Moving Through Cancer: Setting the Agenda to Make Exercise Standard in Oncology Practice

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LAY SUMMARY:

- International evidence-based guidelines support the prescription of exercise for all individuals living with and beyond cancer.
- This article describes the agenda of the newly formed Moving Through Cancer initiative, which has a primary objective of making exercise standard practice in oncology by 2029.

INTRODUCTION

There currently are multiple, international, evidence-based exercise guidelines for individuals living with and beyond cancer. Most recently, the American College of Sports Medicine (ACSM) published guidelines from a roundtable that included 16 major medical or health-oriented organizations from around the world (Table 1).[1-3]

The first 2 words of the guidance follows the US Department of Health and Human Services' *Physical Activity Guidelines for Americans*: avoid inactivity.[4] Beyond this, the recommendations vary according to the outcome of interest. For primary and secondary cancer prevention among adults, the recommendation is to perform 150 to 300 minutes per week of moderate-intensity aerobic activity or 75 to 150 minutes per week of vigorous-intensity aerobic activity, as well as twice-weekly progressive resistance exercise.[1] In addition, for 8 common cancer health-related outcomes or treatment side effects (including fatigue, quality of life, anxiety, depression, physical function, lymphedema, sleep, and bone health), it now is possible to provide a specific prescription with regard to the minimum frequency, intensity, time, and type of exercise that will be safe and effective.[2] Table 2 describes these prescriptions.

The dose of exercise needed to alter the cancer disease process as an outcome is larger than that required to have a meaningful effect on symptoms.[1] There is an increasingly mature evidence base documenting the robust positive effects of exercise on a broad variety of important health outcomes in individuals living with and beyond cancer.[2] As such, there is a growing need to translate this evidence base into practice to increase the likelihood that an individual with cancer is referred to and engaged in appropriate exercise programming during and after treatment.

Research points to gaps in physical activity participation and referral among patients with cancer and cancer survivors. Studies suggest that only 9% of oncology nurses and 19% to 23% of oncology physicians refer patients with cancer to exercise programming.[5-8] Furthermore, an analysis of >9000 cancer survivors from the American Cancer Society's Study of Cancer Survivor-II cohort indicated that between 30% and 47% meet current physical activity guidelines.[5,9] Data from the United Kingdom indicated that approximately 31% of individuals living with and beyond cancer are completely inactive.[10] Clearly, we have work to do to make exercise assessment, advice, referral, and engagement the standard of care in oncology.

Multiple groups are interested in closing the gap between knowledge and practice relevant to exercise oncology. Pergolotti et al outlined a robust agenda in health services research for cancer rehabilitation relevant to exercise oncology.[11] The proposed health services research agenda includes awareness, involving physicians in change, creating value metrics, creating business models, understanding waste in rehabilitation services, using technology, workforce

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TABLE 1. Listing of Medical and Health-Related Organizations That Endorsed or Approved the American College of Sports Medicine Guidelines for Exercise Among Individuals Living With and Beyond Cancer

- American Academy of Physical Medicine and Rehabilitation
- American Cancer Society
- American College of Lifestyle Medicine
- American Physical Therapy Association
- Canadian Society for Exercise Physiology
- Centers for Disease Control and Prevention
- Commission on Accreditation of Rehabilitation Facilities
- Exercise and Sport Science Australia
- *German* Association for Health Related Fitness and Sport Therapy
- Macmillan Cancer Support
- National Cancer Institute
- National Comprehensive Cancer Network
- Royal Dutch Society for Physical Therapy
- Society of Behavioral Medicine
- Sunflower Wellness

development, scaling changes, and developing evaluation methods. Basen-Engquist et al laid out an agenda for translating the existing research regarding lifestyle interventions (eg, exercise, nutrition, and weight management) into practice, including expanding the availability of programming, improving screening and referral to services, improving health care provider capacity to screen and refer patients, the development of the workforce to deliver interventions, the expansion of dissemination and implementation research, and policy changes to support lifestyle interventions.[12] Also relevant to this agenda is the oncology community's focus on strategies to improve proactive and personalized survivorship and supportive care in cancer, most notably through new accreditation standards for survivorship care introduced by the American College of Surgeons Commission on Cancer.[13] Aligning exercise programmatic recommendations with these strategies will improve integration into oncology care.[14-16]

In the wake of the ACSM roundtable, a new initiative has been formed under the umbrella of the ACSM's Exercise Is Medicine initiative. The new initiative, called Moving Through Cancer, has the goal of closing the above described knowledge-to-practice gap (exerciseismedicine.org/movingthroughcancer). Although the agenda for this initiative includes a research component, the primary focus is practice change, as evidenced by our central mission of making exercise standard practice in oncology by 2029.

An international multidisciplinary team, inclusive of expertise in physical therapy, oncology nursing, medical oncology, physical medicine and rehabilitation, exercise science, public health policy, and behavioral science, forms the leadership of the Moving Through Cancer initiative. The team participated in a retreat in the late spring of 2019 and created a strategic plan to achieve the above stated central mission. A summary of the major goals of the Moving Through Cancer strategic plan is provided in Table 3. What follows in this report are detailed objectives across 5 priority areas that will facilitate a multipronged strategy to achieve our mission. The priority areas identified by the team include: 1) workforce enhancement; 2) program development; 3) research and evaluation; 4) stakeholder awareness, empowerment, and engagement; and 5) policy, funding, and sustainability. These priority areas address all relevant stakeholder groups.

For the purpose of the Moving Through Cancer initiative, "stakeholders" are defined as all those who could have a possible connection to or interest in exercise, rehabilitation, and/or oncology (eg, health care professionals, exercise and rehabilitation professionals, patients, survivors, caregivers, public and private insurers, legislators, regulators, and multiple levels of government).

Strategic Priorities to Make Exercise Standard in Oncology Practice

WORKFORCE ENHANCEMENT

Ensure that all stakeholders have knowledge of and access to appropriately trained professionals to enable all individuals living with and beyond cancer to reach their optimal health, quality of life, and functional goals.

There are 2 primary focus areas within this strategy: 1) workforce development to prepare exercise professionals with knowledge and competency in oncology; and 2) elevated awareness among the health care professional workforce regarding how to best prescribe and support patients to access appropriate exercise programs.

Workforce development for exercise and rehabilitation professionals starts with the need to integrate oncology content into the curriculum of the degree programs that train clinical exercise physiologists and physical therapists, including the need to build the cross-disciplinary core knowledge around the concepts of cancer epidemiology, cancer biology and treatments, behavioral science, and the necessary requisite knowledge to plan and execute safe and effective exercise interventions for this population. Education regarding the best methods of communication between those who will deliver exercise (exercise or rehabilitation professions) and the oncology team are needed to establish pragmatic referral pathways. Toward this goal, we propose to undertake a complete assessment of the current

TABLE 2. Overview of Exercise Guidelines for Individuals Living With and Beyond Cancer

Outcome	Aerobic Exercise Prescription	Resistance Exercise Prescription	Combined Aerobic and Resistance Exercise Program Beneficial?
Primary or secondary cancer prevention	75 min/wk of vigorous intensity OR 150-300 min/wk of moderate intensity	Twice weekly resistance exercise	Yes
Fatigue	30 min of moderate intensity 3 times per wk	Twice weekly	Yes
Pain	30 min of moderate intensity 3 times per wk	Twice weekly	Yes
Quality of life	30 min of moderate intensity 3 times per wk	Twice weekly	Yes
Physical function	30 min of moderate intensity 3 times per wk	Twice weekly	Yes
Depression	30 min of moderate intensity 3 times per wk	Not applicable	No
Anxiety	30 min of moderate intensity 3 times per wk	Note applicable	No
Sleep	30 min of moderate intensity 3 times per wk	Not applicable	No
Bone health	Not applicable	Twice weekly	No
Breast cancer–related lymphedema	Not applicable	Twice weekly	No

TABLE 3. Timeline for Major Goals of the Moving Through Cancer Initiative

2020
- Development of a service-costing template for all programs to be made freely available on the Moving Through Cancer website (exerciseismedicine.org/movingthroughcancer)
- Develop marketing materials for an awareness campaign for exercise oncology directed toward patients, caregivers, and health care professionals
- Assess availability of cancer exercise and rehabilitation programming across the United States

2021
- Carry out awareness campaign for exercise oncology
- Assess current landscape of the available exercise oncology workforce in the United States
- Conduct a review of the policy landscape that affects exercise and rehabilitation within the setting of oncology
- Identify 2 national brand gyms to take on training of staff to work with individuals living with and beyond cancer

2022
- Approximately 25% of patients who are newly diagnosed with cancer will recall being advised to exercise by their oncologist
- Measure improvement in level of knowledge as well as level of engagement among patients and oncology providers

2023
- Develop a policy action plan for exercise oncology
- Host an influencer conference of researchers and oncology providers to align agendas and determine how to leverage the strengths of each organizational and individual partner toward the goal of coordinated, forward progress

2024
- Create and disseminate training for health professionals to teach the value of exercise, knowledge of where to refer, and use of pathways to make an appropriate (supervised/unsupervised) referral

2025
- Approximately 80% of exercise and rehabilitation professionals will have specialized training to work with individuals living with and beyond cancer
- Ensure that there is at least 1 cancer exercise or rehabilitation program in each city in the United States with a population of 50,000

exercise and rehabilitation oncology professional workforce landscape by the end of 2021 so that we may identify the current gaps and begin to plan for future expansion. Curriculum integration, continuing professional development and/or education, and clinical mentorship pathways need to be developed to build and maintain knowledge and skills for the exercise oncology workforce. Professionals ideally will be able to develop a career pathway that is self-guided based on their background, interests, and setting.

As an example, a national guidance for prehabilitation (and rehabilitation) for the management and support of individuals with cancer was developed in the United Kingdom.[17] The guidance states that patients be screened and assessed using validated tools and then triaged to 1 of 3 interventions: 1) universal; 2) targeted; or 3) specialist. This allows qualified personal trainers and clinical exercise specialists with the CanRehab qualification (developed by A.C.; http://canrehab.co.uk/fitness-workshops/) to work with those referred to universal and targeted interventions in a community setting. In the United Kingdom, the Cancer Prehabilitation Consortium was established after the publication of principles and guidelines in cancer prehabilitation.[17] This prehabilitation consortium is working with registered and unregistered professional groups (eg, the Chartered Institute for the Management of Sport and Physical Activity, the British Association of Sport and Exercise Sciences, the Association of Chartered Physiotherapists in Oncology and Palliative Care, and CanRehab) to define a competency and training framework for a multidisciplinary approach to prehabilitation. This provides an opportunity for the progression of this framework into later time frames of the cancer control continuum.

Another key to the development of the exercise and rehabilitation oncology workforce is a method by which these professionals will access ongoing continuing

education programs. Developing and maintaining high-quality educational content and disseminating this content across various mediums is essential to achieving broad reach across the exercise and rehabilitation oncology community and instilling confidence for clinical referrals to these professionals. Dissemination opportunities include the development of validated and quality-assured online programming, mentorship programs, train-the-trainer initiatives, worksite training programs through gym and fitness facilities, and specialized clinical residency programs for health care professionals. Online programming is particularly likely to enable rural exercise and rehabilitation oncology providers and those with limited time or funding for conference or continuing education opportunities to gain knowledge and skills.

Skills to support behavioral changes must be embedded within cross-disciplinary competency development for all professionals working with individuals living with or beyond cancer. Guidelines from the National Institute for Health and Care Excellence in the United Kingdom established how this might be achieved. Such courses should be evidence based and delivered by individuals with appropriate knowledge and expertise. It also is suggested that refresher sessions be provided to improve skills and maintain quality of interactions.[18]

A model for cross-disciplinary core competency development that the cancer exercise community could use is derived from the field of cancer genetics,[19,20] which collectively developed and agreed upon a core set of competencies for all disciplines that expands to enable specialty education tracks. Not only would this interdisciplinary approach facilitate appropriate knowledge and skills, it could serve to unite the exercise oncology field across disciplines.[21] We propose that cancer epidemiology, cancer biology, behavioral science, and exercise physiology are core elements of cross-disciplinary training for exercise oncology.

In addition to the training of exercise and rehabilitation oncology professionals, it is equally important to elevate the knowledge of oncology care providers (including, but not limited to, physicians, physician assistants, nurse practitioners, nurses, dietitians, allied health professionals, psychologists, and social workers) regarding the strength of the evidence concerning the many benefits of exercise and the effectiveness of evidence-based exercise interventions. This could help to improve awareness of the demonstrated evidence of the safety and efficacy of exercise interventions across many types and stages of cancer and phases of the care continuum. Health care professionals need to be able to quickly screen using appropriate screening questionnaires and/or refer to health care providers (eg, physiatrists, physical therapists, or clinical exercise physiologists) who can assess basic functional ability using simple performance status measures to triage and refer patients to appropriate exercise oncology programs.[22] Knowledge building and awareness of exercise program components and evidence-based indications across the oncology workforce are needed to help facilitate comprehensive care.

One example is oncology nurses, who have extensive contact with patients and should play a key role in exercise promotion. Unfortunately, most do not have the knowledge, time, or confidence to promote exercise or an understanding of the evidence-based benefits of exercise. Common barriers to exercise promotion by nurses include a misperception that patients are too frail, fear of "blaming" patients and a loss of connection, and a perception that the strength of the evidence linking exercise with primary and secondary cancer prevention is not definitive.[23] There is a clear opportunity for the Moving Through Cancer initiative (and other interested parties) to partner with oncology nursing organizations to educate nurses regarding the safety and effectiveness of exercise for their patients and to build confidence to discuss and refer patients to exercise programs.

The goals of the Moving Through Cancer initiative include the development and delivery of continuing education training for health professionals regarding the value of exercise and the use of clinical pathways to make timely and appropriate referrals by 2022. This could take the form of changing academic program expectations for undergraduate and graduate education and continuing education or certificate programs for currently credentialed professionals. More generally, the Moving Through Cancer initiative has set a goal to increase the workforce capable of providing exercise oncology programming by 2025 so that approximately 80% of all exercise professionals have some basic education in cancer and cancer survivorship. We are actively working to develop partnerships with broad groups of stakeholders to ensure that this goal is reached.

PROGRAM DEVELOPMENT

Ensure that exercise and rehabilitation programs are available to maintain or restore all individuals living with and beyond cancer to their optimal health, quality of life, and function.

Cancer exercise programs are, in essence, specialized versions of general exercise programs. An array of such

programs already exist and a near-term approach to broad dissemination is to develop and share common exercise and rehabilitation program components across fitness facility partners. For example, a partnership with the International Health, Racquet and Sportsclub Association (IHRSA) could lead to the development of online training for fitness professionals at 9200 commercial fitness facilities within and outside the United States. This would greatly expand the reach of exercise oncology programming that is appropriate for low-risk patients. A national cancer exercise program, LIVESTRONG at the YMCA, has reached at least 62,044 survivors and 245 of the 840 Y associations (29%).[24] Expansion of the community-based LIVESTRONG at the YMCA program to include all YMCAs across the United States would allow exponentially more cancer survivors in the United States to have the opportunity to benefit from this popular and effective program.[25] Another example is the Move More UK program, which currently is offered in Scotland and Northern Ireland and is a physical activity behavior change program for individuals affected by cancer that is standardized in terms of brand, referral pathway, workforce training, and content.

As our first act toward program development, we have developed an international registry of exercise oncology programs that can be found at exerciseismedicine.org/movingthroughcancer. In addition, the Moving Through Cancer initiative has 4 goals for program expansion in the United States. First, we have a goal of identifying all the cancer exercise and rehabilitation programming across the United States in 2020. There are most likely deficits in the geographic availability of programs and a lack of awareness of some programs that currently exist.[26] Second, we seek to identify 2 national brand fitness facilities that are willing and able to take on staff training and program development for cancer exercise programs. Individuals living with and beyond cancer will require a variety of people, places, and programs to meet their exercise needs. Some will have the skills, confidence, and physical ability to exercise at home, unsupervised. For others, a structured supervised community setting will facilitate adopting and maintaining exercise during and after treatment. As a third goal toward ensuring more exercise programming is available to those living with and beyond cancer, we seek to partner with those who are interested in developing virtual programming because this has the potential to reach populations previously untouched by in-person programming. Finally, we aim to ensure that, by 2025, there is at least 1 cancer exercise or rehabilitation program in every metropolitan area in the United States with a population of at least 50,000.

Program development and implementation also will be enhanced by careful consideration of available and developing assessment and exercise referral mechanisms in oncology clinical workflows. Integrating guideline-concordant thresholds facilitates rapid and efficient referrals to exercise and rehabilitation programs, particularly if the programs have been developed in consideration of both the ACSM exercise guidelines and standards of common accreditation organizations (such as the American College of Surgeons).

IMPACT of Coronavirus Disease 2019 on Programs

In 2020, the health of a person with a newly diagnosed cancer faces an additional threat posed by a significantly elevated risk of contracting coronavirus disease 2019 (COVID-19).[27] The COVID-19 pandemic has led to the introduction of a significant reprioritization of clinical care. Patients with cancer have been impacted significantly, with delayed diagnoses, delayed and modified treatment plans, and the postponement of supportive services.[28] Moreover, once infected with COVID-19, individuals with cancer are experiencing significantly worse clinical outcomes, including hospitalization, intensive care unit admissions, and death.[27] Depending on local restrictions and recommendations for social distancing, many cancer survivors are prevented from exercising in the community and participating in in-person exercise programs. In this "new normal," there will be a greater need for virtual clinics to deliver exercise interventions to maintain and improve mental and physical health in patients with cancer who are following social distancing guidance. An example of one such service recently developed in the United Kingdom is SafeFit (www.safefit.org.uk).

RESEARCH AND EVALUATION

Evaluate service gaps and study new models of care and novel approaches to care delivery to optimize workforce, program development, referral, triage, and the sustainability of exercise and rehabilitation programs for individuals living with and beyond cancer. Ensure that all aspects of exercise and rehabilitation programs for those living with and beyond cancer are routinely and centrally evaluated using an agreed upon standard and meaningful metrics to identify and disseminate best practices. Continue to evaluate the efficacy of exercise interventions to clarify timing and dose considerations.

Research will be needed regarding a variety of delivery models for exercise and rehabilitation programming, including evaluations of the cost and cost-effectiveness of

each approach.[29,30] In particular, there is a need to evaluate whether exercise training during cancer treatment may alter health care use in a way that would be cost-neutral or cost-saving and preferable to providers and patients. To the best of our knowledge, the effects of early exercise on downstream health care costs in patients with cancer currently are unknown and will require investigation through health services and economic research models. Furthermore, although there already is a robust evidence base underlying the current international guidelines for exercise after a cancer diagnosis, there continues to be value in research regarding the optimal time to initiate exercise and exercise dose to maximize health, quality of life, and function; to minimize treatment-related side effects; and to understand how these interventions impact downstream health services (use and cost)[11] and survival endpoints. Funders should take these needs into consideration when designing their research budgets and priorities.

STAKEHOLDER AWARENESS, EMPOWERMENT, AND ENGAGEMENT

Ensure everyone living with and beyond cancer is aware of the benefits of physical activity and exercise and is enabled to choose to become and stay active at a level that is appropriate for them. Ensure that all relevant stakeholders are aware of, endorse, and facilitate engagement in appropriate exercise and rehabilitation programming for all individuals living with and beyond cancer.

Awareness by patients will be facilitated by the development of marketing materials and the planning and execution of a communications campaign directed at patients and other stakeholders. This communications campaign could include print media, social media, and educational efforts with relevant professional organizations (eg, the Oncology Nursing Society, American Society of Clinical Oncology, Society of Surgical Oncology, and American Society for Radiation Oncology). We will use marketing approaches to make all stakeholders aware of the benefits of and need for appropriate exercise and rehabilitative programming for individuals living with and beyond cancer. As noted earlier, the Moving Through Cancer initiative seeks funding for this and hopes to accomplish this in 2020. To evaluate this effort, systems need to be developed to measure levels of engagement, which will be optimized by embedding behavior change support in available programs. Engagement will be defined by attendance at clinical and community-based programs, social media traffic, website traffic for the initiative and similar activities around the world, continuing education credit activity, access of online resources, referrals to programming, the development or expansion of new programs, and other activities that support improved access to and financing of interventions. Systems also are needed to evaluate levels of knowledge and engagement and/or implementation regarding exercise and rehabilitation for all stakeholders.

To improve awareness for all stakeholders, we have developed a website that includes a registry of exercise oncology programs from around the world (exerciseismedicine.org/movingthroughcancer). In addition, marketing approaches may be a viable manner of improving stakeholder awareness of the benefits of, need for, and initiatives to support appropriate exercise and rehabilitation programming for those living with and beyond cancer. The success of these efforts can be documented through the production of Moving Through Cancer–branded consumer-focused videos, as well as tracking educational postings, social media, and editorial pieces. In general, we seek to find ways to help patients be more engaged in their own health during and after cancer therapy through the medium of exercise.[31] The Moving Through Cancer initiative seeks to develop marketing materials to carry out a marketing and advertisement campaign by the end of 2020. A goal is to measure improvements in the levels of knowledge and engagement of patients and oncology providers by 2022. More specifically, we have a goal that, by 2022, approximately 25% of patients newly diagnosed with cancer who are surveyed will recall being advised to exercise by their oncologist.

POLICY, FUNDING, AND SUSTAINABILITY

Advocate for policies to ensure that all individuals living with and beyond cancer have access to affordable exercise and rehabilitation programming. Sufficient and sustainable funding is needed to achieve this goal. All aspects of exercise and rehabilitative programming will be financially sustainable.

The first task in impacting policy is to identify the levers for policy change at all levels of government within the United States as well as within organizations that are relevant to cancer and survivorship care. To accomplish this, a review will be undertaken of policies and other social determinants and structural factors that affect exercise and rehabilitation in the setting of oncology by 2021.[15] Understanding whether access to programming is equitable across social determinants such as race, ethnicity, age, geography, and economic status will be a priority. Measuring the current state of

access to services will allow us to set the baseline from which we strive to improve access. Key barriers and facilitators to access to be evaluated may include services covered, eligible providers, social determinants, provider qualifications, patient access barriers for both public and private insurance plans, and measures of use (patient satisfaction, patient needs assessment, patient engagement, caregiver burden).[31] Armed with data from this review and having identified policy levers that are important to address, meetings with the appropriate public policy and nongovernment decision makers will elucidate what would be needed to affect the necessary changes. A gap analysis of policies at all National Cancer Institute–designated cancer centers regarding the provision of exercise and rehabilitation programming also could assist in setting the baseline from which we improve. The health and fitness industry, community organizations, health care payers, and employers also can be queried regarding policies for providing access to exercise and rehabilitation services for individuals living with and beyond cancer. By 2023, an action plan will be developed based on these data and feedback from meetings with key stakeholders. One aspect of this action plan could be advocacy for quality metrics regarding exercise and rehabilitation, such as through the American Society of Clinical Oncology's Quality Oncology Practice Initiative. Another approach would be the development of Merit-based Incentive Payment System metrics because there already are measures that incentivize falls prevention and other functional assessments and management pathways for chronic conditions. One could map how existing measures align with exercise and rehabilitation for oncology and propose new measures that incentivize comprehensive survivorship care, inclusive of exercise interventions.

All this work will require the development of a multistakeholder coalition for policy advocacy. In addition to advocating for improved access to exercise and rehabilitation programs and services for individuals living with and beyond cancer, this coalition could advocate for funding for exercise oncology research and programming from multiple possible sources (eg, government, philanthropy, not-for-profit organizations, or industry). Policy changes also could be addressed through partnerships with state-level cancer control programs.

Data gathering is needed to discern the cost and cost-effectiveness of exercise and rehabilitation programs and how patients, payers, providers, and corporations pay for them. In the United Kingdom, a standard evaluation tool was developed and used by all providers of the Move More UK exercise programs to evaluate their effectiveness to positively change physical activity behavior, quality of life, self-efficacy, and fatigue levels. This enabled calculation of the cost per improvement in these 4 outcome measures and quality-adjusted life-years.[32] Of particular interest is the percentage of funding for cancer care that is allocated to exercise and rehabilitative programming. It also is of interest to elucidate the funding needs of exercise oncology programming by clarifying the costs to run programs and funding provided by various sources (eg, government, philanthropy, nonprofit, or industry). It is acknowledged that short-term funding sources may not be sustainable in the long term. Data regarding the cost and return on investment of the largest programs that exist in the United States, such as the Livestrong at the YMCA program, could be of particular help in program dissemination. To better understand costing of these programs, a service-costing template for all programs will be developed and made freely available on the Moving Through Cancer website (exerciseismedicine.org/movingthroughcancer) by the end of 2020.

In addition, a patient survey to ask about ability to pay for exercise programming during and after cancer treatment could be helpful in discerning the need for sustainable programming that is affordable for patients. We will ensure that the survey will include patients from a variety of social circumstances (eg, race, ethnicity, geography, and economic) to increase the representativeness of our findings. Publications and the publicity of these data will highlight and help to address any disparities. In addition, research is needed regarding how to sustain programming once initial charitable or grant funding for program development has ended, including considering the potential for revenue generation via billable professionals. Funding entities are asked to consider these issues when deciding on their priorities.

In addition, as noted previously, advocacy for exercise oncology research and program funding should be part of a policy agenda and could be an effective method for making forward progress toward program dissemination and implementation.

Next Steps and Conclusions

All the work proposed herein will be facilitated by crucial partnerships. Over the next 18 months, the primary focus of the Moving Through Cancer initiative will be on an awareness campaign, as well as assessing the current landscape for programming, the workforce, and public policy. We seek partners in carrying out this work. We propose to host an influencer conference of

researchers and oncology providers by 2023 to align agendas and determine how to leverage the strengths of each organizational and individual partner toward the goal of coordinated forward progress. Furthermore, we aim to partner with the appropriate standard-setting and accreditation bodies in oncology (eg, the National Accreditation Program for Breast Centers, American College of Surgeons Commission on Cancer, and National Comprehensive Cancer Network) to develop agreed-upon standards with which to assess program quality and the preparedness of exercise and rehabilitation professionals to work in the oncology arena.

The overall mission of the Moving Through Cancer initiative is to ensure that all individuals living with and beyond cancer are assessed, advised, referred to, and supported to engage in appropriate exercise and rehabilitation programming as the standard of care. Our bold goal is to achieve this by 2029. Progress to date includes the formation of a website with resources for patients and oncology providers (exerciseismedicine.org/movingthroughcancer), an international registry of programs (available on the same website), and the formation of the ambitious agenda outlined in this article.

When considering the recommendations of other experts for making exercise, rehabilitation, and lifestyle interventions a greater part of cancer care,[11,12] there is agreement on the need to focus on workforce development, public policy, and research. This broad agreement lends credence to efforts in these areas. Collaborative efforts will be strongest in these areas of agreement.

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Nicole L. Stout has received personal fees from MedBridge Inc and Survivorship Solutions LLC for work performed outside of the current study. Melissa Maitin-Shepard has acted as a paid consultant for the American Institute for Cancer Research for work performed as part of the current study. Anna L. Schwartz has received grants from the National Institute on Minority Health and Health Disparities of the National Institutes of Health (U54MD012388), the Southwest Health Equity Research Collaboration, and the Health Resources and Services Administration (1 U4EHP39475-01-00 NEPQRSET) and other support from Northern Arizona University for work performed as part of the current study. Jeffrey A. Meyerhardt has acted as a paid member of the Scientific Advisory Board for COTA Healthcare, has received personal fees from Taiho Pharmaceutical, and has acted as a paid member of the Advisory Board for Ignyta for work performed outside of the current study. The other authors made no disclosures.

AUTHOR CONTRIBUTIONS

Conception or design of the study or the acquisition, analysis, or interpretation of the data for the work: **Kathryn H. Schmitz**, **Nicole L. Stout**, **Melissa Maitin-Shepard**, **Anna Campbell**, **Anna L. Schwartz**, **Chloe Grimmett**, **Jeffrey A. Meyerhardt**, and **Jonas M. Sokolof**. Drafting of the article or revising it critically for important intellectual content and final approval of the version to be published: **Kathryn H. Schmitz**, **Nicole L. Stout**, **Melissa Maitin-Shepard**, **Anna Campbell**, **Anna L. Schwartz**, **Chloe Grimmett**, **Jeffrey A. Meyerhardt**, and **Jonas M. Sokolof**. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved: **Kathryn H. Schmitz**.

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