appendix A for coding form).

In addition, an evaluation of the potential risk of bias of all included studies will be conducted using "Risk of Bias" procedures by Higgins & Green (2011). The five sources of

potential bias include (1) selection bias, (2) performance bias, (3) detection bias, (4) attrition bias, and (5) reporting bias. Selection bias will be assessed via examination of a study's generation of a randomized sequence or concealment of allocations before assignment. Performance and detection bias will be examined for blinding of participants, personnel, and outcome measurement. Attrition bias from incomplete outcome data will be assessed, whether from attrition, exclusions, reasons for them, and any re-inclusions. Lastly, we will assess reporting bias, i.e., whether selective outcomes were reported.

The decision for advancing the retrieved full-text studies to an inclusion status will be made by two reviewers for each study, independently evaluating each study. An inclusion decision for advancement to the coding stage of the process will require that a study meet all the criteria presented earlier. Inter-rater reliability will be established prior to initiating coding activities to minimize coding disagreements. Any disagreements in the determination of the presence of these criteria will be resolved by discussion of the two reviewers. In the event reviewer differences cannot be resolved via consensus building, a third reviewer will be asked to render a final decision.

At the Full-Text Stage 2 level, two reviewers will record all excluded studies and the reasons for exclusion independently.

Statistical procedures and conventions

The magnitude of the intervention effect will be calculated using the commonly accepted statistical formulae and dedicated programs available. While the outcome data may be available in different formats, we believe that most of the data will be presented in such a way as to require one of the following statistical approaches. For example, binary data of the number employed and of unemployed (rates of employment) for both treatment and control groups will be calculated as an odds ratio. Outcomes such as days of leave or wages will be calculated as a standardized mean difference.

Standardized mean difference statistic (d-index)

When studies report means and standard deviations for the experimental and control groups, the standardized mean difference statistic (*d*-index) will be used, with the pooled standard deviation being the variance statistic for all calculations. For studies that report statistics such as *t*, *F*, or *p* values and the accompanying sample sizes only, conversion formulae will be used to calculate the *d*-index for the effect size estimate. In addition, the calculated *d* value will be corrected for sample size using Hedges' *g*, which accounts for studies with small sample sizes.

Confidence interval

All effect sizes will be calculated using a 95% confidence interval.

Odds ratio family

Studies reporting binary data in which mean outcomes are compared in the experimental and control (or comparison groups) will be summarized using the odds ratio derivative statistic. A 95% confidence interval for the odds ratio will be used to report all effect sizes.

Heterogeneity analysis

For the analysis of dichotomous and continuous data, an assessment of heterogeneity will be conducted. A random effects model will be calculated and reported in order to assess the difference in the magnitude of the intervention effect under different sampling error assumptions.

Sensitivity analysis

A sensitivity analysis will be conducted to assess the impact of a single study on the magnitude of an overall observed effect size. The sensitivity analysis will be conducted for overall study effect size and as appropriate, the impact of moderating variables (e.g., attrition, type of treatment, missing data, sample size, study design).

Publication bias

Publication bias will be assessed for published vs. unpublished included studies through the visual inspection of a funnel plot and/or a moderator analysis.

Incomplete reporting of study data

For studies reporting incomplete outcome data, we will first contact the senior author of the study and request the missing information to include in the analysis. If we are unable to obtain the needed information, we will attempt to use a method of imputation in which we will set the effect for the missing data to zero and then calculate the outcome effect size. Reported results will be presented both with and without the imputed data in order to assess the magnitude of the impact of the imputation process.

Subgroup and moderator analyses

Subgroup/moderator analyses will be conducted for a limited number of independent variables. The approach to the moderator analyses will be dependent on the available data. Meta-regression will be used if the volume of data make it possible to regress multiple factors on to the treatment effect size. At a minimum, the following categorical variables will be considered for moderator analyses if appropriate: type of intervention; costs of the intervention; participant cancer type; participant cancer treatment history (e.g., chemotherapy, radiation, and/or surgery); intention to treat vs. active treatment-only analysis models; age of participant; gender of participant; race/ethnicity of participant; educational attainment of participant; length of employment; job types; length of

employment assistance; and length of intervention.

In addition, SEDL has available Comprehensive Meta-analysis software (Borenstein, Hedges, Higgins, & Rothstein, 2005) to facilitate any possible statistical calculations.

Treatment of qualitative research

Qualitative research will not be used in the analysis of the intervention research.

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Ms. Reynolds is a former library director of the Texas Medical Association Library, and supports research at SEDL in Austin, Texas in her role as Information Associate. She also has access to resources at The University of Texas at Austin.

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REQUEST SUPPORT

The author team may request support for statistical support and information retrieval, as needed.

Studies in any language will be included. Assistance in reading non-English studies will be obtained as needed.

DECLARATIONS OF INTEREST

No conflicts of interest are known.

PRELIMINARY TIMEFRAME

Once the protocol is approved, the authors anticipate submitting a first draft of a completed review to the Education Coordinating Group within six months.

PLANS FOR UPDATING THE REVIEW

The authors will examine the review every 3 years for update.

AUTHOR DECLARATION

Authors' responsibilities

By completing this form, you accept responsibility for preparing, maintaining and updating the review in accordance with Campbell Collaboration policy. The Campbell Collaboration will provide as much support as possible to assist with the preparation of the review.

A draft review must be submitted to the relevant Coordinating Group within two years of protocol publication. If drafts are not submitted before the agreed deadlines, or if we are unable to contact you for an extended period, the relevant Coordinating Group has the right to de-register the title or transfer the title to alternative authors. The Coordinating Group also has the right to de-register or transfer the title if it does not meet the standards of the Coordinating Group and/or the Campbell Collaboration.

You accept responsibility for maintaining the review in light of new evidence, comments and criticisms, and other developments, and updating the review at least once every three years, or, if requested, transferring responsibility for maintaining the review to others as agreed with the Coordinating Group.

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The support of the Campbell Collaboration and the relevant Coordinating Group in preparing your review is conditional upon your agreement to publish the protocol, finished review and subsequent updates in the Campbell Library. Concurrent publication in other journals is encouraged. However, a Campbell systematic review should be published either before, or at the same time as, its publication in other journals. Authors should not publish Campbell reviews in journals before they are ready for publication in the Campbell Library. Authors should remember to include the statement: "This is a version of a Campbell review, which is available in The Campbell Library" when publishing in journals or other venues.

I understand the commitment required to undertake a Campbell review, and agree to publish in the Campbell Library. Signed on behalf of the authors:

Form completed by: Carlton J. Fong

Date: 17 September, 2013

APPENDIX A: CODING FORM

Behavioral, Psychological, Educational, and Vocational Interventions to Facilitate Employment Outcomes for Cancer Survivors

Full Citation (APA style):

Is this a study of a behavioural, psychological, educational or vocational intervention?

- Yes**
- Unclear**
- No, then STOP!**

Were the participants aged 18 years or older?

- Yes**
- Unclear**
- No, then STOP!**

Were the participants cancer survivors?

- Yes**
- Unclear**
- No, then STOP!**

Does the study measure rate of employment or report time-to-event data such as number of leave days taken?

- Yes**
- Unclear**
- No, then STOP!**

I. Publication Source:

- Journal Article
- Conference paper
- Master/Doctoral Thesis
- Technical Report
- Organizational Report
- Book or Book Chapter
- Other:

II. Subject Characteristics (pg.)

Group	Mean age (yr.; mos.)	%Male	Pretest (n)	Post-test (n)	Attrition (n)	1 st Follow-up (n)	F Attrition (n)
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Group-T:

Group-CP:

Group-CO:

Note: For groups, T=treatment, CP=comparison, and CO=control . “Attrition” is the difference between the pretest and post-test “n” and “F_Attrition” is the difference between the post-test and 1st follow-up “n.”

Comments:

III. Sample Source (pg.)

- Hospital/clinic
- Government service agency
- Non-governmental organization
- General public
- Not Reported
- Other

Comments:

IV. SES (pg.)

- Low
- Low-Middle
- Middle

- Middle-Upper
- Upper

- Labeled Mixed
- Unlabeled Mixed

- Unclear
- Not Reported

Comments:

V. Education (pg.)

- Less than high school graduate
- High School Graduate
- Some College
- College Diploma
- More than college diploma
- Other:
- Not reported

Comments:

VI. Study Community Setting (pg.)

- Urban
- Suburban
- Rural
- Mixed
- Not reported

Comments:

Geographic Setting:

VII. Participant Type of Cancer (pg.)

- Bladder
- Breast
- Colon and rectal
- Endometrial
- Kidney (Renal cell)
- Leukemia
- Lung
- Melanoma
- Non-Hodgkin Lymphoma
- Pancreatic
- Prostate
- Skin (nonMelanoma)
- Thyroid
- Other
- Mixed
- Not specified

VIII. Treatment History (pg.)

- Surgery
- Radiation
- Oral medication (including oral chemotherapy)
- Not Reported
- Chemotherapy
- Alternative/complementary
- Mixed

Comments:

IX. Race/Ethnicity (pg.)

XIa. Intervention Setting (pg.)

- Hospital/clinic
- Home
- Workplace
- Mixed
- Not Reported
- Govt. service agency
- Nongovernmental agency
- Online
- Other

XIb. Intervention Facilitator (pg.)

- Medical practitioner
- Self
- Human resource staff
- Team
- Not Reported
- Social worker
- Psychologist
- Vocational rehabilitation counselor
- Other

XIc. Participation Mode (pg.)

- Individual
- Mixed
- Not Reported
- Group
- Other

XId. Were there medical/physical elements to the intervention (pg.)

- Yes
- No
- If Yes, please describe: _____

XIe. Costs of the Intervention

Describe: _____

XII. Primary Type of Employment:

Wholesale Trade

- Retail Trade
- Transportation & Warehousing
- Information
- Finance
- Professional
- Education & health
- Leisure & Hospitality
- Other Service:

Goods-processing Industries

- Construction
- Manufacturing
- Other Service:

Public Administration

- Local government
- State government
- Federal government
- Other Service:

Comments:

XIII. Employment Outcome Measure(s):

Employment outcome:

- Obtaining new employment
- Maintaining current employment

1. Number of days to Place in Employment or Maintenance of Employment:

2. Number of Months Employed:

3. Re-employments Included: Yes No Not Reported

4. Employment Status: % Full Time % Part Time

5. Mean hours worked per week:

6. Mean post-placement Hourly Wages:

7. Mean dropped Out Before Placement Occurred:

8. Employer Evaluation:

9. Co-Worker Evaluation:

10. Participant Evaluation:

Comments:

XVII. Blinding

- Researcher (pg.)
- Participant (pg.)
- Intervener (pg.)
- Assessor (pg.)
- Employer (pg.)
- Other (pg.)
- Not blinded (pg.)
- Not reported (pg.)

Comments:

XVIII. Fidelity of Implementation

Intervention implemented as described (pg.) No Yes NR

Comments:

XIX. Effect Size Characteristics (Use d-Index Value if Provided)

Groups Compared: **Group 1:** **Group 2:**

Outcomes

Groups	1	2	1	2	1	2	1	2
% employed	_____	_____	_____	_____	_____	_____	_____	_____
Mean	_____	_____	_____	_____	_____	_____	_____	_____
SD	_____	_____	_____	_____	_____	_____	_____	_____
N-Post	_____	_____	_____	_____	_____	_____	_____	_____
N-Follow-up 1	_____	_____	_____	_____	_____	_____	_____	_____
N-Follow-up 2	_____	_____	_____	_____	_____	_____	_____	_____
N-Follow-up 3	_____	_____	_____	_____	_____	_____	_____	_____
N-Follow-up 4	_____	_____	_____	_____	_____	_____	_____	_____
d-index	_____	_____	_____	_____	_____	_____	_____	_____
F value	_____	_____	_____	_____	_____	_____	_____	_____

Chi-square	_____	_____	_____	_____	_____	_____	_____
p value	_____	_____	_____	_____	_____	_____	_____
t value	_____	_____	_____	_____	_____	_____	_____
U value	_____	_____	_____	_____	_____	_____	_____

Method of Analysis (pg. _____)

Intention to Treat: 0=no 1=yes

Treated Participants Only 0=no 1=yes

XX. Length of Follow-up (in days)

Follow-up 1 _____

Follow-up 2 _____

Follow-up 3 _____

Follow-up 4 _____

Comments: