



Oncology Telerehabilitation: A Race to Access and Outcomes

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The COVID-19 pandemic has brought challenges to our globe and impacted the lives of many. Patients with cancer not only are fighting a possibly deadly disease but are now also placed in a high-risk group regarding the effect of COVID-19. Unfortunately, a global pandemic does not halt the effect of cancer and the treatment of our patients; therefore, we need innovative rehabilitative care to continue to provide necessary assessments and interventions. Although the use of telehealth in oncology care is relatively new, the COVID-19 pandemic has made this method of delivering physical therapy and other supportive services an imminent need on an unprecedentedly broad scale.

While literature is just only emerging regarding the outcomes of telerehabilitation (TR) in oncology populations, we can learn from randomized controlled trials in people with advanced-stage cancers, cerebrovascular accidents (CVAs), and orthopedic conditions. In one study, TR in people with advanced-stage cancers improved function and decreased hospital length of stay.¹ Randomized controlled trials in people with osteoarthritis and CVAs demonstrate similar functional outcomes between TR and in-person visits.^{2,3} A TR program for veterans living in rural areas improved functional status, provided high patient satisfaction, and saved cost for travel reimbursements.⁴ In addition, TR interventions have demonstrated health care cost savings by decreasing downstream hospitalizations.⁵

Given the rapid rise of Covid-19, we were challenged to bring a new TR program to our patients in a swift, efficient manner to optimize access, safety, acceptance, quality, and outcomes. Our recent experience at our

Midwest pediatric hospital, within a large health care system, developing a new TR service delivery model required the following components: a team-based approach, health industry communication, attention to standardized processes, clinical training, and program evaluation planning. This approach brought quality services to our patients within a 2-week turnaround, with rehabilitation therapists completing 1021 visits in the first month of outpatient pediatric TR. Regarding our oncology population specifically, oncology-trained physical therapists (PTs) and occupational therapists (OTs) provided 48 TR visits in the first month, which accounted for 30% of our outpatient oncology rehabilitative care. Speech-language pathologists (SLPs) also provided care through TR in our system. Patient selection for TR services occurred through a multitude of avenues, including oncology provider referral, family request, and therapist recommendation. Generally, if a patient was receiving oncology services in person at the cancer clinic, then he or she could receive physical and occupational therapy services in clinic. If visits were minimized secondary to the pandemic, and therapy frequency was above clinic visit frequency, TR was recommended. Additional reasons for TR included optimizing a child's participation if clinic visits were challenging, reducing time away from family isolated at home, and providing long-term follow-up rehabilitation services. Diagnoses varied widely from children with blood cancers such as acute lymphoblastic leukemia to children with central nervous system tumors. While we continue to learn rapidly in this crisis environment, we want to share what we believe are critical factors of the comprehensive service development approach that allowed us to be successful.

Structurally, a team-based approach using leaders from rehabilitation administration, ambulatory administration, clinical rehabilitation, information technology, health information management, billing, risk management, and scheduling is necessary to meet this epic task. Frequent team calls to overcome process barriers specific to rehabilitation are vital. For example, the PT on the team may challenge the hospital system's initial telehealth computer

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setup by using laptops or wall-mounted cameras to allow mobility or camera angles to demonstrate exercises. Risk management, therapist leaders, and administration should weigh in on safety in TR processes through the necessity of caregiver presence, risk of falls during balance training, or risk of aspiration during feeding therapy. Identifying the unique needs of rehabilitation in the telehealth sphere is important; however, simultaneously standardizing processes across the hospital departments such as patient registration, consents, scheduling, and documentation requirements also ease the transition to this mode of care for both the provider and the clients. Providing easy access to care and decreasing the stress of receiving care are vital at all times, but during a pandemic the slight frustration caused by inefficient patient access may cease the interest completely.

TR program development also requires communication with entities such as the state department of health and insurance providers. For instance, while the COVID-19 pandemic brought a movement toward broad rehabilitation service coverage, specific payers may question billing-specific codes. Our team worked with a private payer to overcome initial denials of neuromuscular reeducation through description and understanding of the skilled intervention provided in this new mode of care. Advocacy for our profession requires this proactive and timely communication.

System-wide training for all therapists is necessary to provide guidance on technology use, visit flow, patient safety, documentation requirements, and outcome measurements that are most appropriate for TR. In terms of oncology-specific TR, we found that oncology-trained therapists were able to identify symptoms of low counts and treatment toxicities. These therapists were able to use alternative methods of evaluation and assessment for visually identifying impairments or cognitively identifying low count risk time points, both of which are important issues to consider when providing TR services in the context of uncertain availability of laboratory values. This symptom-based approach is deemed safe in in-person pediatric oncology physical therapy.⁶ For example, oncology-trained PTs know to visualize skin and toe movement to identify signs of chemotherapy-induced peripheral neuropathy or avoid challenging balance activities when platelets are likely low within a chemotherapy treatment cycle. However, they also can safely challenge balance using stabilization objects, corners of a room, and caregiver assistance when a patient is at low risk of bleeds, as balance training is a necessary component of oncologic rehabilitation services.

Therapists need to identify when an in-person visit may be necessary to assess or progress a plan of care. The hybrid model of in-person visits complemented by TR visits allows hands-on assessment and intervention techniques to further drive the visual and patient-reported feedback given through the virtual platform. In a systematic review of TR in musculoskeletal conditions, investigators found hybrid models of care superior to usual care

for physical function outcomes.⁷ PTs, OTs, and SLPs must plan assessments and priorities for the in-person visits to optimize the progression of care through TR. This hybrid model decreases the patient's overall exposure risk and allows oncology-trained therapists to provide care even hours away from the hospital environment.

In the years ahead, there will be outcomes to investigate and many more lessons to be learned. It is imperative that we publish data on the outcomes of this fast growing telehealth environment. Patient-reported outcomes can be incorporated easily through digital platform or shared documents. In our case, we used the Canadian Occupational Performance Measure⁸ across rehabilitation disciplines and diagnoses to optimize caregiver participation in goal-setting and progress. This allowed PTs, OTs, and SLPs to quickly transition to using a standardized outcome assessment in the virtual environment. PTs also can use clinical assessments such as the Timed Up and Go test⁹ or 5 times sit-to-stand test,¹⁰ if appropriate to the patient population and adapted to the virtual environment, with sufficient instruction and safety measures in place. Reliability and validity of these remote clinical assessments will be important considerations as we further this mode of care. In addition, patient access and satisfaction must be understood in order to investigate the equity of care in this space.

While acknowledging the difficulty and anxiety of providing rehabilitation to oncology patients at this time in our history, it is important to learn from this experience what we can do better for our patients moving forward. Our patients and families may surprise us by this virtual view of their home function. Watching a toddler with cancer moving around their living room will spur innovative rehabilitation interventions such as reaching up to strengthen ankle musculature to play the piano captivating their interest. In addition, the caregiver gains valuable skill in therapeutic handling and avoids missing work or leaving other children for a drive to the clinic. Siblings and caregivers e-learning and working from home may participate in a therapy session further motivating and supporting a family member with cancer. While the skilled manual assessment and intervention techniques of in-person rehabilitation sessions cannot likely be replaced by telehealth, this unique time presents an opportunity to consider different possible models for ongoing future care. This requires us to think of the personal and environmental factors as suggested by the International Classification of Function (ICF) model.¹¹ Is it possible that we could ease some of the stress of health care and rehabilitation by complementing our in-person visits with TR with comparable functional outcomes? Is TR part of evidence-based, value-based care? Can TR impact the inequities we see in health care, either in a positive direction or in a negative direction? These are all questions that we can and should investigate in this time of the COVID-19 pandemic. Simultaneously, we must continue working to overcome barriers to providing TR at a swift pace to avoid unwanted morbidity in and mortality of our patients with cancer.

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