**Interventions that Work: Employment of Cancer Survivors**

**Presenters:**

Carlton Fong

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John Westbrook: Hello and welcome to today’s webcast being brought to you by the Center on Knowledge Translation for Disability and Rehabilitation Research and the Knowledge Translation for Employment Research at SEDL, an affiliate of the American Institutes for Research. These Centers are funded by the National Institute on Disability, Independent Living, and Rehabilitation Research in the U.S. Department of Education. This is John Westbrook, Director of the center and also Co-Chair of the Knowledge Translation and Implementation Coordinating Group of The Campbell Collaboration or C2.

We are delighted to bring today’s webcast to you featuring the work and resources of the Educational Coordinating Group of and to discuss a recently published systematic review identified with the Educational Coordinating group. I know you will find it very useful, and I thank our speakers today who are Dr. Carlton Fong, managing editor of the Education Coordinating Group and Dr. Kathleen Murphy, program director at SEDL. Thank you both for being here and for the effort you put into planning this webcast. I am going to ask some question to guide our discussion and the first one is for Carlton. Can you tell us more about what the C2 Education Coordinating group is and does?

Carlton Fong: The Campbell Collaboration Education Coordinating Group is an international network of scholars, policy makers, practitioners, funders, students, and others, who are interested in evidence-based practice and systematic reviews within the field of education. The Campbell Collaboration (C2) Education Coordinating Group (ECG) exists to help people make well-informed decisions about education interventions. Our mission is to provide rigorous and relevant systematic reviews of educational research and share this information broadly. By identifying what works, what doesn't, and why, we aim to improve educational outcomes for all learners.

The Education Coordinating Group considers systematic reviews that address the effects of social and policy interventions across the full spectrum of learners. The scope of this group is wide and its areas of interest range from clearly demarcated problems that affect educational development to broad areas of concern to education policy in the following areas:

* compulsory school-aged education
* special education
* adult/professional education
* early childhood education
* higher education
* disability

Systematic reviews that fall within the scope of the Education Coordinating Group may include interventions delivered in any setting with potential impacts on educational outcomes, as well as interventions delivered in school settings focused on any or all of the following outcomes: academic outcomes, social and behavioral competencies, community integration, and health and well-being. That is, the Education Coordinating Group’s scope includes both school-based programming and community- or home-based interventions that are relevant to educational development for all learners.

***John Westbrook:******Who’s involved In the ECG?***

Carlton Fong: ECG consists of two co-chairs, which are currently filled by Dr. Paul Connolly and Dr. Gary Ritter. They are responsible for the internal governance of the ECG. They also maintain working relationships with other Campbell entities and groups outside of C2, and formally accept and reject systematic reviews in consultation with the editor, among many other responsibilities. The Editor, Dr. Sandra Jo Wilson, is responsible for the editorial activities of ECG, providing substantive and methodological feedback to authors, guiding the review process for teams to effectively conduct systematic reviews. The managing editor role, which is my current position, involves the procedural aspects of the editorial process, such as reviewing title submissions, recruiting peer reviewers, and providing other assistance to the ECG. In addition, we currently have one subgroup coordinator role in our Disability subgroup, which is filled by Dr John Westbrook, who serves in a similar fashion as the co-chairs regarding the specific workings of the Disability subgroup. Lastly, we collaborate closely with an informational retrieval specialist, David Pickup. He helps us evaluate the rigor of protocols and completed reviews, considering in particular how systematic the author teams were in their retrieval of all possible relevant studies. We also collaborate with the Methods Group. Its members provide assistance in evaluating the methodological soundness of the reviews.

John Westbrook: ***Now a question of particular interest to me. What are the goals of the ECG’s Disability Subgroup and why was your systematic review identified with this group.***

Carlton Fong: The Disability Subgroup has four key objectives:

* To undertake and maintain a series of high-quality and timely systematic reviews of interventions aimed at improving the quality of life and outcomes of individuals with disabilities.
* To establish and maintain a network of individuals with disability expertise or experience who are interested in developing and/or contributing to disability-related systematic reviews.
* To encourage involvement of consumers with disabilities, their family members, and other disability-oriented stakeholders in all steps of the systematic review development process, including the development and dissemination of appropriate user-friendly interpretations of review results.
* To provide training opportunities for interested systematic review authors in the production of Campbell reviews in the disability area.

Our review falls within the scope of ECG’s disability subgroup because our recent systematic review concerned the employment of cancer survivors. Under the ADA, cancer constitutes a disability and this fact is not widely known. Examining interventions that can help those after cancer treatment to return to work or keep working is therefore an issue pertinent to the disability subgroup of Campbell and ECG.

**John Westbrook: Ok, so Kathleen, let’s hear more about the systematic review. What was the topic that the review addressed and did it address a specific need?**

Kathleen Murphy: Well, as one might infer from its title, the review addressed behavioral, psychological, educational and vocational interventions that facilitated employment outcomes for cancer survivors. That's kind of a mouthful; so let me explain a little more.

First: we should mention that, for the purpose of this review, we focused on studies that included adults aged 18 years or older who had a past or present cancer diagnosis that occurred while the individual was aged 18 years or older. We excluded studies of adults who were survivors of pediatric cancer. Our thought was that 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.

Second: The review was designed to be of use especially to the audiences of SEDL's Center on Knowledge Translation for Employment Research, or the KTER Center's audiences. These include members of the business community, vocational rehabilitation professionals, policy makers and people with disabilities. As Carlton just mentioned, what a lot of people don't realize is that last population includes, from at least a legal perspective, cancer survivors.

Provisions of The Americans with Disabilities Act (ADA are very relevant to this discussion of cancer survivors and discrimination in the workplace, particularly since it was amended in 2008. The 2008 amendments, which took effect in 2009, clarified what kinds of conditions constitute a disability. The legislation defines "disability" as having “a physical or mental impairment that substantially limits one or more major life activities,” or “a record of such impairment” or “being regarded as having such an impairment.” Any discriminatory action that targets someone who does not have a disability, but who associates with someone who does (such as a parent or spouse of a someone with a disability) is also prohibited. The phrase "major life activity" was defined more completely, and "working" is explicitly mentioned, as well as the "operation of a major bodily function," including cell growth. This latter language is has clear and obvious application to cancer. These amendments are relatively new and many of those who might benefit from them are not yet aware that employees with cancer qualify for ADA protection.

This lack of awareness is happening at the same time that the number of cancer survivors in the workforce has grown. Treatments are more successful, so there are growing numbers of cancer survivors. Rates of cancer patients eventually returning to work range depending upon a whole number of things between age and type of cancer, between 56 and 89%. And, especially, since the recession, people are retiring later or continuing to work part-time. Thus, it is especially important now to study survivors' employment-related issues so as to know how best to design interventions to address them.

So, we did this review from a disability and employment research perspective. Basically, we wanted to find out by doing this review if there were any evidence-based interventions that might be relevant to employers, service providers that did not involve pharmaceutical or medical treatment. Our thinking was that knowing more about non-medical approaches would allow for more feasible implementation within workplace settings.

***John Westbrook: Ok, I see. What were the key findings of your review, Carlton?***

Carlton Fong: After conducting an exhaustive search of relevant studies that measured the effect of an intervention on the employment outcomes of cancer survivors, we found 12 studies that met our inclusion criteria. Ten studies measured employment status (employed vs. unemployed). Two main measures were used: employment status or return-to-work. Since studies that measured employment status did not distinguish whether participants had prior employment before cancer diagnosis or treatment, we combined these measurements as a single measure of gainful employment status. The results of the studies were synthesized in a random-effects meta-analysis using the odds ratio effect sizes. The weighted mean effect size for employment status was *OR* = 1.71 favoring the intervention groups. To better interpret the odds ratio, we converted the mean odds ratio to percentages. We first calculated a baseline employment rate for all the comparison groups across studies, which was 60%. The adjusted odds ratio of 1.71 translates to an employment rate of about 71% for intervention participants, a non-trivial change. We did not find that the interventions affected the number of hours worked, or the number of sick leave days taken.

***John Westbrook: Alright, given that what would you say are the implications of this systematic review for the areas of policy and practice, Kathleen?***

Kathleen Murphy: Given that there are growing numbers of survivors in the workplace, there are consequently a variety of policy and practices questions that are germane.

\* What should an individual manager do when an employee discloses cancer?

\* What are ways that medical staff might work in interdisciplinary teams who together coordinate the often inter-related needs of survivors? Cancer patients benefit from the provision of more than medical services. Their condition creates other, often inter-related vocational, rehabilitation, psychosocial, legal and work-related needs.

\* With respect to that last: what can companies do to equip their staff, especially supervisors, to help them know how best to manage cancer in the workplace? If employees want their involvement, how might employers participate in these interdisciplinary teams or at least stay in communication with them?

Those are the implications. Based on the results of this review, no one should develop a policy or intervention, and then claim what they're doing is, strictly speaking, 'evidence-based.' In a few minutes Carlton will explain more about the limitations with respect to the scientific rigor of the studies we found.

Nonetheless, our hope is that the existing research can help to inform these kinds of questions, even if —given the nature of the research base undergirding what seems to be recommended courses of action—the answers are provisional.

***John Westbrook: What types of interventions did you find that have been used to tackle this problem, Kathleen?***

Kathleen Murphy: A first step, then, to inform those questions, is to look at the interventions we found, among the small group of studies that met our criteria for rigor, that also had positive effects on employment outcomes. Consistent with an earlier Cochrane Systematic review that team led by de Boer conducted on this topic, we found that multicomponent interventions were the most effective approach to facilitate employment. While often taking place in a medical setting, interventions that incorporated information or educational training, counseling or coping skills sessions (whether individual or group), and also physical exercise components seem to be promising features for practitioners to integrate into current rehabilitation and adjustment efforts for cancer patients. With respect to vocational interventions specifically, other research Tamminga et al., 2013) suggests that on-the-job supports, interview-training, and strategies to cope with symptoms while working, can directly impact return-to-work and employment. These results are of course referring to the cancer survivors themselves as the research participants. What the review does not address is what businesses might need in order to be involved most effectively in supporting their employees with cancer. Learning about the ADA and other resources seems to be a logical implication, even though we can't say it is an evidence-based conclusion.

***John Westbrook: Given that, “How certain can we be that it works” – based on your review of the available research, what would your response be, Carlton?***

Carlton Fong: This systematic review found limited evidence of sufficient methodological rigor to confidently assess the effects of interventions for employment of cancer survivors. Overall, the number of RCTs was few in number, and even with quasi-experimental studies, sample sizes were relatively small (ranging from treatment groups of 7 to 172 participants). Moreover, the majority of studies lacked information about the study elements needed to assess risk of bias or evidenced high risk of bias. One particular study characteristic that was consistently missing from study reports was an assessment of treatment fidelity, a useful aspect for interpreting particularly conspicuous findings and to aid in broadening generalizability. Although some studies report dosage of the intervention and contamination of the control group (e.g., Tamminga, 2013), discussion of whether the intervention was implemented as intended was lacking. Overall, the internal and external validity of the included studies were limited.

The number of included studies was small given our inclusion criteria, producing a much larger pool of studies that were excluded. Moreover, the wide range of the types of interventions that were included most likely decreases the precision of the results of this review. Lastly, the included studies demonstrated a narrow age range, in particular, older age participants. The nature of our population, cancer survivors, tends to be older since cancer diagnoses are more common as people age. Nine of the 10 studies that reported participant age had individuals of an average age of over 50 years. It's true that in the U.S. people are staying longer in the workforce at least part-time, particularly since the recession. That said, the field would benefit from additional research on these particular interventions and younger participants. With findings from studies of more targeted interventions with younger workers, recommendations for the effectiveness of these programs could be put forth that were both more specific about what to do, and more informative about what practices are—or aren't—effective, in various settings and populations.

***John Westbrook: I’d like to ask you a methodological question about the types of research designs you included in this review [e.g. the use of randomized controlled trials, or RCTs and non-RCTs]. Can you explain some of the differences between these two types as shown in your systematic review?***

Carlton Fong: Basically, RCTs use random assignment to a treatment or control group whereas quasi-experimental designs (or "QEDs",) are missing one of these components. Hence, they are not true experimental studies such as an RCT. That's why they have the prefix "quasi"; they are *quasi*-experimental. We performed an exploratory analysis to distinguish effects of the randomized controlled trials from the quasi-experimental studies. For RCTs, the

weighted mean effect size for employment status was *OR* = 1.44 (CI = 0.99 to 2.09); *p* = 0.058. The mean odds ratio of 1.44 translates to an employment rate of about 68% for intervention participants, compared to the baseline 60% for comparison group participants described previously. For QEDs, the weighted mean effect size for employment status was *OR* = 2.18 (CI = 1.32 to 3.60); *p* = 0.002. The mean odds ratio of 2.18 for the quasi-experimental studies translates to an employment rate of about 77% for intervention participants, compared to the baseline rate of 60% for the comparison group participants. Although the mean effect size from QEDs was larger than that from the RCTs, there is no statistically significant difference between the two types of experimental designs (*p* = 0.19).

This result provides a potentially troubling indication. The QED studies may be over-estimating intervention effects on employment whereas the RCT studies, when examined alone, result in a non-significant mean effect size. Therefore, caution needs to be exercised when interpreting the effectiveness of these interventions for increasing employment.

***John Westbrook: Your systematic review has been completed, but there appears to be a lot more research being produced in this area. Can you talk us through what happens to systematic reviews like this after it is published, and the updating process?***

Carlton Fong: Campbell encourages author teams to update their systematic reviews every 3 years. As the landscape of research is continually changing and evolving, the nature of the evidence is also changing. Therefore, updating reviews are an important aspect to the systematic nature of reviewing to ensure the evidence is up to date and accurate for impactful policy-making and program development.

***John Westbrook: Kathleen, could you also talk about the direction your research is taking?***

Kathleen Murphy: Sure. As we discussed at the beginning of this webcast, this systematic review's production was supported by SEDL's Center on Knowledge Translation for Employment Research, funded by the National Institute on Disability, Independent Living, and Rehabilitation Research. The KTER Center's research follows a set trajectory. Step one was to conduct a systematic review on a topic of relevance to disability and employment. Step two was to collect data from our target audiences about what kinds of factors acted as barriers or facilitators to the uptake of evidence into practice. That phase is also concluded, and involved, among other activities, conducting focus groups with members of the business community. They told us that if they were going to use any research findings, they would need to be relevant to an existing business need or legal mandate. They also needed used online resources quite a bit. And, while it's not always easy for researchers to acknowledge this fact - not everyone wants to hear about research from researchers. So, taking those three findings together, the KTER Center recruited a trainer from the Equal Employment Opportunity Commission (or EEOC) to deliver information about cancer and employment, including the findings from the systematic review but in a broader context of resources about the Americans with Disabilities Act and other laws and resources for employees with cancer. The delivery mechanism was a webcast we have recorded. Testing the impact of this training, a very common knowledge translation strategy, among individuals who are supervisors or work in human resources, is the third phase of our research.

We are still enrolling participants and encourage you, if you are a supervisor or work in HR, to go to www.TinyURL.com/CancerTraining - you can review more information about the study there and register to be sent information about how to access the recording of the hour long webcast. If it's of interest, those who participate in the webcast and get one hour of HRCI credit.

SEDL is involved in other work related to cancer and employment that is beyond the scope of this webcast, which involvers partners at the Southwest ADA Center and other entities, as well as other work related to testing knowledge translation strategies about other topics and with other audiences, and I encourage you to contact me directly at Kathleen.Murphy@air.org if you have questions about our greater portfolio of research.

John Westbrook: Well our time is about up. Thanks to bot of you Kathleen and Carlton for being with us and sharing information about the C2 ECG and your new systematic review in today’s webcast. We’d love for you, the listeners, to get in touch with us if you have questions or would like to get involved by working in a group or authoring a systematic review. You’ll see there is a given link on the current slide for contacting us. Also feel free to give us some feedback on how helpful this webcast was. If you’d like to get in touch about the Campbell Collaboration in general, our contact email address is on the slide and of course you can visit the C2 website of follow us on Twitter and Facebook for updates on what’s going on in the Collaboration. We thank you for joining us for this webcast today and we look forward to seeing you for the next one.