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Lucinda Pfalzer
University of Michigan - Flint

Nicole L. Stout
National Institutes of Health

Shana Harrington
Creighton University

Mary Insana Fisher
University of Dayton, mary.fisher@udayton.edu

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Research Round-up Column: Towards a research agenda for oncology physical therapy*

*Lucinda (Cindy) Pfalzer, PT, PhD, FACSM, FAPTA**, Nicole L. Stout DPT, CLT-LANA, Shana Harrington PT, PhD, SCS Mary I. Fisher PT, PhD, OCS, CLT*

***Editor of **Oncology Rehabilitation** and Emeriti Professor, Physical Therapy Department, University of Michigan-Flint, Flint, MI*

Cancer survivors frequently experience cancer treatment-related functional impairments and disability.[1] While a growing body of evidence supports the effectiveness of rehabilitation interventions for these individuals, there are significant gaps in the existing literature and no interdisciplinary agreement on the priorities for cancer rehabilitation research.[2] In 2016, the Oncology Section revised their strategic plan and set an objective to create an oncology rehabilitation research agenda for the physical therapy profession. In order to achieve this goal, the scope of the agenda, a development and review process, and dissemination plan need to be developed.

In 2016 Lyons et al published the first ever Delphi study to identify research priorities for older adults with cancer.[3] This work is the first of its kind in that it provided expert consensus around research topic areas needed to fill critical gaps in the literature and provided interdisciplinary insight on the needs for cancer rehabilitation research. The authors provided a matrix that prioritizes cancer rehabilitation research topic areas as High, Intermediate, Low based on their findings. Table 1 provides a synopsis of the Lyons et al findings.

While this work specifically targets the population of older adults with cancer, it provides an excellent starting point for the Oncology Section to begin to identify the scope of its agenda. The APTA's revised research agenda also provides a framework for identifying domains of interest along the research and care continuum.[4] This framework can be adapted to highlight oncology-specific domains to inform the Section's work. (Figure 1) Additional guidance on scope can be derived from the *National Institutes of Health Research Plan on Rehabilitation*[*]. Released in 2016 the NIH plan outlines opportunities, needs, and priorities in rehabilitation research.

Table 1. Prioritized Consensus Topics in Cancer Rehabilitation Research (adapted from Lyons et al)

	High Priority	Intermediate Priority	Low Priority
High Consensus	• Epidemiology of functional disability in cancer survivors.	• Barriers to access and utilization of cancer rehabilitation services.	• Aerobic capacity of cancer survivors compared to the population.

[*] https://www.nichd.nih.gov/publications/pubs/Documents/NIH_ResearchPlan_Rehabilitation.pdf#search=NIH_ResearchPlan_Rehabilitation

	• Effects of rehabilitation on cost and quality of care. • Optimal interventions to reduce falls in cancer survivors.	• Accessible models of cancer rehabilitation care. • Implementation of screening and triage for emerging impairments. • Effective interventions to transition rehabilitation care to long term lifestyle change. • Effective care coordination models between oncologic support services. • Effects of multimodal rehabilitation interventions. • Components of a multidimensional screening tool.	• Effect of participation in social roles on QOL and function. • Optimal screening methodology for toxicity-related impairments. • Education and training models for cancer rehabilitation.
Intermediate Consensus	• Rehabilitation intervention impact on overall survival. • Long term functional outcomes of rehabilitation for cancer survivors. • Effective interventions to improve physical and mental well being of cancer survivors. • Effective interventions to reduce disability and increase participation in cancer survivors.		• The role of inflammatory cytokines and exercise on cancer survivors. • The role of physical activity in moderating cancer and age-related changes. • The interaction of comorbidities and their impact on cancer survivors. • The impact of cancer treatment on bone health over time. • Comparison of multidisciplinary care models and

	• Optimal measures of physical performance in cancer survivors. • Models for increasing cross discipline awareness of rehabilitation benefits in the cancer population.		fragmented care models and their impact on outcomes. • Effectiveness of different cancer rehabilitation models on cancer survivors. •
Low Consensus	• Effects of cancer prehabilitation on disease treatment planning. • Appropriate dose of exercise for various cancer populations.		• Interventions to decrease neuropathy in cancer survivors. • Effect of self-management programs for cancer survivors.

The Oncology Rehabilitation Research Agenda development and review process will be led by the Section's Research Committee and will strive to include consultants outside of the Section, including other APTA members. The goal will be to develop a research agenda to support physical therapy interventions. Professionals from other rehabilitation disciplines and patients will be engaged to provide input and comment at various stages of development and review. Efforts will also be made to include input and guidance from external organizational stakeholders including; the American Cancer Society, the National Center for Medical Rehabilitation Research, the American Congress of Rehabilitation Medicine and other groups with interest in cancer rehabilitation.

Input of Section members and members of the APTA's research community will be of critical importance. This input will assure the broad applicability of physical therapist researchers questions across a variety of cancer diagnoses with consideration for the cancer treatment continuum, including late effects, across the varied settings in oncology care, and throughout the various cancer care trajectories from cure to recurrence to end of life.

Efforts to identify the as-is state of cancer-related rehabilitation research should look not only to the published literature, but should include perspective on currently funded, ongoing research both within the US and abroad. Resources such as NIH Research Portfolio On-

line Reporting Tools (RePORTER)†, The National Cancer Institute's (NCI) Grid Enabled Measures initiatives‡, as well as clinical trial alliances such as NCI Community Oncology Research Plan (NCORP)§, NRG Oncology** and The Alliance for Clinical Trials in Oncology†† should all be considered for review. An inventory of survivorship research activities at NCI-designated cancer centers that include rehabilitation and PT services will provide a summary of ongoing or recently completed, peer-reviewed, funded research at the cancer centers. However, a broader inventory of federally funded, state-funded, and private research portfolios may prove more useful in determining the scope and breadth of rehabilitation and PT research in oncology given the past lack of funding for cancer rehabilitation research.

Dissemination efforts should be targeted to the broad group of stakeholders both within and outside of the physical therapy profession. The Oncology Section Research Agenda should guide current and future researchers, especially junior investigators, to enhance the career trajectories of these individuals to address the priorities set forth within the agenda. Wide dissemination of the agenda to a large number of potential funders, federal policy agencies, professional societies, and advocacy organizations with vested interest in cancer survivorship will be essential to the success of carrying out the agenda's intent.

These efforts will take place over the coming year. For those interested in becoming involved with the research agenda initiative, please contact the Oncology Section Research Chair, Shana Harrington PT, PhD at sharring@mailbox.sc.edu

† https://projectreporter.nih.gov/reporter.cfm

‡ https://www.gem-beta.org/Public/Home.aspx
§ https://ncorp.cancer.gov/
** https://www.nrgoncology.org/
†† https://www.allianceforclinicaltrialsinoncology.org/main/

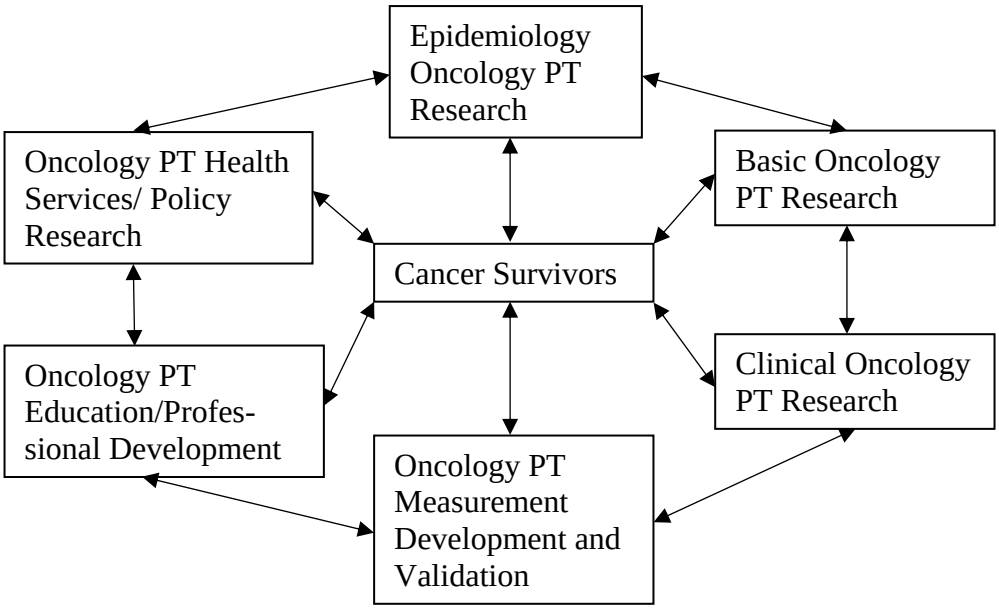

Figure 1. Suggested domains for an oncologic-focused rehabilitation research agenda. (adapted from Goldstein et al)

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3. Lyons KD, Radomski MV, Alfano CM, et al. Delphi Study to Determine Rehabilitation Research Priorities for Older Adults With Cancer. *Arch Phys Med Rehabil.* 2016.
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