

# Oncology Rehabilitation Provision and Practice Patterns across Canada

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## ABSTRACT

**Purpose:** Rehabilitation is increasingly recognized as an important therapeutic intervention for people with cancer. The main objective of this study was to explore the current practice pattern and provision of oncology rehabilitation in Canada. **Methods:** A descriptive cross-sectional online survey was administered to Canadian facilities offering cancer treatment and/or listed as offering rehabilitation services during or after cancer treatment (cancer centres, rehabilitation hospitals, community centres, and private clinics). **Results:** Of the 116 sites contacted, 62 completed the questionnaire, 20 of which reported having an oncology rehabilitation programme. The majority of respondents indicated that they are not meeting their clients' rehabilitation needs. Rehabilitation programmes were provided by multidisciplinary health care teams, the majority of which included a physiotherapist. Funding and availability of resources were identified as the main barriers to the development of oncology rehabilitation programmes. **Conclusions:** Formal oncology rehabilitation programmes appear to be scarce, despite growing evidence that rehabilitation offers benefits across the cancer survivorship continuum.

**Key Words:** Canada; cancer; medical oncology; physical therapist; rehabilitation.

## RÉSUMÉ

**Objectif :** La réadaptation est de plus en plus reconnue comme une intervention thérapeutique importante pour les personnes aux prises avec un cancer. Le principal objectif de cette étude était d'analyser les modèles de pratique actuels pour la prestation de réadaptation en oncologie au Canada. **Méthode :** Une enquête descriptive transversale a été réalisée en ligne auprès d'établissements canadiens offrant des traitements contre le cancer ou répertoriés comme établissant des services de réadaptation aux personnes souffrant de cancer, au cours ou après leur traitement (centres d'oncologie, hôpitaux de réadaptation, centres de santé communautaires et cliniques privées). **Résultats :** Des 116 établissements contactés, 62 ont rempli le questionnaire et de ce nombre, 20 ont dit être dotés d'un programme de réadaptation en oncologie. La majorité des répondants ont dit ne pas répondre entièrement aux besoins de leur clientèle en matière de réadaptation. Les programmes de réadaptation y sont offerts par des équipes multidisciplinaires qui comportent un physiothérapeute dans la majorité des cas. Le financement et la disponibilité des ressources ont été déterminés comme étant les principaux obstacles au développement de réels programmes de réadaptation en oncologie. **Conclusions :** Les programmes officiels de réadaptation en oncologie semblent rares, malgré un nombre croissant de preuves que ce type d'intervention offre des avantages tangibles dans le cadre du continuum de survie au cancer.

The incidence of cancer is on the rise in Canada: there were 157,194 new cases in 2006, and this number is estimated to increase to 186,400 in 2012.<sup>1</sup> At the same time, the mortality rate associated with many types of cancer is decreasing, so there are growing numbers of survivors.<sup>1</sup> Those who survive cancer often face additional challenges as they deal with the long-term consequences of cancer and its treatment.<sup>2</sup> The most common symptoms during and after treatment include fatigue, pain, depressed mood, and disturbed sleep.<sup>3,4</sup> Other symptoms include anxiety, decreased activity participation, nausea, peripheral neuropathies, ataxia, muscle

atrophy, proximal muscle weakness, and osteoporosis.<sup>2,3,5</sup> These signs and symptoms can often be remediated with rehabilitation.<sup>6-8</sup>

Several studies have identified the importance of a multidisciplinary approach to rehabilitation for this patient population.<sup>7,9-12</sup> Combining various components of rehabilitation to provide a comprehensive programme may play an important role in the health and wellness of people diagnosed with cancer.<sup>12-19</sup> In particular, aerobic exercise, strength training,<sup>3,20-22</sup> and education<sup>23,24</sup> on health-promoting behaviours<sup>7,9-12</sup> have been shown to ameliorate the symptoms of cancer and its treatment.

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The medical community, people living with cancer, and cancer survivors have recognized a need for rehabilitation services.<sup>5,11,25–28</sup> Yet many people with cancer are unable to access the required services.<sup>5,27</sup> Systemic and personal barriers related to establishing oncology rehabilitation programmes have been identified. Systemic barriers include reduced government funding, lack of resources<sup>8,29</sup> and lack of education and training opportunities for physicians regarding the benefits of rehabilitation, as a result of which oncology patients are not referred to rehabilitation professionals for symptom management and treatment as a standard practice.<sup>26,28</sup> Personal barriers to participation in an oncology rehabilitation programme include problems with adherence due to fatigue and other symptoms, as well as families' concerns about energy levels.<sup>27,28</sup> While studies have been conducted in the United Kingdom and the United States, an exhaustive literature search failed to reveal any Canadian studies examining the disconnect between the need for symptom management and the role of rehabilitation.<sup>8,29</sup>

In the United States, people with cancer are usually referred to general rehabilitation departments within hospitals,<sup>9</sup> as the number of established oncology rehabilitation programmes is limited. Most existing programmes operate within large cancer hospitals or in centres led by a health professional specializing in oncology.<sup>9</sup> The extent of oncology rehabilitation services for people who are currently receiving or have undergone cancer treatment in Canada is not currently known.

Our primary aim is to explore the current practice pattern and provision of oncology rehabilitation in Canada. The population of interest is adults living in the community who are currently receiving or have undergone cancer treatment in Canada. The specific objectives are (1) to explore the extent of oncology rehabilitation provision in Canada; (2) to characterize the nature of the programmes including types of patients and providers; and (3) to describe the perceived barriers to and facilitators of oncology rehabilitation service provision for individuals with cancer as identified by health care providers. Box 1 gives definitions of terms used in this study.

## METHODS

### Study design

Ethics approval was obtained from the Health Sciences Research Ethics Board at the University of Toronto. A nationwide online survey was administered to facilities offering cancer treatment and/or listed as offering rehabilitation services to individuals currently receiving or who have undergone cancer treatment. All facilities that met the inclusion criteria, including cancer centres, rehabilitation hospitals, community centres, and private clinics within Canada where some form of cancer care

### Box 1 Definitions of Common Terms

Oncology rehabilitation	A direct rehabilitation service intervention for oncology patients
Community-based setting	Any cancer rehabilitation programme delivered outside of a hospital setting
Cancer centre	Any facility where a form of cancer treatment (including but not limited to radiation, chemotherapy and surgery) is provided
Private clinic	Health care facility devoted to the care of outpatients
Community centre	Public facility geared toward any form of rehabilitation for cancer patients (i.e., cardiovascular/strengthening programmes, wellness programmes etc)

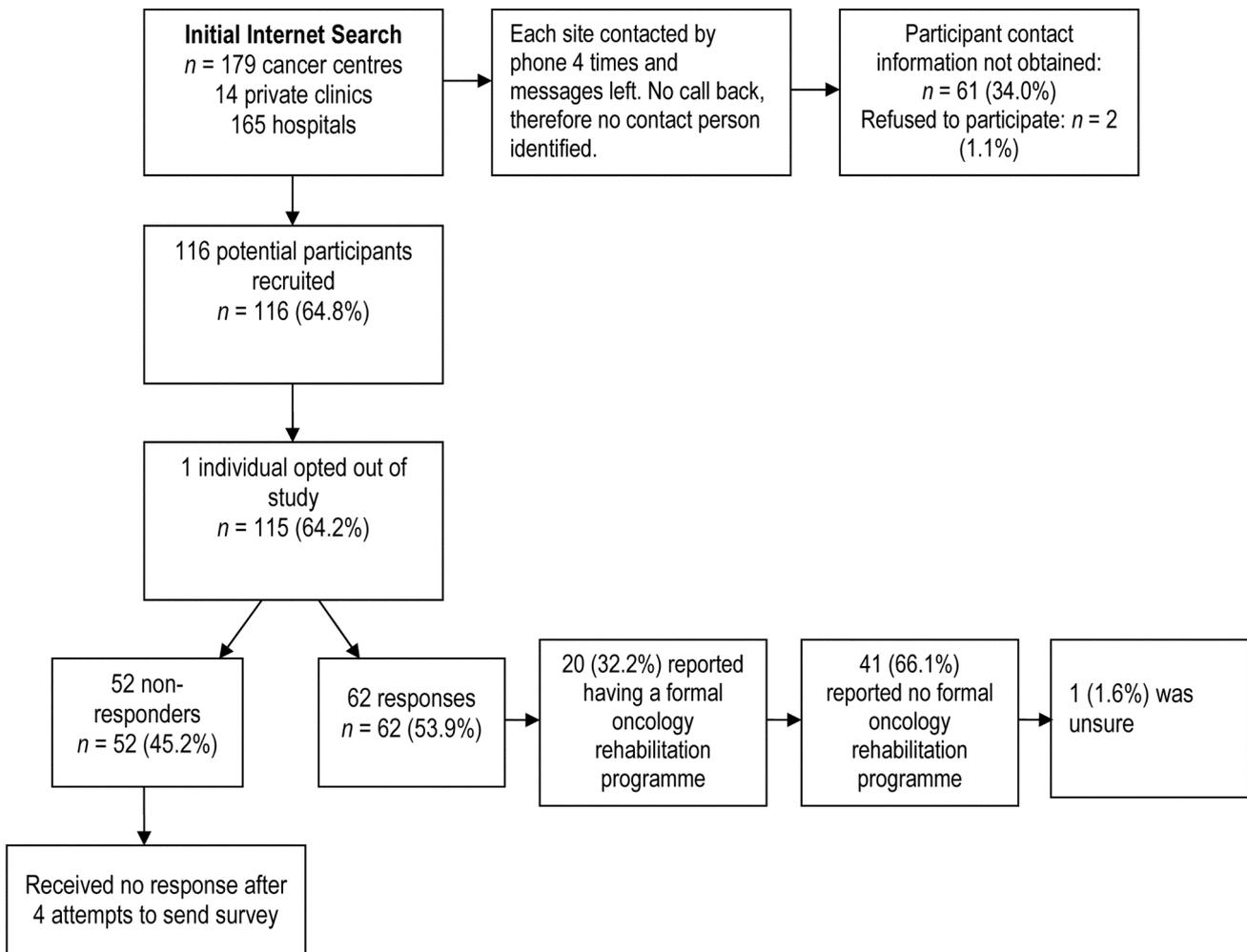
or treatment is provided, were eligible for inclusion in the study. Facilities providing solely paediatric, acute in-patient, or home-care rehabilitation services were excluded.

We identified potential participants using a multi-pronged approach. First, we conducted a nationwide online search to identify facilities that provide cancer care, using the keywords *cancer centre* OR *cancer rehabilitation* OR *cancer care* OR *cancer society*. The Canadian Cancer Society, Cancer Care Ontario, and major cancer centres across the country were contacted. To identify potential participants, we made initial telephone contact with each site to (1) determine whether the facility met the inclusion criteria and, if so, (2) identify the individual most responsible for providing rehabilitation for oncology patients and obtain his or her contact information. We contacted each site up to four times to obtain this contact information.

Individuals who provided contact information were sent a copy of the survey between March 2011 and June 2011 (see Appendix online). We used a modified Dillman approach to improve response rate.<sup>30</sup> First, we sent an information e-mail detailing the study's objectives, definitions of terms used, and the importance of the study, with a link to the questionnaire. One week later, a reminder was sent to encourage response; this e-mail included a thank-you note expressing appreciation for responses received. Final contact was made 2 weeks later, indicating the final day to complete the questionnaire and encouraging response. A final thank-you was sent after the survey closed in June 2011.

### Survey instrument

We developed a 27-item questionnaire by adapting a survey from a previous study with a similar methodological approach, which characterized pulmonary rehabilitation programmes in Canada,<sup>31</sup> and pilot-tested it with two health care professionals who have expertise in the



**Figure 1** Recruitment of responders.

field of oncology rehabilitation to ensure clarity, feasibility, and comprehensiveness. As a result of pilot-testing feedback, final modifications were made to improve the clarity of the questions. The online version was generated and administered using SurveyMonkey.

#### Data analysis

We used a double data-entry process to ensure accuracy. Descriptive statistics (mean, median, range, frequencies, and proportions) were calculated to explore the nature and extent of oncology rehabilitation provided across Canada and to describe the barriers to and facilitators of rehabilitation service provision. All statistical analyses were carried out using the Statistical Package for the Social Sciences, version 16.0 (SPSS Inc., Chicago, IL).

## RESULTS

### Response rate and respondent characteristics

Of the 179 sites initially identified (including hospitals, private clinics, community-based programmes such

as Wellspring, and hospital-run YMCA programmes), we were able to obtain contact information for 116 (see Figure 1). Of these, 62 (53.4%) completed the survey; 20 reported having a formal oncology rehabilitation programme, 41 stated that no such programme existed at their site, and one respondent was unsure. Respondents were located in every province except Nova Scotia and British Columbia. Among both sites with oncology rehabilitation programmes and those without, the majority of respondents were from Ontario (10 sites with a programme, 22 without); the next highest response rate was in Quebec (5 with a programme, 1 without; see Figures 2 and 3). The survey was completed primarily by physiotherapists ( $n = 39$ ); other respondents were directors or managers ( $n = 14$ ), occupational therapists ( $n = 2$ ), doctors or nurses ( $n = 6$ ), and, in one case, a research scientist.

Of the 20 programmes identified, 15 were located in a metropolis (population  $>500,000$ ) and the other 5 in an urban centre (population  $>50,000$  but  $<500,000$ ). Among sites without an oncology rehabilitation pro-



**Figure 2** National distribution of oncology treatment centres.

gramme, responses were evenly distributed across metropolitan areas, urban centres, and towns (population <50,000).

#### **Nature and components of oncology rehabilitation programmes**

Most of the oncology rehabilitation programmes we identified were in a hospital outpatient setting ( $n = 10$ ) or a community-based setting (4 community facilities, 1 private clinic). One home-based programme and two in-patient non-acute rehabilitation hospital programmes were identified; two programmes did not indicate their setting.

Programmes ranged in size from 7 to 100 patients enrolled at any given week (mean 57.4 [SD 41.8], median 50.0) and in duration from 8 to 30 weeks (15.2 [SD 8.8], 12.0); session frequency ranged from 1 to 5 times per week. Of the nine programmes that responded to this question, four did not give enrolment or frequency averages, stating that both varied according to patient needs. For example, the largest oncology rehabilitation programme (serving 100 clients) stated that duration ranged

from a single visit to more than a year of treatment. Only one programme reported that all patients follow a similar programme.

Of the 10 sites that provided information about programme components, 8 include aerobic exercise, psychosocial therapy, and education in their rehabilitation programme; strength training is used in 3 programmes. Components such as lymphedema management and speech and language therapy were also identified when the programme serves a specific oncology population, such as people with breast or oral cancer. Of the 8 programmes that responded to the question about a follow-up component, 5 indicated that one existed; the frequency of follow-up varied, ranging from every 1 to every 6 months.

Education was reported as a component of 8 programmes, all of which include education around symptom management and recreation and activity. Other topics covered include exercise, relaxation, activities of daily living, pain management, sleep, and complementary therapies (including massage, acupuncture, yoga,



**Figure 3** National distribution of available oncology rehabilitation programmes.

and meditation). The teaching method reported by all sites was 1:1 instruction.

The Numeric Pain Rating Scale, Manual Muscle Testing, and goniometry are the most frequently used outcome measures, identified by 7 of the 9 programmes that reported on outcome measures. Population-specific programmes, such as those identified for breast cancer, incorporate unique outcome measures for their population, such as limb circumference.

All rehabilitation programmes are provided by a multidisciplinary health care team (see Table 1). A physiotherapist is included in each of the 17 programmes that responded to this question and occupies a leadership role in 4 of the 7 programmes that identified a team leader. Dieticians and nurses are included in 59% of programmes ( $n = 10$ ), and an occupational therapist and social worker are included in 53% ( $n = 9$ ). (For a full list of the professionals involved in providing oncology rehabilitation, see Table 1.) Both the smallest rehabilitation programme identified (serving 8 clients and delivered in an in-patient rehabilitation setting) and the

largest (delivered in an outpatient hospital setting) indicated involvement from many different professionals, with 8 and 9 team members respectively.

Of the 20 programmes identified, 2 are specific to breast cancer and 6 reported seeing mostly people with breast cancer (>50%). Another 6 programmes reported treating multiple diagnoses, and the remaining 6 were unable to characterize their patients by diagnosis. Seven of the 20 programmes treat patients in both the treatment and remission stages of the disease.

A referral source was identified by 10 programmes, 9 of which reported referrals by an oncologist. Other referring health care professionals identified included general practitioners, physiatrists, surgeons, nurses, social workers, and physiotherapists. Self-referrals were reported by 6 programmes.

Government funding was reported as a main source of financial support by six of the seven programmes that listed funding sources; three were funded in part by charitable and private donations.

**Table 1** Health Care Professional Involvement in Oncology Rehabilitation Programmes\*

Health care professional	Participation in programme	
	% of programmes	No. of programmes
Physiotherapist	100.0	17
Dietician	58.8	10
Nurse	58.8	10
Occupational therapist	52.9	9
Social worker	52.9	9
Psychologist	47.1	8
Oncologist	35.3	6
General practitioner	35.3	6
Pharmacist	35.3	6
Kinesiologist	35.3	6
Exercise physiologist	29.4	5
Speech language pathologist	23.5	4
Internist	17.6	3
Physiatrist	11.8	2
Spiritual care	6.3	1

\*Only 17 sites provided a response for this question.

### Barriers to oncology rehabilitation

Of the 14 sites that commented on whether their oncology rehabilitation programme meets patients' needs in terms of access to care and availability of resources, only 4 agreed that their programme does so; the other 10 reported needing increased funding and greater access to space, equipment, and health care professionals to better serve their clients.

Among respondents who reported having no oncology rehabilitation programme available, 31 identified potential barriers (see Table 2). Most commonly cited were lack of funding (71%,  $n = 22$ ) and access to space and equipment (61%,  $n = 19$ ). Of sites not able to offer a formal oncology rehabilitation programme, 55% reported that oncology patients are referred to non-specific rehabilitation programmes such as outpatient orthopaedic services or private clinics.

### DISCUSSION

This is the first Canadian survey to identify and characterize the provision of oncology rehabilitation for people living with the symptoms of cancer and its treatment. Only 20 sites across the country were identified as offering some form of oncology rehabilitation programme, which indicates that established programmes are scarce despite growing evidence of the benefits of rehabilitation across the cancer survivorship continuum. According to survey respondents, the main barriers to the development of oncology rehabilitation programmes are lack of funding and lack of resources. In addition, the majority of programmes (15/20) are located within large urban centres, and programmes are concentrated in southern Ontario and Quebec. Given the growing population of cancer survivors across Canada, physiotherapists have a critical role to play in advocating for the development of oncology rehabilitation programmes to address this apparent gap in service provision.

Research and clinical interest in oncology rehabilitation have increased considerably over the past decade, such that exercise therapy is now recognized as an important therapeutic intervention for patients with cancer, both during and after adjuvant therapy.<sup>32</sup> Setting appropriate rehabilitation goals and ensuring access to a variety of services can increase functional autonomy for people living with cancer and for those in remission.<sup>6</sup> For people managing the signs and symptoms of cancer and/or its treatment, oncology rehabilitation can play a key role at any point in the health care continuum.<sup>7,9</sup> Like studies conducted in the United States, however, our survey revealed only a small number of established oncology rehabilitation programmes, most operating within large hospitals and cancer centres.<sup>9</sup> It is unlikely that current services (i.e., the 20 oncology rehabilitation programmes identified in our survey) will be able to meet the needs and demands of the estimated 186,400 Canadians who will be diagnosed with cancer in 2012<sup>1</sup> as well as those already living with the disease. This Canadian survey also revealed that, as in the United States, many patients are referred to non-oncology-specific rehabilitation programmes, such as outpatient musculoskeletal clinics, when they need rehabilitative care.<sup>9</sup>

**Table 2** Identified Potential Barriers for Lack of Oncology Rehabilitation Programme ( $n = 31$ )

Potential Reason	% of respondents	No. of respondents	No response
Funding	71.0	22	9
Availability of resources/space	61.3	19	12
Lack of health care professionals with experience in oncology	25.8	8	23
Small oncology clientele	25.8	8	23
Lack of support from administration	23.3	7	24
Other*	3.0	1	30

\*Lack of evidence to support oncology rehabilitation.

Respondents from existing Canadian oncology rehabilitation programmes identified clients' lack of access as an important concern. We experienced this difficulty first-hand in our attempt to identify oncology rehabilitation programmes to participate in this study; cancer survivors may have similar difficulties in finding services to meet their rehabilitation needs. Although not identified as a barrier in the current study, a lack of awareness of the benefits of oncology rehabilitation may be compounding the difficulty that patients encounter in accessing disease-specific programmes.<sup>26,28</sup>

All the oncology rehabilitation programmes identified in this survey adopt a multimodal approach to oncology rehabilitation. The majority of programmes include education and aerobic exercise, but only one-third of respondents identified strength training as part of the rehabilitation programme, despite evidence supporting its effectiveness in symptom management.<sup>3,20-22</sup> Moreover, none of the programmes reported including self-management as a component of oncology rehabilitation, despite the evidence that supports its use as a strategy to facilitate health-promoting behaviours.<sup>7,9-12</sup> These findings underscore the need to increase awareness of the potential benefits of oncology rehabilitation in addressing the unique needs of people across the cancer continuum.

All Canadian oncology rehabilitation programmes identified in this study are delivered by a multidisciplinary health care team.<sup>7,9-12</sup> Notably, physiotherapists appear to be involved in providing and delivering most of the oncology rehabilitation programmes available, in addition to speech language pathologists, dietitians, nurses, occupational therapists, and social workers. Working within a multidisciplinary oncology rehabilitation team, physiotherapists can contribute their expertise in delivering aerobic exercise, strength training, and education,<sup>3,20,21</sup> as well as specialized techniques such as lymphatic drainage.

Lack of funding and insufficient resources were identified as the main barriers to the development of oncology rehabilitation programmes, consistent with barriers identified in the United States and the United Kingdom.<sup>8,29</sup> Canadians living with cancer and health care professionals involved with cancer care have recognized a need for oncology rehabilitation services,<sup>5,11,25-28</sup> yet our survey results suggest that current services are limited in scope and availability.

## LIMITATIONS

Our study has several limitations. First, for the purposes of this study "oncology rehabilitation" was defined as any programme or service developed and/or administered by a physiotherapist, occupational therapist, and/or speech language pathologist for individuals with cancer; as a result, programmes run by other health care professionals, such as exercise physiologists and kinesiologists, and not developed by one of the above-named

professions may have been excluded. Second, we used provincial cancer-care Web sites and Internet searches to identify cancer centres throughout Canada; as there is no established database of such centres, it is difficult to determine whether we obtained an accurate representation of facilities that treat cancer across Canada. There may have been a bias toward centres in Ontario because of our greater familiarity with the system in that province.

Finally, despite obtaining contact information for sites in all 10 provinces, and making multiple attempts at contact, we were not able to obtain responses from two provinces; as a result, our findings may not be representative of all Canadian oncology rehabilitation programmes. Missing data due to item non-response was also a common problem in this survey. The generalizability of our findings is therefore limited by our low overall response rate from the identified centres, as well as by lack of response from centres in two provinces and the high level of missing data.

## RECOMMENDATIONS FOR FUTURE DIRECTIONS

Despite these limitations, our study provides a foundation for future work exploring the availability and importance of rehabilitation in the field of oncology. Future directions should include advocacy to increase services for this population, given the small number of structured programmes identified. Future research is needed to determine strategies to increase service provision for people with cancer living in rural communities, which may include the use of tele-health services and home exercise programmes. Advocacy to increase rehabilitation services for this population is warranted, given the available evidence on its effectiveness.

### Recommendations related to future surveys

Using a telephone survey as well as a hard copy of the questionnaire, to help increase response rates and ensure that all survey questions are answered appropriately, may also be important considerations for future work. Shortening the survey might also help to increase response rates.

### Recommendations for future research

Since our study focused only on programmes developed and/or administered by a physiotherapist, occupational therapist, and/or speech language pathologist, future research should include programmes run by other professions, to obtain a better representation of the availability of oncology rehabilitation programmes in Canada. Finally, given that almost 26% of respondents noted that lack of health care professionals with experience in oncology was a barrier to service delivery, research to identify education needs in this field is also needed.

Our study also highlights the need to establish a database of oncology rehabilitation programmes in Canada

to facilitate access to these services for individuals with cancer.

## CONCLUSION

This survey to characterize oncology rehabilitation across Canada revealed a scarcity of programmes to address the needs of the growing number of people living with cancer and cancer survivors. Not only are programmes not widely available, they are also likely limited in scope. Physiotherapists play an integral role as part of multidisciplinary teams providing oncology rehabilitation; therefore, they also have an essential role to play in establishing new programmes as well as expanding on existing programmes. Given the established benefits of oncology rehabilitation,<sup>6–8</sup> our findings indicate a need for further development of programmes to ultimately improve quality of life for Canadians diagnosed with cancer.

## KEY MESSAGES

### What is already known on this topic

The incidence of cancer is on the rise in Canada. At the same time, the mortality rate associated with many types of cancer is decreasing. People who survive cancer often face additional challenges as they deal with the long-term consequences of cancer and its treatment. Oncology rehabilitation has the potential to improve functional status regardless of the stage of cancer diagnosis. The medical community, people living with cancer, and cancer survivors have recognized a need for rehabilitation services, yet many people with cancer are unable to access the services they need. The extent of oncology rehabilitation service provision for individuals who are currently receiving or have undergone cancer treatment in Canada is not currently known.

### What this study adds

This is the first Canadian survey to identify and characterize the provision of oncology rehabilitation for people living with the symptoms of cancer and its treatment. Across Canada, only 20 sites were identified as offering some form of oncology rehabilitation programme. This indicates that established programmes are scarce despite the growing evidence of the benefits of rehabilitation across the cancer survivorship continuum.

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**APPENDIX: SURVEY INSTRUMENT**

**ONCOLOGY REHABILITATION PROGRAM QUESTIONNAIRE**

<b>Organization:</b>	
<b>Address:</b>	
Street	
City	
Province	
Postal Code	
<b>Tel:</b>	
<b>Email:</b>	

- Si vous préférez répondre au questionnaire en français, veuillez contacter Dr. Dina Brooks au numéro suivant: 416-978-1739 ou dina.brooks@utoronto.ca

**Part A: Introductory questions**

For the purposes of this study oncology rehabilitation will be defined as any program or service developed and/or administered by a Physical Therapist, Occupational Therapist and/or Speech Language Pathologist. This study will focus on rehabilitation that occurs in an outpatient/rehabilitation hospital, community centre or a private clinic for treatment of individuals with signs and symptoms associated with a diagnosis of cancer or its treatment.

1. What is your job title? \_\_\_\_\_
2. What type of area is your facility located in? (Please choose the most applicable option)
  - Metropolis (>500,000 people)
  - Urban Centre (>50,000 people)
  - Town (<50,000 people)
3. **LIST** below other centres in your city/region that offer oncology rehabilitation programs/services.
   
\_\_\_\_\_
   
\_\_\_\_\_
   
\_\_\_\_\_
4. Do you refer patients to the above oncology rehabilitation service/program(s)?
  - Yes
  - No
  - Don't know

5. Does your facility offer an oncology rehabilitation program?
  - Yes
  - No (if no, please refer to section I, **question 27**)

**Part B: Program type, length and size**

The following section involves answering questions concerned with the setting, patient enrollment, length/frequency and duration of the oncology rehabilitation program/service.

6. What type of setting is the oncology rehabilitation program/service offered in?

	Yes	No	Don't know	Comments
a) Hospital—Outpatient				
b) Rehabilitation hospital—Inpatient				
c) Rehabilitation hospital—Outpatient				
c) Private clinic				
d) Home program				
e) Community centre				
f) Other (specify):				

7. For each oncology rehabilitation program/service please answer the following questions:

	Type of Rehabilitation Program/Services					
	Outpatient hospital	Rehabilitation hospital	Private clinic	Home program	Community centre	Other
a) How many patients can be enrolled at a given time?						
b) What is the length of the program? (# of weeks)						
c) What is the frequency of the program? (# of days/week)						
d) What is the duration of the sessions? (hours/day)						

- e) If you are unable to complete the table please provide details below.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Part C: Type of patients**

The following section involves answering questions concerned with the patients' diagnosis and stage of illness.

8. What percentages of patients receiving oncology rehabilitation services/programs have been diagnosed with the following types of cancer? Please enter 'dk' if don't know or N/A if not applicable.

Type of Rehabilitation Program/Services					
	Outpatient hospital	Rehabilitation hospital	Private clinic	Home program	Community centre
a) Breast					
b) Lung					
c) Colorectal					
d) Prostate					
e) Non-Hodgkins lymphoma					
f) Cervical					
g) Kidney					
h) Oral					
i) Leukemia					
j) Pancreatic					
k) Other:					

Other:

\_\_\_\_\_

\_\_\_\_\_

9. What stage of illness are the majority of your oncology patients in? (Choose **one** that best applies)

- Currently receiving treatment (i.e., chemotherapy, radiation)
- Remission
- Both groups are enlisted into the program
- Don't know
- Other (specify): \_\_\_\_\_

**Part D: Components of the rehabilitation program**

The following section involves answering questions concerned with the components of the oncology rehabilitation program/service.

10. Please check the statement that best describes your oncology rehabilitation program/service.

- All patients follow a similar program/service
- Each program/service is individualized to the needs of each patient (specify): \_\_\_\_\_
- Other (specify): \_\_\_\_\_

11. What components are included in your oncology rehabilitation program/service?

**For each box** please indicate 'Y' for YES, 'N' for NO and 'dk' for DON'T KNOW to describe the components that are involved in your oncology rehabilitation program/service.

Type of rehabilitation program/services	Outpatient hospital	Rehabilitation hospital	Private clinic	Home program	Community centre	Other
Aerobic exercises						
a) Walking						
b) Cycling						
c) Treadmill						
d) Other (specify):						
Strength training						
e) Upper extremity						
f) Lower extremity						
g) Core						
h) Balance training						
i) Training in ADL						
j) Self-management						
k) Energy conservation						
l) Nutritional support						
m) Cognitive rehabilitation training						
n) Speech and language therapy						
o) Psychosocial support						
p) Relaxation training						
q) Body awareness						
r) Stress management						
s) Flexibility						
t) Range of motion						
u) Manual therapy						
v) Education						
w) Other (specify):						

12. **For each of the** following topics please check whether they are covered in educational sessions as part of your oncology rehabilitation program/service  
**\*\* If education is NOT a component of the program, please proceed to question 14.**

	Yes	No	Don't know
a) Aerobic exercise			
b) Nutrition			
c) Strengthening exercises			
d) Relaxation			
e) Activities of daily living			
f) Medications			
g) Energy conservation			
h) Sexuality			
i) Pain management			
j) Travel			
k) Sleep			
l) Advanced care planning			
m) Complementary therapies (i.e., massage, acupuncture, yoga, meditation)			
n) Management of symptoms			
o) Family education			
p) Recreation/Activity			
q) Pathobiology of cancer			
r) Other (specify):			
s) Other (specify):			

13. Which teaching method is used to deliver the education component of your oncology rehabilitation program/service? Please check **one**.
- Didactic
  - One to one instruction
  - Group Discussion
  - Other (specify): \_\_\_\_\_
14. Are family members invited to participate in any components in your oncology rehabilitation program?
- Yes
  - No
  - Don't know

**Part E: Health care professional involvement**

The following section involves answering questions concerned with the health care professionals involved in the oncology rehabilitation program/services.

15. Which health care professionals are involved in rehabilitation for oncology patients?  
**For each box** please indicate 'Y' for YES, 'N' for NO and 'dk' DON'T KNOW.

	Type of Program/Services					
	Outpatient hospital	Rehabilitation hospital	Private clinic	Home program	Community centre	Other
a) Dietician						
b) Exercise Physiologist						
c) General Practitioner						
d) Internist						
e) Kinesiologist						
f) Oncologist						
g) Nurse						
h) Occupational Therapist						
i) Pharmacist						
j) Physiatrist						
k) Physical therapist						
l) Psychologist						
m) Speech language pathologist						
n) Social worker						
o) Other (specify):						

16. Which of the health care professionals is the Director/Manager of rehabilitation for oncology patients?  
 \_\_\_\_\_
17. **For each of the** following health care professionals please check who refers patients to the oncology rehabilitation program/service?

	Yes	No	Don't Know
a) Oncologist			
b) General Practitioner			
c) Physiatrist			
d) Self-referral			
e) Other (specify):			

**Part F: Outcome measures**

The following section involves answering questions concerned with outcome measures used in your oncology rehabilitation program/service.

18. **For each of the following** outcome measures please check if they are used in your oncology rehabilitation program/service?

(For "other" please specify in the space provided)

Outcome Measure	Yes	No	Don't Know
Pain			
a) VAS			
b) Numeric rating			
c) McGill Pain Questionnaire			
d) Other:			
Cardiovascular capacity			
e) Oximetry during exercise			
f) Exercise Stress Test (cycle or treadmill)			
g) Other:			
Measures of function			
h) Timed Up-and-Go (TUG)			
i) Functional Independence Measure (FIM)			
j) Karnofsky Performance Scale			
k) Barthel Index			
l) Berg Balance			
m) Community Balance and Mobility Scale (CB&M)			
n) Other:			
Measures of strength and range of motion			
o) Manual Muscle Tests (MMT)			
p) Goniometry			
q) Other:			
Functional exercise capacity			
r) 6 MWT			
s) 12 MWT			
t) Shuttle Walk Test			
u) Self-Paced Walk Test			
v) Other:			
Health related quality of life measures			
w) SF-36			
x) St. George Questionnaire			
y) European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30)			
z) Other:			
Measures of fatigue			
aa) Piper Fatigue Scale			
bb) Fatigue Assessment Questionnaire			
cc) Other:			

**Part G: Follow-up**

The following section involves answering questions concerned with patient follow-up and discharge.

19. Does your program have a follow-up component? (Please check one)

- Yes

Please specify method of follow-up:

\_\_\_\_\_

- No (If **NO**, please proceed to **question 21**)

20. What is the frequency of follow-up after discharge from the oncology rehabilitation program/service?

- Monthly
- Bi-monthly
- Graduated discharge
- Every 3 months
- every 6 months
- Don't know
- Other (please specify): \_\_\_\_\_

**Part H: Program participation**

The following section involves answering questions concerned with completion rate, waiting lists, and funding.

21. On average, what percent of patients complete the oncology rehabilitation program/service from start to finish?

- 0–20%
- 20–40%
- 40–60%
- 60–80%
- 80–100%

22. **For each of the following** please indicate the reasons why patients do not complete your oncology rehabilitation program/service.

	Yes	No	Don't Know
a) Acute illness			
b) Side effects of treatment of cancer or drug therapy			
c) Cost			
d) Musculoskeletal injury			
e) Transportation issues			
f) Dissatisfaction with program			
g) Other (please specify):			

23. Are patients permitted to enroll in your oncology rehabilitation program/service more than once?

- Yes
- a) If YES what percent of patients are re-admitted?
  - 0–20%
  - 20–40%
  - 40–60%
  - 60–80%
  - 80–100%
- No
- Don't know

24. Is there a waiting list for your oncology rehabilitation program/service?

- Yes
- a) Approximately how many patients are on your waiting list at any given time? \_\_\_\_\_
- b) Specify the length of waiting time: \_\_\_\_\_ (# of weeks)
- No
- Don't know

25. **For each of the following** please indicate how the oncology rehabilitation program/service is funded?

	Yes	No	Don't Know
a) Government			
b) Self-funded			
c) Extended health care plan			
d) Workplace insurance			
e) Other:			

**Part I: Barriers to rehabilitation programs**

26. a) Is the oncology rehabilitation program/service meeting the needs of your patients?

- Yes (skip to **question 28**)
- No
- Don't know

b) If **NO** how would you like the oncology rehabilitation program/service changed?

	Yes	No	Don't Know
a) Increase accessibility to patients			
b) More funding			
c) Greater access to health care professionals			
d) Greater frequency of visits			
e) Greater access to space and equipment			
f) Other (specify):			

27. If you do **NOT** have an oncology rehabilitation program, please indicate possible reasons.

	Yes	No	Don't Know
a) Availability of resources/space			
b) Funding			
c) Lack of rehabilitation professionals with experience in oncology			
d) Small oncology patient population			
e) Lack of support from administration			
f) Lack of evidence to support oncology rehabilitation			
g) Patients being referred to rehabilitation programs that are not oncology specific			
h) Other (specify):			

28. When the research is completed, would you like us to send you a summary of the findings?

- Yes
- No