



**Kelly M. Trevino, PhD**

Assistant Professor of Psychology in Medicine  
Weill Cornell Medicine  
Division of Geriatrics and Palliative Medicine  
New York-Presbyterian Hospital of Cornell  
525 East 68th Street, Box 39  
New York, NY 10065  
Tel: 212-746-3185  
Ket2017@med.cornell.edu

Dear Conference Participant,

Thank you for your willingness to participate in our project, **Coping with Aging and Cancer: A Conference on Reducing Barriers to Mental Health Care**. We appreciate your time and dedication to improving older adult cancer patients' access to mental health care.

On October 19, 2016, older adults with cancer and their caregivers, researchers, healthcare providers, and members of advocacy organizations will come together to discuss barriers to and strategies for improving older adult cancer patients' access to mental health care. The participation of these diverse groups will allow for a rich conversation that includes multiple perspectives. We are looking forward to learning from each other and finding ways to improve the care of older adults with cancer.

In preparation for this meeting, we are providing participants with background information on topics relevant to the conference. We hope that this information will clarify our thinking and inform our conversation. This background information is included in multiple formats:

1. Executive Summary (pages 3-5 of this document): Short overview of the information.
2. Background Information (pages 6-22 of this document): A more detailed description. The superscript numbers in the Background Information refer to the sources of the information we provide. These sources are listed at the end of the document. You are welcome to take a look at them but this is not necessary.
3. Slide Version (see additional document): A series of slides summarizing the primary points addressed in the Background Information document.

These three formats cover the same information but are organized in different ways. Feel free to review all of the documents or to select the document that is most helpful to you.

Thank you again for your participation in this project. Please do not hesitate to contact us with questions about this information or the conference more generally.

Sincerely,

A handwritten signature in black ink that reads "Kelly M. Trevino".

Kelly M. Trevino, PhD

Coping with Aging and Cancer:  
A Conference on Reducing Barriers to Mental Health Care

Kelly M. Trevino, PhD; Cary Reid, MD;  
Karl Pillemer, PhD; Jo Anne Sirey, PhD; Peter Martin, MD

Weill Cornell Medicine, NewYork Presbyterian Hospital,  
Cornell University

## EXECUTIVE SUMMARY

**Introduction.** Older adults (65+ years old) make up 14.5% of the United States population but 53% of new cancer diagnoses. By 2040, 73% of cancer survivors will be older adults. Over one-third of older adults with cancer experience symptoms of depression and one-quarter to one-half experience excessive anxiety. This emotional distress is associated with poor quality of life, more severe physical symptoms, greater difficulty following doctors' orders, interruptions in cancer treatment, longer hospitalizations, and shorter survival. Providing older adult cancer patients with resources for managing emotional distress is likely to improve patients' quality of life, physical health, and ability to engage in their cancer care. Yet, many distressed cancer patients do not receive psychological care.

**Current project.** The goals of the current project are to identify barriers to older adult cancer patients' access to psychological care, develop strategies to improve their access to this care, and create a collaborative network dedicated to improving older adult cancer patients' access to psychological care. The primary activity of this project will be a consensus conference during which participants will discuss barriers to and strategies for improving older adult cancer patients' access to psychological care. This paper describes current research on topics that will be discussed during the conference.

**Cancer and aging.** Older adults with cancer have to manage the physical, cognitive, social, and psychological effects of aging in addition to those caused by cancer. This dual impact of cancer and aging has been referred to as the "double whammy of cancer and aging." However, older adults also bring notable and unique strengths to living and coping with cancer. Psychological care must consider the unique challenges and strengths of older adults with cancer.

### **Psychological treatments.**

Format. We are not focusing on medications to treat distress because use of these medications in older adults is often complicated by high rates of comorbid (more than one) diseases, the dangers of taking multiple medications, and higher rates of negative side effects. In research studies, psychological treatments for cancer patients are usually provided by nurses (40%), psychologists (37%), or social workers (16%). In cancer centers, social workers provide most of the psychological services. The length of psychological treatments for cancer patients ranges widely (1-55 sessions) but half of the treatments tested in research studies are six sessions or fewer and are delivered over six weeks. Approximately two-thirds of tested psychological interventions for cancer patients are individually-focused while one-third are provided in a group format.

Content. Psychological treatments vary in their focus and the techniques used. *Cognitive-behavioral therapy (CBT)* focuses on the role of cognitions (thoughts) and behaviors in the onset and maintenance of distress. *Problem-solving therapy (PST)* guides patients through six steps of problem solving that can be applied to all problems. *Acceptance and Commitment Therapy (ACT)* is helpful when situations, thoughts, and emotions cannot be controlled and helps people accept the present and engage in behavior that is consistent with personal values. *Relaxation training* includes techniques such as muscle relaxation, deep breathing, and guided imagery or imagining a pleasant situation. *Supportive psychotherapy* includes developing trust between the patient and provider in order to create a context in which the patient feels comfortable expressing his/her thoughts, emotions, and concerns. *Psychoeducation* provides patients with information on illness-related topics, coping strategies, stress management, and

support. *Information-only interventions* provide information on health topics without addressing the other components of psychoeducation such as coping strategies and support.

Impact on outcomes. *CBT* is associated with improvements in depression, anxiety, and quality of life. In older cancer patients, *PST* is associated with improvements in depression, anxiety, quality of life, social functioning, and medical outcomes. *ACT* is associated with improvements in emotional distress, quality of life, anxiety, depression, and growth. *Relaxation training* improves depression, anxiety, emotional distress, and quality of life immediately after the end of treatment. However, these improvements are smaller than those from other interventions and disappear over time. *Supportive psychotherapy* interventions are associated with reductions in anxiety and depression, shorter hospital stays, and improved quality of life in cancer patients but often have less of an impact on distress than other interventions like *CBT* and *PST*. *Psychoeducation* and *patient-information interventions* tend to have less of an impact on anxiety, depression, and distress than other interventions.

**Dissemination and implementation.** Dissemination is the active spreading of evidence-based interventions to the target audience while implementation is the process of integrating these interventions into a care setting. Effective dissemination and implementation (D/I) are key to ensuring that older adults with cancer receive the psychological care they need. However, D/I must consider unique characteristics of older adults.

**Models of dissemination.** The *Push-Pull-Infrastructure Model* of dissemination distinguishes between the active process of providing information about a new intervention to healthcare institutions and providers (Push) and the spreading of information across institutions and providers through social networks and peer influence (Pull). Both Push and Pull are necessary for information about an innovation to spread. However, to be successful, these processes require an infrastructure that consists of relationships between researchers and healthcare systems.

**Models of implementation.** Implementation models have three general goals: 1) to describe the process of implementation (process models), 2) to explain what influences implementation (determinant models), and 3) to evaluate the success of implementation (evaluation models). Process models describe the steps or phases of implementation and provide practical guidance for implementation. Determinant models identify the barriers and resources that influence implementation efforts. Evaluation models provide a framework for assessing the success of various components of the implementation process.

**Barriers to D/I.** Barriers to D/I can be grouped into various categories: 1) Person factors, 2) Administrative factors, and 3) Environmental factors.

Person factors consist of “attitudes, statements, and behaviors of key individuals in the institution.” Examples of person factors include lack of knowledge about psychological interventions, the perspective that patients’ psychological needs are already met, inadequate staffing, lack of time due to heavy workloads, and increasing administrative responsibilities.

Administrative barriers include concern from institution leaders about the financial implications of providing psychological services (e.g., return on investment), “red tape,” hospital reorganization, and personnel changes.

Environmental barriers to D/I of psychological interventions include insufficient resources for therapist time, support staff, space, materials, and marketing. Many institutions rely on general operating funds or philanthropic donations to support psychological care that are unpredictable.

**Conclusions.** The next step in this project is to get your opinions on the **barriers to and strategies for D/I of psychological interventions to older adults with cancer**.

Questions to consider regarding barriers/facilitators include:

1. What makes it difficult for older adults with cancer to get psychological care?
2. What factors associated with being an older adult with cancer make accessing psychological care difficult?
3. What characteristics of the hospital or clinic make accessing psychological care difficult?
4. What characteristics of the hospital or clinic make accessing psychological care easier?

Questions to consider regarding potential strategies for D/I include:

1. Are there ways to increase awareness of psychological treatments in patients, families, providers, and institutions?
2. Are there ways to make psychological interventions more comfortable for and helpful to older adults with cancer?
3. Are there ways to improve the hospital or clinic to make receiving psychological interventions easier for older adults with cancer?

## BACKGROUND INFORMATION

### Introduction

The population of the United States is growing older. By the year 2030, one-fifth of the United States will be 65 years or older, up from 9.2% in 1960.<sup>4</sup> Cancer is a disease that disproportionately affects older adults. Currently, older adults (65+ years old) make up 14.5% of the United States population<sup>5</sup> but 53% of new cancer diagnoses.<sup>6</sup> From 1975-2040, the prevalence of cancer is expected to increase four-fold in adults 50-64 years old, six-fold in adults age 65-74 years old, 10-fold in adults 75-84 years, and 17-fold in people 85 years and older.<sup>7</sup> With these increases, by 2040 almost three-quarters (73%) of cancer survivors will be 65 years and older.<sup>7</sup> These findings indicate that identifying ways to meet the physical and mental health needs of older adults with cancer is increasingly important.

Many older adults cope well with having cancer. However, cancer does significantly increase older adults' risk for developing emotional distress and more severe conditions such as depression.<sup>8</sup> Over one-third of older adults with cancer experience symptoms of depression including sadness, decreased interest in activities, worthlessness, and feelings of guilt.<sup>9-11</sup> In addition, one-quarter to one-half of older adults with cancer experience excessive anxiety which can include nervousness, worry, restlessness, irritability, and muscle tension.<sup>9,10,12</sup>

Depression, anxiety, and other types of distress reduce patients' quality of life and can lead to significant suffering.<sup>13,14</sup> In addition, these distress symptoms are associated with more severe physical symptoms including greater fatigue, nausea, pain, shortness of breath and worse social and cognitive function.<sup>13-19</sup> High distress levels can also interfere with treatment. Patients who report high distress levels have greater difficulty following doctors' orders<sup>20,21</sup> and communicating with their healthcare team.<sup>22</sup> Older men with prostate cancer who report experiencing high anxiety start treatment earlier, despite evidence that early initiation does not improve survival but does impair quality of life.<sup>23,24</sup> The influence of distress on the treatment

process can result in worse treatment outcomes. Research indicates that cancer patients with high distress levels have more interruptions in their cancer treatment<sup>25</sup> and experience longer inpatient hospitalizations<sup>26,27</sup> and shorter survival.<sup>28,29</sup> Therefore, providing older adult cancer patients with resources for managing emotional distress is likely to improve their quality of life, physical health, and ability to engage in their cancer care.

Despite the prevalence of emotional distress and its relationship to poor outcomes, many cancer patients who experience distress do not receive appropriate care. In one study of patients with advanced cancer, 50% of the patients who had a psychiatric disorder did not receive mental health resources.<sup>30,31</sup> In a study of older adults with cancer, 32% reported unmet emotional support needs and over 50% reported needing help coping with their illness.<sup>12</sup> These findings indicate that many older adults with cancer experience problematic distress but do not receive adequate treatment. This unmet need for psychological care can have detrimental consequences for the individual's quality of life and cancer care.

### **Current Project**

The Division of Geriatrics and Palliative Medicine at Weill Cornell Medicine, in collaboration with the Cornell Institute for Translational Research on Aging (CITRA),<sup>32</sup> is conducting a project to identify strategies for improving the access of older adults with cancer to psychological treatment that is evidence-based (i.e., has been shown to improve distress in research studies).

The goals of this project are to:

- Identify barriers to older adult cancer patients' access to psychological care
- Develop strategies to improve older adult cancer patients' access to psychological care
- Create a collaborative network of older adults with cancer and their families, healthcare providers, researchers, and members of advocacy organizations who are committed to improving older adult cancer patients' access to psychological care

The primary activity of this project is a consensus conference that will be attended by:

- 1) People who had cancer as an older adult and their caregivers;
- 2) Healthcare providers including oncologists, geriatricians, nurses, social workers, psychologists, and psychiatrists;
- 3) Researchers; and
- 4) Members of advocacy organizations.

During the conference, these participants will discuss barriers to and strategies for improving older adult cancer patients' access to evidence-based psychological care. Based on these discussions, a list of strategies will be generated and participants will be asked to rank the ideas in terms of perceived usefulness. Following the conference, the project team will summarize and distribute conclusions of the conference to conference participants, oncology clinics, researchers, advocacy organizations, and others dedicated to improving the psychological care of older adults with cancer.

This paper describes current research on topics related to the conference so that conference participants have preliminary information that can inform their thoughts and discussion. The topics are:

1. Cancer and aging: The unique experience of having cancer as an older adult.
2. Psychological interventions: The format, content, and impact of psychological interventions that have been examined in research studies (i.e., are evidence-based).
3. Dissemination and implementation: Definitions of dissemination and implementation (D/I) and why they are important.
4. Models of dissemination: Frameworks for how dissemination can occur.
5. Models of implementation: Frameworks for how implementation can occur.
6. Barriers to dissemination/implementation: Factors that interfere with D/I of psychological interventions to cancer patients.

## **Cancer and Aging**

Psychological treatments for distress in older adults must consider unique characteristics of older adults relative to younger adults. One notable difference is that older adults are managing the physical, cognitive, social, and psychological effects of aging in addition to those caused by cancer. This dual impact of cancer and aging has been referred to as the “double whammy of cancer and aging.”<sup>33</sup> For example, prior to a cancer diagnosis, older adults may have experienced physical changes associated with aging such as vision and hearing problems, increased forgetfulness, pain, and greater difficulty walking. They may also have other medical problems such as arthritis, diabetes, and cardiovascular disease. These physical changes and illnesses often make daily life more difficult and require more physicians’ visits and an increased number of medications. Cancer can exacerbate these problems and add additional challenges such as increased fatigue, nausea, and weight loss/gain. Of course, cancer treatment also requires additional appointments and more medications. This “double whammy” of cancer and aging creates a different experience and different needs for older adults than younger adults. Psychological interventions must consider this unique situation if they are to be accessible to and effective for older adults with cancer.

However, older adults also bring notable and unique strengths to the cancer experience. Older adults have developed skills, values, and areas of expertise over their lifetimes that can be harnessed to help them cope with cancer. These strengths are unique to older adults; incorporating them into psychological treatment provides an individually-tailored and likely more effective approach to helping older adults cope with cancer.

## **Psychological Treatments**

Format. The focus of this project is on psychological treatments for emotional distress in older adults with cancer. We are not focusing on medications to treat distress because use of these medications in older adults is often complicated by high rates of comorbid diseases, the

dangers of polypharmacy (i.e., taking multiple medications at one time), higher rates of negative side effects of medications, and limited research on the impact of psychiatric medications on older adults with cancer.<sup>34,35</sup> Further, oncologists and other physicians can often prescribe medications for emotional distress so patients have adequate access to these treatments.

According to the American Psychological Association, psychology is defined as “the scientific study of the behavior of individuals and their mental processes.”<sup>36</sup> Psychological treatment or psychotherapy focuses on changing “behaviors, thoughts, perceptions, and emotions” that may be causing excessive distress or a psychological disorder such as major depressive disorder. In research studies, psychological treatments for cancer patients are usually provided by nurses (40%), psychologists (37%), or social workers (16%).<sup>37,38</sup> In cancer centers, social workers provide most of the psychological services.<sup>1-3</sup> The length of psychological treatments for cancer patients ranges widely (1-55 sessions across studies)<sup>39</sup> but half of the treatments that have been tested in research studies are six sessions or fewer and are delivered over six weeks.<sup>37</sup> Approximately two-thirds of tested psychological interventions for cancer patients are individually-focused while one-third are provided in a group format.<sup>37</sup>

Content. Psychological treatments vary in their focus and the techniques used. One of the most common psychological techniques is *cognitive-behavioral therapy (CBT)*.<sup>38</sup> CBT focuses on the role of cognitions (thoughts) and behaviors in the onset and maintenance of distress. According to this theory, a person’s thoughts about an event and actions following an event influence his/her emotional reactions. CBT teaches patients to identify unhelpful thoughts and replace them with alternative thoughts that are more realistic and flexible and less likely to cause distress. In CBT, patients also learn to identify the relationship between their behaviors and distress, remove behaviors associated with greater distress, and replace those behaviors with actions that will reduce distress, such as relaxation techniques and participation in enjoyable activities.

*Problem-solving therapy (PST)* is based on the premise that enhancing problem-solving skills and self-confidence and solving life problems can reduce distress. PST guides patients through six steps of problem solving that can be applied to all problems.<sup>40</sup> These steps include: 1) identifying and clarifying the problem, 2) defining an achievable goal, 3) brainstorming solutions, 4) evaluating each solution and selecting a solution, 5) developing a plan to implement the solution, and 6) evaluating the success of the solution.

*Acceptance and Commitment Therapy (ACT)* is a slightly different approach that is often helpful when situations, thoughts, and emotions cannot be controlled.<sup>41</sup> ACT focuses on “psychological flexibility” or the ability to accept the present and engage in behavior that is consistent with personal values.<sup>42-44</sup> Psychological flexibility is improved by being more aware of the present moment, reducing avoidance of and attempts to control the uncontrollable, and implementing actions that are consistent with the patients’ values.<sup>45,46</sup> The techniques of ACT can help patients define and live a meaningful life while dealing with cancer.

*Relaxation training* can consist of multiple techniques but typically includes muscle relaxation, deep breathing, and guided imagery or imagining a pleasant situation. Relaxation training exercises are often used in CBT as part of the behavioral component of treatment. However, in some interventions, relaxation training is provided as a stand-alone treatment.

*Psychoeducation* is another type of psychological treatment that provides patients with information on illness-related topics, coping strategies, stress management, and support.<sup>47</sup>

*Information-only interventions* provide information on health topics without addressing the other components of psychoeducation such as coping strategies and support. These interventions are generally shorter and less intense than psychoeducation.<sup>37</sup>

*Supportive psychotherapy* is a commonly provided type of psychotherapy. The content of supportive psychotherapy interventions can be difficult to determine and varies across studies.<sup>48</sup> However, supportive psychotherapy generally includes developing trust between the patient and provider in order to create a context in which the patient feels comfortable

expressing his/her thoughts, emotions, and concerns.<sup>48,49</sup> The provider focuses on listening to and empathizing with the patient, supporting the patient's expression of emotion, and validating the patient's experience.<sup>48,50,51</sup>

Many psychological treatments for cancer include a *combination of the strategies* described above. Additional strategies that have been incorporated into psychological treatments include peer counseling, relationship stress management, sexual health information, and group support.<sup>52</sup> A more recent intervention combines distress management techniques like those described above with strategies to promote lifestyle changes such as healthy diet, more frequent exercise, and smoking cessation.<sup>53</sup>

Impact on outcomes. Extensive research has been conducted on the impact of these psychological interventions on patients' anxiety, depression, and quality of life. These studies often compare the new intervention to other types of care (called control groups). Patients in control groups may receive a different psychological treatment or standard medical care without psychological treatment. These studies provide information on whether an intervention reduces distress and, if so, whether that reduction is greater than any change experienced by patients in the control group.

*Cognitive-behavioral therapy (CBT)* has been examined most extensively in research studies. In cancer patients, multiple studies show that CBT is associated with large improvements in depression immediately following the intervention and 6-8 months later.<sup>37,39</sup> Similar results emerge for anxiety and quality of life.<sup>37,39</sup> For emotional distress, CBT has a large impact immediately following the intervention but this improvement diminishes over time.<sup>37,39</sup>

*Problem-solving therapy (PST)* has been examined most in the context of depression and has been found to improve depression, including in older adults.<sup>54-57</sup> In older cancer patients, PST was associated with improvements in depression, anxiety, quality of life, social functioning, and medical outcomes.<sup>58,59</sup> In addition, PST has a similar impact on depression as

other types of psychological treatments. Further, more patients complete PST (i.e., do not drop out of treatment) than other interventions, suggesting more patients are willing and able to complete PST than other psychological treatments.<sup>54,55,60</sup> *Acceptance and Commitment Therapy* has also been shown to be effective and is associated with improvements in emotional distress,<sup>61</sup> quality of life,<sup>61-63</sup> anxiety,<sup>61,63</sup> depression,<sup>61,63</sup> and growth.<sup>62</sup>

*Relaxation training* is associated with improvements in depression, anxiety, emotional distress, and quality of life immediately after the end of treatment. However, these improvements are smaller than changes seen with other interventions and the improvements disappear over time with the exception of anxiety.<sup>37,39</sup> For anxiety, relaxation training continues to have a significant impact 6-8 months following the completion of the intervention.<sup>37,39</sup> *Psychoeducation and Information-only* tend to have less of an impact on anxiety, depression, and distress than other interventions.<sup>37,39</sup>

*Supportive psychotherapy* is often provided to patients in the control condition of research studies as a comparison to other types of psychological care.<sup>64,65</sup> In addition, supportive psychotherapy interventions vary widely in their content.<sup>50</sup> As a result, summarizing the impact of supportive psychotherapy on patients' distress levels across studies can be difficult. However, in research studies, supportive psychotherapy interventions are associated with reductions in anxiety and depression, shorter hospital stays, and improved quality of life in cancer patients.<sup>50,66</sup> Supportive psychotherapy has also been associated with reductions in anxiety and depression in older adults.<sup>49,51</sup> However, it is important to note that supportive therapy often has less of an impact on distress than other interventions like CBT and PST.<sup>49,51,65</sup>

A psychological intervention for cancer patients that incorporates lifestyle changes such as smoking cessation and diet changes is associated with improvements in distress and quality of life.<sup>53,67,68</sup> There is even some evidence that patients who receive this intervention have improved health<sup>68,69</sup> which may account for the lower rates of cancer recurrence and longer survival in these patients than in those who do not receive the intervention.<sup>70,71</sup>

## **Dissemination and Implementation**

The research that we have reviewed to this point indicates that several psychological interventions can reduce distress to varying degrees. However, as previously stated, many older adults with cancer do not have access to these interventions during the course of their cancer care. In other words, dissemination and implementation of these psychological treatments are poor. Dissemination is the active spreading of evidence-based interventions to the target audience while implementation is the process of integrating these interventions into a care setting.<sup>72</sup> Together, dissemination and implementation are the processes of spreading an intervention across healthcare institutions and providing the intervention within particular care settings, increasing patient access to the intervention.

Effective dissemination and implementation (D/I) are key to ensuring that older adults with cancer receive the psychological care they need. However, D/I must consider unique characteristics of older adults. These characteristics include both the challenges associated with aging (changes in physical function and memory, illnesses, changes in relationships) and the strengths of older adults (expertise developed over a lifetime, emotional and social maturity).<sup>73</sup> Identifying the barriers to D/I of effective psychological interventions and developing strategies for D/I that consider the unique characteristics of older adults will improve delivery of these interventions to older adults with cancer and will reduce the significant negative outcomes associated with untreated distress in this population.

## **Models of Dissemination**

Theories describing dissemination highlight components of the process that must be considered to effectively spread information about a new intervention. The *Push-Pull-Infrastructure Model* was recently expanded and applied to the dissemination of cancer research findings to clinical practice.<sup>74</sup> This model distinguishes between providing information about a new intervention to healthcare institutions and providers (Push) and the spreading of

information across institutions and providers through social networks and peer influence (Pull).

Both Push and Pull are necessary for information about a new treatment to spread.

“Push” is driven by the developers and proponents of the intervention and consists of: 1) identifying potential adopters of a new intervention, 2) creating information about the intervention that is tailored for these potential adopters, 3) identifying channels through which to communicate the information (e.g., email, in-person meetings, workshops), and 3) monitoring and evaluating these attempts to reach potential adopters.<sup>74</sup> The goal of “Push” is to create information about the intervention and spread it widely so that potential adopters are aware of the goals and benefits of the new intervention.

Alternatively, “Pull” is a social process that occurs among potential adopters of an intervention. Potential adopters are often uncertain about the benefits of a new intervention. Communication about the intervention within a group of potential adopters (e.g., clinic directors, oncologists, hospital leaders) often includes discussion of the pros and cons of a new intervention. These discussions can reduce uncertainty and increase potential adopters’ willingness to consider and implement the intervention.

Multiple factors must be addressed in order for the process of “Pull” to result in adoption of an intervention. The intervention must address the preferences, concerns, and capacity of potential adopters and be available through channels potential adopters regularly use. In addition, intervention developers must understand the social network of potential adopters including identification of leaders within the network. Providing information about the intervention to leaders within the network can help spread information about and acceptance of the new intervention. Finally, collecting feedback on the intervention from adopters informs modifications to the intervention that are likely to improve acceptance of the intervention by new adopters.<sup>74</sup>

An additional factor that influences the success of the “Push” and “Pull” processes is the infrastructure available to support these processes. This infrastructure is created by identifying

individuals and organizations that can connect researchers to the healthcare system and developing relationships with these “connectors.”<sup>75</sup> These relationships provide a mechanism for sharing information about a new intervention with a healthcare system. In addition, engaging key stakeholders in the development of dissemination strategies increases the likelihood that such strategies are effective and acceptable to the target population. Translating these strategies into structured plans for dissemination promotes fast and efficient spread of information.

### **Models of Implementation**

Few research studies examine the effectiveness of implementation strategies. However, multiple models have been developed to guide implementation efforts.<sup>76</sup> These models have three general goals: 1) to describe the process of implementation (process models), 2) to explain what influences implementation (determinant models), and 3) to evaluate the success of implementation (evaluation models).<sup>77</sup> We provide a brief description and example for each of these types of models below.

#### *Process Models*

Process models describe the steps or phases of implementation and provide practical guidance for implementation.<sup>77</sup> An example of a process model is the Quality Implementation Framework which describes implementation in four phases:<sup>78</sup>

1. Characteristics of the setting. The first phase focuses on the setting (e.g., hospital, clinic) in which implementation is going to occur and includes: a) assessing the needs and resources of the setting; b) determining whether the intervention needs to be adapted to fit the setting; and c) getting buy-in from staff and leadership for implementation of the intervention.
2. Implementation structure. The second phase is focused on creating the team that will lead implementation of the intervention and developing a plan for implementation.

3. Process of implementation. Phase 3 consists of initiating implementation including provision of ongoing assistance and supervision to staff members and assessing strengths and weaknesses of the process and using this information to improve the process as it is occurring.
4. Evaluation of implementation. The final phase of implementation occurs after implementation is complete and includes an examination of successes and failures of the implementation process in order to inform future implementation efforts.

### *Determinant Models*

Determinant models identify the barriers and resources that influence the success of implementation efforts.<sup>77</sup> For example, the Consolidated Framework for Implementation Research (CFIR) describes five factors that can influence the success of an implementation effort.<sup>76</sup>

1. Fit between the intervention and the setting. Intervention characteristics to consider when evaluating the fit with the setting include intervention quality, complexity, and cost. Further, psychological interventions often have core features that cannot be changed without reducing the effectiveness of the intervention. However, components of the intervention that are not central to the core of the intervention should be adapted to fit the needs and resources of the setting.
2. Inner setting. The inner setting consists of characteristics of the institution in which implementation is going to occur. Characteristics such as the age and size of an institution, culture (norms and values) of the institution, openness to change, and resources and support from leadership for implementation can influence the success of an implementation effort.
3. Outer setting. The outer setting includes the economic, political, and social context of an institution and includes characteristics, needs, and resources of the patients;

networks between the target institution and other institutions; and external mandates such as from Medicare and Medicaid.

4. Individuals involved with the intervention and implementation. Change starts with individuals. Characteristics of the individuals involved with the intervention can influence the success of implementation. For example, providers' and staff members' enthusiasm for and knowledge about the intervention, confidence in the team's ability to implement the intervention, and commitment to and attitudes toward the institution can promote effective implementation. However, negative attitudes can undermine implementation efforts.
5. Implementation process. The implementation process includes: a) planning a course of action based on the factors described above, b) engaging appropriate individuals including institutional leaders and "champions" within the institution who will support and drive implementation, c) executing the implementation plan, and d) evaluating progress and making changes as needed. A strong process will facilitate implementation while a poorly developed process is likely to predict implementation failure.

### *Evaluation Models*

Evaluation models provide a framework for assessing the success of various components of the implementation process.<sup>77</sup> The RE-AIM model is a highly used model for evaluating the impact of an intervention on public health.<sup>79</sup> It identifies five factors that capture the implementation of an intervention.

1. Reach. The reach of an intervention is the percentage of the target population of patients who receive the intervention or the participation rate. A high participation rate is an indicator of successful implementation. Reach also considers the characteristics of the patients who receive the intervention. If implementation is successful, the

characteristics of patients who receive the intervention are the same as those of the larger target population.

2. Efficacy. Efficacy refers to the consequences or impact of the intervention and includes both positive and unintended negative consequences for patients. Outcomes of psychological interventions often include depression, anxiety, and quality of life. Additional outcomes to consider include patient satisfaction, behavior change (e.g., diet and exercise), and biological outcomes such as levels of stress hormones and immune system strength.
3. Adoption. Adoption is the number of institutions such as hospitals that implement an intervention and the characteristics of these institutions.
4. Implementation. In the RE-AIM model, implementation refers to the match between how an intervention is actually delivered and the way it was intended to be delivered. If the intervention that is provided differs greatly from the intervention that was tested in research studies, patients may not be receiving a treatment known to be effective.
5. Maintenance. Maintenance refers to the extent to which an intervention is provided over time. In other words, is the intervention offered once or does it become a routine service provided by the institution?

The models described here are not the only models of D/I. However, they are commonly used examples of each type of model and highlight details of the D/I process. These details can be used to inform our discussion of potential barriers to D/I of psychological interventions for older adults with cancer and strategies for improving patient access to these interventions.

### **Barriers to Dissemination and Implementation**

Research on barriers to D/I of psychological interventions generally, and to cancer patients specifically, is limited. However, some information on the barriers to D/I of psychological interventions is available. These barriers can be grouped into various categories:<sup>80</sup> 1) Person factors, 2) Administrative factors, and 3) Environmental factors.

Person factors. Person factors consist of “attitudes, statements, and behaviors of key individuals in the institution” (p. 1619).<sup>80</sup> Person factors from *medical providers* such as physicians and nurses include lack of knowledge about psychological interventions, the perspective that patients’ psychological needs are already met, feeling criticized for not meeting patients’ psychological needs, and forgetting or being too busy to assess patients’ emotional needs and refer them for psychological services.

Person factors from *mental health providers* include disinterest in using evidence-based psychological treatments, an attitude that is exacerbated by stressful work settings,<sup>81</sup> little experience with the intervention; and low confidence in his/her ability to provide the intervention.<sup>82</sup> Mental health providers also report that inadequate staffing, lack of time due to heavy workloads, and increasing administrative responsibilities as additional barriers to implementing new psychological interventions. For mental health providers who are interested in using evidence-based psychological interventions, finding effective training opportunities in these interventions is an additional barrier. Opportunities to obtain instruction on providing evidence-based psychological interventions to cancer patients are limited.<sup>83</sup> Further, available training opportunities tend to use ineffective teaching strategies such as lectures and do not include more effective techniques such as role plays, individualized feedback, and ongoing supervision.<sup>82,83</sup>

However, person factors can also facilitate D/I. Positive attitudes toward psychological interventions including openness to the intervention and mental health providers’ confidence in their ability to use the intervention are associated with greater intent to use the intervention.<sup>84</sup>

Administrative factors. Administrative barriers include concern from institution leaders about the financial implications of providing psychological services (e.g., return on investment), lack of institution funds to support new interventions, and “red tape.”<sup>80,85</sup> Additional barriers include indifference from medical providers and administrators, hospital reorganization, and personnel changes. However, administrative factors can also facilitate D/I of psychological

interventions. Administrators who are open to change and promote a culture of change within the institution can be strong facilitators of D/I of psychological interventions for cancer patients.<sup>83</sup>

Environmental factors. Environmental barriers to D/I of psychological interventions include insufficient resources for therapist time, support staff, space, materials, and marketing. Many institutions rely on general operating funds or philanthropic donations to support psychological care.<sup>86</sup> These funds can be unpredictable and change based on external factors and the economic climate,<sup>80,85</sup> making consistent provision of psychological services difficult. The culture and/or current practices of an institution can also be barriers to D/I.<sup>85</sup> Established practices may be incompatible with the new intervention and familiarity with current practice may reduce motivation to consider and learn new practices.<sup>85</sup> Therefore, the psychological intervention must fit with the mission and needs of the organization.<sup>83</sup> Failure to match the psychological intervention to the barriers and resources of the institution can result in a “mis-fit” that is a barrier to D/I. Finally, practical characteristics of the environment can also be barriers. For example, parking costs can interfere with patients’ willingness and ability to receive psychological care.

## **Conclusions**

This paper provides background information to inform discussion of the barriers to D/I of psychological interventions for older adults with cancer and strategies for improving D/I of these interventions. We have reviewed characteristics of the target patient population (i.e., people 65 years and older with cancer), the types of psychological interventions available and research on their effectiveness, models for D/I, and available information on barriers to the D/I of psychological interventions to cancer patients.

The next step is to get your opinions on the **barriers to and strategies for D/I of psychological interventions to older adults with cancer**. We want to think specifically about the factors that influence older adults with cancer and ways to improve the psychological care of

these patients. While barriers and strategies specific to older adults may apply to patients of other ages, we will be focusing specifically on older adults with cancer.

### **Questions to consider**

At the conference we will be discussing the barriers to and facilitators of D/I of psychological interventions to older adults with cancer. Questions to consider regarding barriers/facilitators include:

1. What makes it difficult for older adults with cancer to get psychological care?
2. What factors associated with being an older adult with cancer make accessing psychological care difficult?
3. What characteristics of the hospital or clinic make accessing psychological care difficult?
4. What characteristics of the hospital or clinic make accessing psychological care easier?

We also want to identify strategies for improving older adult cancer patients' access to psychological care. Questions to consider regarding potential strategies include:

1. Are there ways to increase awareness of psychological interventions in patients, families, providers, and institutions?
2. Are there ways to make psychological interventions more comfortable for and helpful to older adults with cancer?
3. Are there ways to improve the hospital or clinic to make receiving psychological interventions easier for older adults with cancer?

This list of questions is not exhaustive. Other questions and ideas may come to mind. Please bring these ideas to the conference for discussion.

Thank you for reading and considering this information. We greatly appreciate your time and expertise. We look forward to seeing you on October 19, 2016 to discuss these issues further.

## References

1. Deshields T, Zebrack B, Kennedy V. The state of psychosocial services in cancer care in the United States. *Psychooncology*. 2013;22(3):699-703.
2. Deshields T, Kracen A, Nanna S, Kimbro L. Psychosocial staffing at National Comprehensive Cancer Network member institutions: data from leading cancer centers. *Psychooncology*. 2016;25(2):164-169.
3. BrintzenhofeSzoc K, Davis C, Kayser K, et al. Screening for psychosocial distress: a national survey of oncology social workers. *J Psychosoc Oncol*. 2015;33(1):34-47.
4. U.S. Department of Health and Human Services, Administration for Community Living. Administration on Aging, Projected Growth of the Older Population. 2014; Available at: [http://www.aoa.acl.gov/Aging\\_Statistics/future\\_growth/future\\_growth.aspx - age](http://www.aoa.acl.gov/Aging_Statistics/future_growth/future_growth.aspx - age). Accessed September 4, 2016.
5. U.S. Bureau of Census Website. Available at: [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP\\_2015\\_PEPAGESEX&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPAGESEX&prodType=table). Accessed September 11, 2016.
6. National Cancer Institute. SEER Cancer Statistics Review. Available at: <http://seer.cancer.gov/statfacts/html/all.html>. Accessed September 11, 2016
7. Bluethmann SM, Mariotto AB, Rowland JH. Anticipating the "Silver Tsunami": Prevalence Trajectories and Comorbidity Burden among Older Cancer Survivors in the United States. *Cancer epidemiology, biomarkers & prevention*. 2016;25(7):1029-1036.
8. Mohile SG, Fan L, Reeve E, et al. Association of cancer with geriatric syndromes in older Medicare beneficiaries. *J Clin Oncol*. 2011;29(11):1458-1464.
9. Delgado-Guay M, Parsons HA, Li Z, Palmer JL, Bruera E. Symptom distress in advanced cancer patients with anxiety and depression in the palliative care setting. *Support Care Cancer*. 2009;17(5):573-579.
10. Nelson CJ, Balk EM, Roth AJ. Distress, anxiety, depression, and emotional well-being in African-American men with prostate cancer. *Psychooncology*. 2010;19(10):1052-1060.
11. Canoui-Poitrine F, Reinald N, Laurent M, et al. Geriatric assessment findings independently associated with clinical depression in 1092 older patients with cancer: the ELCAPA Cohort Study. *Psychooncology*. 2016;25(1):104-111.
12. Teunissen SC, de Haes HC, Voest EE, de Graeff A. Does age matter in palliative care? *Critical reviews in oncology/hematology*. 2006;60(2):152-158.
13. Horney DJ, Smith HE, McGurk M, et al. Associations between quality of life, coping styles, optimism, and anxiety and depression in pretreatment patients with head and neck cancer. *Head Neck*. 2011;33(1):65-71.
14. Smith EM, Gomm SA, Dickens CM. Assessing the independent contribution to quality of life from anxiety and depression in patients with advanced cancer. *Palliat Med*. 2003;17(6):509-513.
15. Fujii M, Ohno Y, Tokumaru Y, et al. Manifest Anxiety Scale for evaluation of effects of granisetron in chemotherapy with CDDP and 5FU for head and neck cancer. *Support Care Cancer*. 2001;9(5):366-371.
16. Brown LF, Kroenke K. Cancer-related fatigue and its associations with depression and anxiety: A systematic review. *Psychosomatics*. 2009;50(5):440-447.
17. Reddy SK, Parsons HA, Elsayem A, Palmer JL, Bruera E. Characteristics and correlates of dyspnea in patients with advanced cancer. *J Palliat Med*. 2009;12(1):29-36.
18. Salvo N, Zeng L, Zhang L, et al. Frequency of Reporting and Predictive Factors for Anxiety and Depression in Patients with Advanced Cancer. *Clin Oncol (R Coll Radiol)*. 2012; 24(2):139-48.
19. Andrykowski MA. The role of anxiety in the development of anticipatory nausea in cancer chemotherapy: a review and synthesis. *Psychosom Med*. 1990;52(4):458-475.

20. Bender CM, Gentry AL, Brufsky AM, et al. Influence of patient and treatment factors on adherence to adjuvant endocrine therapy in breast cancer. *Oncol Nurs Forum*. 2014;41(3):274-285.
21. Chan CM, Wan Ahmad WA, Md Yusof M, Ho GF, Krupat E. Prevalence and characteristics associated with default of treatment and follow-up in patients with cancer. *Eur J Cancer Care (Engl)*. 2015;24(6):938-944.
22. Schag CA, Heinrich RL. Anxiety in medical situations: Adult cancer patients. *Journal of Clinical Psychology*. 1989;45(1):20-27.
23. Dale W, Hemmerich J, Bylow K, Mohile S, Mullaney M, Stadler WM. Patient anxiety about prostate cancer independently predicts early initiation of androgen deprivation therapy for biochemical cancer recurrence in older men: A prospective cohort study. *J Clin Oncol*. 2009;27(10):1557-1563.
24. Latini DM, Hart SL, Knight SJ, et al. The relationship between anxiety and time to treatment for patients with prostate cancer on surveillance. *The Journal of Urology*. 2007;178(3):826-831.
25. Greer JA, Pirl WF, Park ER, Lynch TJ, Temel JS. Behavioral and psychological predictors of chemotherapy adherence in patients with advanced non-small cell lung cancer. *J Psychosom Res*. 2008;65(6):549-552.
26. Balentine CJ, Hermosillo-Rodriguez J, Robinson CN, Berger DH, Naik AD. Depression is associated with prolonged and complicated recovery following colorectal surgery. *Journal of Gastrointestinal Surgery*. 2011;15(10):1712-1717.
27. Prieto JM, Blanch J, Atala J, et al. Psychiatric morbidity and impact on hospital length of stay among hematologic cancer patients receiving stem-cell transplantation. *J Clin Oncol*. 2002;20(7):1907-1917.
28. Giese-Davis J, Collie K, Rancourt KM, Neri E, Kraemer HC, Spiegel D. Decrease in depression symptoms is associated with longer survival in patients with metastatic breast cancer: a secondary analysis. *J Clin Oncol*. 2011;29(4):413-420.
29. Satin JR, Linden W, Phillips MJ. Depression as a predictor of disease progression and mortality in cancer patients: A meta-analysis. *Cancer*. 2009;115(22):5349-5361.
30. Kadan-Lottick NS, Vanderwerker LC, Block SD, Zhang B, Prigerson HG. Psychiatric disorders and mental health service use in patients with advanced cancer: A report from the coping with cancer study. *Cancer*. 2005;104(12):2872-2881.
31. Azuero C, Allen RS, Kvale E, Azuero A, Parmelee P. Determinants of psychology service utilization in a palliative care outpatient population. *Psychooncology*. 2014;23(6):650-657.
32. Sabir M, Breckman R, Meador R, Wethington E, Reid MC, Pillemer K. The CITRA research-practice consensus-workshop model: exploring a new method of research translation in aging. *The Gerontologist*. 2006;46(6):833-839.
33. Holland J. Personal Communication to Trevino, KM. February 2015.
34. Molton IR, Terrill AL. Overview of persistent pain in older adults. *The American Psychologist*. 2014;69(2):197-207.
35. Nightingale G, Hajjar E, Swartz K, Andrei-Sendecki J, Chapman A. Evaluation of a pharmacist-led medication assessment used to identify prevalence of and associations with polypharmacy and potentially inappropriate medication use among ambulatory senior adults with cancer. *J Clin Oncol*. 2015;33(13):1453-1459.
36. American Psychological Association. Glossary of Terms. 2016; Available at: <http://www.apa.org/research/action/glossary.aspx?tab=16>. Accessed September 3, 2016.
37. Faller H, Schuler M, Richard M, Heckl U, Weis J, Kuffner R. Effects of psycho-oncologic interventions on emotional distress and quality of life in adult patients with cancer: systematic review and meta-analysis. *J Clin Oncol*. 2013;31(6):782-793.

38. Moyer A, Sohl SJ, Knapp-Oliver SK, Schneider S. Characteristics and methodological quality of 25 years of research investigating psychosocial interventions for cancer patients. *Cancer Treatment Reviews*. 2009;35(5):475-484.
39. Osborn RL, Demoncada AC, Feuerstein M. Psychosocial interventions for depression, anxiety, and quality of life in cancer survivors: meta-analyses. *Int J Psychiatry Med*. 2006;36(1):13-34.
40. Hegel MT, Lyons KD, Hull JG, et al. Feasibility study of a randomized controlled trial of a telephone-delivered problem-solving-occupational therapy intervention to reduce participation restrictions in rural breast cancer survivors undergoing chemotherapy. *Psychooncology*. 2010; 20(10): 1092-101.
41. Substance Abuse and Mental Health Services Administration. National registry of evidence-based programs and practices. 2015; Available at: [http://nrepp.samhsa.gov/01\\_landing.aspx](http://nrepp.samhsa.gov/01_landing.aspx). Accessed May 7, 2016.
42. Hayes SC, Strosahl KD, Wilson KG. *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: The Guilford Press; 2003.
43. Hayes SC, Luoma JB, Bond FW, Masuda A, Lillis J. Acceptance and commitment therapy: model, processes and outcomes. *Behav Res Ther*. 2006;44(1):1-25.
44. Hayes SC, Levin ME, Plumb-Villardaga J, Villatte JL, Pistorello J. Acceptance and commitment therapy and contextual behavioral science: Examining the progress of a distinctive model of behavioral and cognitive therapy. *Behav Ther*. 2013;44(2):180-198.
45. Hayes SC, Lillis J. *Acceptance and Commitment Therapy*. Washington, DC: American Psychological Association; 2012.
46. Hayes SC, Strosahl KD, Wilson KG. *Acceptance and Commitment Therapy: An experiential approach of behavior change*. New York: The Guilford Press; 1999.
47. Fawzy FI, Fawzy NW. A structured psychoeducational intervention for cancer patients. *General Hospital Psychiatry*. 1994;16(3):149-192.
48. Akechi T. Psychotherapy for depression among patients with advanced cancer. *Japanese Journal of Clinical Oncology*. 2012;42(12):1113-1119.
49. Ayers CR, Sorrell JT, Thorp SR, Wetherell JL. Evidence-based psychological treatments for late-life anxiety. *Psychology and Aging*. 2007;22(1):8-17.
50. Raingruber B. The effectiveness of psychosocial interventions with cancer patients: an integrative review of the literature (2006-2011). *International Scholarly Research Network-Nursing*. 2011:1-27.
51. Kiosses DN, Leon AC, Arean PA. Psychosocial interventions for late-life major depression: Evidence-based treatments, predictors of treatment outcomes, and moderators of treatment effects. *The Psychiatric Clinics of North America*. 2011;34(2):377-401.
52. Andersen BL. Psychological interventions for cancer patients to enhance the quality of life. *J Consult Clin Psychol*. 1992;60(4):552-568.
53. Andersen BL, Farrar WB, Golden-Kreutz DM, et al. Psychological, behavioral, and immune changes after a psychological intervention: A clinical trial. *J Clin Oncol*. 2004;22(17):3570-3580.
54. Bell AC, D'Zurilla TJ. Problem-solving therapy for depression: A meta-analysis. *Clinical Psychology Review*. 2009;29(4):348-353.
55. Malouff JM, Thorsteinsson EB, Schutte NS. The efficacy of problem solving therapy in reducing mental and physical health problems: A meta-analysis. *Clinical Psychology Review*. 2007;27(1):46-57.
56. Kiosses DN, Arean PA, Teri L, Alexopoulos GS. Home-delivered problem adaptation therapy (PATH) for depressed, cognitively impaired, disabled elders: A preliminary study. *Am J Geriatr Psychiatry*. 2010;18(11):988-998.

57. Alexopoulos GS, Raue PJ, Kiosses DN, et al. Problem-solving therapy and supportive therapy in older adults with major depression and executive dysfunction: Effect on disability. *Archives of General Psychiatry*. 2011;68(1):33-41.
58. Hopko DR, Armento ME, Robertson SM, et al. Brief behavioral activation and problem-solving therapy for depressed breast cancer patients: Randomized trial. *J Consult Clin Psychol*. 2011;79(6):834-849.
59. Nezu AM, Nezu CM, Felgoise SH, McClure KS, Houts PS. Project Genesis: assessing the efficacy of problem-solving therapy for distressed adult cancer patients. *J Consult Clin Psychol*. 2003;71(6):1036-1048.
60. Cuijpers P, van Straten A, Andersson G, van Oppen P. Psychotherapy for depression in adults: A meta-analysis of comparative outcome studies. *Journal of Consulting and Clinical Psychology*. 2008;76(6):909-922.
61. Rost AD, Wilson K, Buchanan E, Hildebrandt MJ, Mutch D. Improving psychological adjustment among late-stage ovarian cancer patients: Examining the role of avoidance in treatment. *Cognitive and Behavioral Practice*. 2012;19(4):508-517.
62. Hawkes AL, Pakenham KI, Chambers SK, Patrao TA, Courneya KS. Effects of a multiple health behavior change intervention for colorectal cancer survivors on psychosocial outcomes and quality of life: A randomized controlled trial. *Annals of Behavioral Medicine*. 2014;48(3): 359-70.
63. Feros DL, Lane L, Ciarrochi J, Blackledge JT. Acceptance and Commitment Therapy (ACT) for improving the lives of cancer patients: A preliminary study. *Psychooncology*. 2013;22(2):459-464.
64. Hunot V, Churchill R, Silva de Lima M, Teixeira V. Psychological therapies for generalised anxiety disorder. *The Cochrane Database of Systematic Reviews*. 2007(1):Cd001848.
65. Huang AX, Delucchi K, Dunn LB, Nelson JC. A systematic review and meta-analysis of psychotherapy for late-life depression. *Am J Geriatr Psychiatry*. 2015;23(3):261-273.
66. Hoon LS, Chi Sally CW, Hong-Gu H. Effect of psychosocial interventions on outcomes of patients with colorectal cancer: a review of the literature. *European Journal of Oncology Nursing*. 2013;17(6):883-891.
67. Brothers BM, Yang HC, Strunk DR, Andersen BL. Cancer patients with major depressive disorder: testing a biobehavioral/cognitive behavior intervention. *J Consult Clin Psychol*. 2011;79(2):253-260.
68. Andersen BL, Farrar WB, Golden-Kreutz D, et al. Distress reduction from a psychological intervention contributes to improved health for cancer patients. *Brain, Behavior, and Immunity*. 2007;21(7):953-961.
69. Andersen BL, Shelby RA, Golden-Kreutz DM. RCT of a psychological intervention for patients with cancer: I. Mechanisms of change. *J Consult Clin Psychol*. 2007;75(6):927-938.
70. Andersen BL, Thornton LM, Shapiro CL, et al. Biobehavioral, immune, and health benefits following recurrence for psychological intervention participants. *Clinical Cancer Research*. 2010;16(12):3270-3278.
71. Andersen BL, Yang HC, Farrar WB, et al. Psychologic intervention improves survival for breast cancer patients: A randomized clinical trial. *Cancer*. 2008;113(12):3450-3458.
72. Rabin BA, Brownson RC, Haire-Joshu D, Kreuter MW, Weaver NL. A glossary for dissemination and implementation research in health. *Journal of Public Health Management and Practice*. 2008;14(2):117-123.
73. Farkas M, Jette AM, Tennstedt S, Haley SM, Quinn V. Knowledge dissemination and utilization in gerontology: an organizing framework. *The Gerontologist*. 2003;43(1):47-56.

74. Dearing JW, Kreuter MW. Designing for diffusion: How can we increase uptake of cancer communication innovations? *Patient Education and Counseling*. 2010;81:S100-S110.
75. Nieva VF, Murphy R, Ridley N, et al. From Science to Service: A Framework for the Transfer of Patient Safety Research into Practice. In: K H, JB B, ES M, et al. *Advances in Patient Safety: From Research to Implementation Volume 2: Concepts and Methodology*. Rockville, MD: Agency for Healthcare Research and Quality (US); 2005.
76. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*. 2009;4(50):1-15.
77. Nilsen P. Making sense of implementation theories, models and frameworks. *Implementation Science*. 2015;10(53):1-13.
78. Meyers DC, Durlak JA, Wandersman A. The quality implementation framework: A synthesis of critical steps in the implementation process. *Am J Community Psychol*. 2012;50(3-4):462-480.
79. Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: The RE-AIM framework. *American Journal of Public Health*. 1999;89(9):1322-1327.
80. Williams KC, Brothers BM, Ryba MM, Andersen BL. Implementing evidence-based psychological treatments for cancer patients. *Psycho-Oncol*. 2015;24:1618-1625.
81. Aarons GA, Glisson C, Green PD, et al. The organizational social context of mental health services and clinician attitudes toward evidence-based practice: A United States national study. *Implementation Science*. 2012;7(56):1-15.
82. Turner KMT, Sanders MR. Dissemination of evidence-based parenting and family support strategies: Learning from the Triple P—Positive Parenting Program system approach. *Aggression and Violent Behavior*. 2006;11(2):176-193.
83. Andersen BL, Dorfman CS. Evidence-based psychosocial treatment in the community: Considerations for dissemination and implementation. *Psycho-Oncol*. 2016;25(5):482-490.
84. Brothers BM, Carpenter KM, Shelby RA, et al. Dissemination of an evidence-based treatment for cancer patients: Training is the necessary first step. *Translational Behavioral Medicine*. 2015;5(1):103-112.
85. Glasgow RE, Emmons KM. How can we increase translation of research into practice? Types of evidence needed. *Annual Review of Public Health*. 2007;28:413-433.
86. Alfano CM, Smith T, de Moor JS, et al. An action plan for translating cancer survivorship research into care. *J Natl Cancer Inst*. 2014;106(11):1-9.