


# Strengths and Challenges of Implementing Physiotherapy in an HIV Community-Based Care Setting: A Qualitative Study of Perspectives of People Living with HIV and Healthcare Providers

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## Abstract

The needs of people living with HIV (PLWH) who have access to antiretroviral therapy have shifted from hospital to community care; however, little is known about physiotherapy within HIV community-based care. Our aim was to understand strengths and challenges of implementing physiotherapy within an interprofessional HIV day health program in Toronto, Ontario, Canada. We conducted a qualitative descriptive study using semi-structured interviews. Data were analyzed using inductive content analysis. Fifteen PLWH and 5 healthcare providers participated. Strengths included improved access to physiotherapy and fulfilling an unmet need for rehabilitation; a tailored approach to physiotherapy; co-location improved communication, coordination, and engagement in care; and improved health outcomes for PLWH (i.e. function, psychosocial outcomes, and quality of life). Challenges related to managing expectations; variable attendance at visits; and managing complex and diverse needs of PLWH. Results may be transferable to other community-based care settings that provide care for PLWH and complex multi-morbidity.

## Keywords

physiotherapy, rehabilitation for HIV, people living with HIV, health services, qualitative research

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### What Do We Already Know about This Topic?

Physiotherapy can play an important role in addressing the multi-dimensional health-related challenges experienced by people living with HIV by supporting physical, social, and psychological health.

### How Does Your Research Contribute to The Field?

To our knowledge, this is the first qualitative study to explore strengths and challenges of implementing physiotherapy within an HIV specific community-based care setting in Canada.

### What Are Your Research's Implications toward Theory, Practice, or Policy?

Study results indicate the value of integrating physiotherapy directly within HIV community-based care in order to address health-related challenges experienced by PLWH and complex multi-morbidity and the importance of managing expectations for physiotherapy care.

## Introduction

Advancements in antiretroviral therapy have greatly improved life expectancy for many people living with HIV (PLWH).<sup>1</sup> Despite this increase in life expectancy for those who have access to effective antiretroviral therapy, many PLWH are aging with a combination of health-related challenges, which can be conceptualized as disability.<sup>2-6</sup>

Disability among PLWH can be described as the fluctuating physical, mental, and social health-related challenges, including symptoms and impairments, challenges with day-to-day activities, challenges with social inclusion, and uncertainty.<sup>7</sup> Disability experienced by PLWH can be influenced by intrinsic and extrinsic contextual factors, such as social support, stigma, and personal attributes.<sup>8</sup> A cross-sectional population-based study in British Columbia, Canada found that disability (i.e. impairments, activity limitations, and participation restrictions) was highly prevalent among PLWH, with over 90% of participants reporting one or more impairments, such as weakness, fatigue or joint stiffness.<sup>9</sup>

Rehabilitation has a critical role in addressing disability and promoting quality of life among PLWH.<sup>10</sup> Rehabilitation in the context of HIV aims to address impairments (challenges at the level of body structures and function), activity limitations (challenges at the level of the whole body), and participation restrictions (challenges at the level of the individual and their environment).<sup>10,11</sup> Rehabilitation interventions, such as those provided by physiotherapists, can help to address the multi-dimensional and fluctuating physical, mental, and social health-related challenges experienced by PLWH.<sup>11</sup> Physiotherapy care can be diverse and may focus on health-related

challenges that are associated with cardiovascular, musculoskeletal, neurological, or multi-system health conditions.<sup>12</sup> At the core, physiotherapy care strives to maximize function and improve overall quality of life.<sup>12</sup> Within the context of HIV, physiotherapists can assess barriers and perspectives towards physical activity and exercise among PLWH<sup>13,14</sup> and provide tailored support to facilitate engagement in exercise in order to improve muscular strength and cardiovascular fitness.<sup>15,16</sup> Physiotherapists can also implement rehabilitation interventions which may improve general health, social functioning, and emotional well-being among PLWH.<sup>17</sup> Furthermore, physiotherapists can contribute to chronic pain management, which is common among PLWH,<sup>18</sup> by supporting engagement in therapeutic exercise, self-management strategies, and home exercise programming.<sup>19,20</sup>

Previous research has explored the potential role of physiotherapy within interprofessional outpatient HIV care. For example, deBoer and colleagues described how physiotherapists' within HIV care should be client centered and address the specific needs and goals reported by PLWH.<sup>21</sup> Furthermore, physiotherapy in the context of HIV can support physical, psychological, and social health by enhancing functional mobility, improving self-confidence, and improving social participation.<sup>21</sup> When considering physiotherapy care within the context of HIV, deBoer and colleagues also described the importance of considering and adapting treatment based on contextual factors, such as aging, the episodic nature of HIV, multimorbidity, competing priorities, continuity of care, stigma, resource security, and social isolation.<sup>21</sup>

Despite the high prevalence of disability experienced by PLWH,<sup>9</sup> many HIV specific care settings do not include rehabilitation services and many PLWH do not routinely access rehabilitation care, such as physiotherapy.<sup>22</sup> Community-based settings are ideal for considering new and innovative ways to facilitate access to rehabilitation for PLWH. However, there is currently a dearth of published literature describing experiences implementing physiotherapy within HIV community-based care settings. In 2017, a new interprofessional HIV day health program was implemented at Casey House, a community-based HIV facility in Toronto, Canada.<sup>23</sup> The program offers physiotherapy and other interprofessional services to PLWH and complex health and social issues. The program is funded by the provincial ministry of health. To our knowledge, this is the first HIV specific community-based care setting in Canada to integrate physiotherapy as part of an interprofessional healthcare team. Understanding the perspectives of PLWH and healthcare providers is an important step when designing, implementing, and evaluating the sustainability of effective healthcare programs. Results may be transferable to other community-based care settings that provide care to PLWH and complex multi-morbidity.

The purpose of this research was to understand the strengths and challenges of implementing physiotherapy within an interprofessional HIV day health program from the perspectives of PLWH and healthcare providers.

## Methods

### Study Design

We conducted a qualitative descriptive study.<sup>24,25</sup> Our research team included multiple stakeholders, including PLWH, healthcare providers, persons from non-governmental organizations, and researchers.

### Setting

This research took place within an interprofessional HIV day health program at Casey House, a community-based HIV facility in Toronto, Canada. Clients within the interprofessional HIV day health program can participate in individual and group-based programs and have access to an interprofessional team, including case managers, nurses, physiotherapists, massage therapists, and recreational therapists, at no direct out-of-pocket cost. Additional services, such as a lunch program, are also available to clients. Physiotherapy within the interprofessional HIV day health program is goal-oriented and time-limited, focusing on education, self-management support, and individualized therapeutic exercise.

### Participants

Participants included 1) adults  $\geq 18$  years of age living with HIV receiving physiotherapy as part of the interprofessional HIV day health program and 2) healthcare providers working in the interprofessional HIV day health program or healthcare providers who commonly referred clients to the program.

### Recruitment

We used a purposive sampling technique.<sup>26</sup> We recruited PLWH in-person through information sessions at the Casey House Day Health Program in Toronto, Canada. We also recruited PLWH through invitation by a healthcare provider within their circle of care. Healthcare providers were identified by the research team and recruited through email invitation by a research coordinator.

### Data Collection

We developed two interview guides, one for PLWH and one for healthcare providers. Both interview guides explored perceived strengths and challenges of implementing physiotherapy within the interprofessional HIV day health program. See Box 1 and Box 2 for interview guide questions used for PLWH and healthcare providers, respectively. The first author (man, physiotherapist and PhD candidate with experience conducting semi-structured interviews) conducted in-person semi-structured interviews<sup>27</sup> at the community-based HIV facility with PLWH and healthcare provider participants. Each interview was audio-recorded, transcribed verbatim, and reviewed for accuracy by the interviewer. We also collected participant demographic information using a structured data

#### BOX 1. Interview Guide Questions for Participants Living with HIV.

1. What was your overall experience with physiotherapy at the interprofessional HIV day health program?
2. What were your reasons for seeking care from physiotherapy at the interprofessional HIV day health program?
3. What were your expectations of physiotherapy at the interprofessional HIV day health program?
4. What did your assessment with the physiotherapist in the interprofessional HIV day health program involve?
5. What did your treatment and follow-up with the physiotherapist in the interprofessional HIV day health program involve?
6. How did receiving physiotherapy through the interprofessional HIV day health program impact your overall health and disability?
7. What kind of factors either helped or hindered you from taking part in physiotherapy through the interprofessional HIV day health program?
8. What did you value about having a physiotherapist as part of your healthcare team in the interprofessional HIV day health program?
9. What recommendations would you give to improve physiotherapy in the interprofessional HIV day health program?

#### BOX 2. Interview Guide Questions for Healthcare Provider Participants.

Questions asked to non-physiotherapist healthcare provider participants:

1. What has been your experience thus far with physiotherapy offered in the interprofessional HIV day health program?
2. What were your reasons for referring clients to physiotherapy at the interprofessional HIV day health program?
3. What were you hoping physiotherapy at the interprofessional HIV day health program would assess for the clients that you referred?
4. What types of treatment and follow-up were you hoping physiotherapy at the interprofessional HIV day health program would provide?
5. How do you think having physiotherapy available through the interprofessional HIV day health program has impacted your clients?
6. What do you value about having a physiotherapy as part of the healthcare team in the interprofessional HIV day health program?
7. How do you go about communicating with the physiotherapist within the interprofessional HIV day health program?
8. What recommendations would you give to improve physiotherapy in the interprofessional HIV day health program?

Questions asked for physiotherapist participants:

1. What has been your experience thus far with the interprofessional HIV day health program?
2. Why are most clients being referred to you as part of the interprofessional HIV day health program?
3. What does a typical client assessment look like in your work in the interprofessional HIV day health program?
4. What types of treatment and follow-up do you provide to clients of the interprofessional HIV day health program?
5. How has your work as a physiotherapist impacted clients within the interprofessional HIV day health program?
6. What do you as a physiotherapist bring to the healthcare team in the interprofessional HIV day health program?
7. How do you communicate with other members of the interprofessional HIV day health program?
8. What recommendations would you give to improve physiotherapy through the interprofessional HIV day health program?

collection form administered by the first author at the time of the interview.

### Data Analysis

We analyzed transcripts using inductive content analysis as described by Elo and Kyngäs, which followed 3 steps: preparing, organizing, and reporting.<sup>28</sup> We used MAXQDA (VERBI Software; Version 12, 2015) to assist with data management and analysis.

**Preparation.** As a first phase of analysis, the first author reviewed all transcripts to become familiar with the data.

**Organizing.** As a second phase of analysis, we developed an initial coding scheme by independently open coding 2 participant transcripts, including a transcript from a PLWH and a healthcare provider. A coding sheet was created to guide analysis of subsequent transcripts. The remaining transcripts were coded by at least 2 researchers; the first author coded each transcript along with at least 1 other member of the research team. The coding sheet was continually revised as new codes were identified during the analysis process. After all transcripts were coded, we held an in-person meeting with the research team where we discussed each transcript. We included a summary of HIV and demographic characteristics with the transcripts for each participant in order to inform our analytical discussions. After this in-person meeting, codes were iteratively categorized and grouped in relation to study objectives.

**Reporting.** As the third and final phase of analysis, we created a report outlining categories and supporting quotations related to strengths and challenges of implementing physiotherapy in the interprofessional HIV day health program.

In addition, we analyzed demographic data using descriptive statistics using frequencies and percentages for categorical variables and median and interquartile ranges for continuous variables.

### Rigor

To establish rigor and trustworthiness of our results, we 1) engaged in regular reflexive dialogue during data collection and analysis, 2) included multiple stakeholders in the analysis process (i.e. PLWH, healthcare providers, persons from non-governmental organizations, and researchers), and 3) used supporting quotations to illustrate our results.<sup>29</sup>

### Ethical Approval and Informed Consent

Ethical approval for this study was obtained from the University of Toronto HIV/AIDS Research Ethics Board in Toronto, Ontario, Canada (Protocol Number: 36717). All participants provided written informed consent prior to their participation in this research.

## Results

We completed 15 (n = 15) interviews with PLWH and 5 (n = 5) interviews with healthcare providers. Interviews were approximately 45 to 60 minutes in length and took place between January to July 2019. The majority of PLWH participants were men (53%), with an undetectable viral load (87%), a median age of 57 years, and a median of 7 comorbidities in addition to HIV. The majority of healthcare provider participants worked within the interprofessional HIV day health program (n = 4), while one commonly referred PLWH to the program (n = 1). Healthcare providers represented family medicine, nursing, physiotherapy, and social work. See Table 1 for detailed demographic characteristics of the PLWH who participated in our study.

We constructed 7 inter-related categories related to perceived strengths and challenges of implementing physiotherapy within the interprofessional HIV day health program. See Table 2 for a summary display of our results.

### Strengths of Implementing Physiotherapy within the Interprofessional HIV Day Health Program

Strengths of implementing physiotherapy within the interprofessional HIV day health program were diverse, and included: improved access to physiotherapy and fulfilling an unmet need for rehabilitation in the HIV community; a tailored approach to physiotherapy within the context of HIV and complex multi-morbidity; co-location improved communication, coordination, and engagement in care among PLWH; and physiotherapy contributed to improved health outcomes for PLWH (i.e. function, quality of life, and psychosocial outcomes).

*Improved access to physiotherapy care and fulfilling an unmet need for rehabilitation in the HIV community.* PLWH reported that implementing physiotherapy within the interprofessional HIV day health program resulted in improved access to physiotherapy care for PLWH who experienced complex medical and social challenges. Furthermore, by improving access to physiotherapy care, participants reported that this helped to fulfill an unmet need for rehabilitation in the HIV community. Many participants shared that if physiotherapy was not publicly funded, they would not have been able to access this type of care due to financial concerns:

“My economic situation is not great and I can’t afford [to pay privately to see a physiotherapist]. [The program] is the only place I know I can come for free. It’s not because I didn’t want to try [physiotherapy . . .] Like I went to a place but they charge me almost \$100. I can’t afford [that].” PLWH-10

Healthcare providers also acknowledged that in addition to removing financial barriers to access, many clients were more comfortable accessing physiotherapy within an HIV specific care setting as it decreased concerns related to stigma:

**Table 1.** Characteristics of Participants Living with HIV (n = 15).

Characteristic	Description
Median age in years (IQR)	57 (55, 64)
Gender, n (%)	
Man	8 (53%)
Woman	6 (40%)
Fluid	1 (7%)
Living alone, n (%)	12 (80%)
Average gross yearly income, n (%)	
<\$10,000	2 (13%)
\$10,000-<\$20,000	10 (67%)
\$20,000-<\$30,000	2 (13%)
\$30,000-\$40,000	1 (7%)
Employment status, n (%)	
Paid employment	1 (7%)
Retired	5 (33%)
Ontario Disability Support Program	6 (40%)
Unemployed-seeking work	2 (13%)
Other	1 (7%)
Highest level of education achieved, n (%)	
High school	3 (20%)
Trade or technical program	2 (13%)
College diploma	1 (7%)
University degree	5 (7%)
Median year of HIV diagnosis, n (IQR)	1995 (1984, 2010)
Most recent viral load undetectable, n (%)	13 (87%)
Median number of comorbidities, n (IQR)	7 (3, 12)
Commonly reported comorbidities, n (%)	
Mental health condition (e.g. depression, anxiety)	10 (67%)
Muscle pain	9 (60%)
Joint pain	9 (60%)
High cholesterol	7 (47%)
Asthma	5 (33%)
Hypertension	5 (33%)
Frequency of physiotherapy care with interprofessional day health program, n (%)	
Once in the past year	2 (13%)
Monthly	3 (20%)
2-3 times per month	3 (20%)
Weekly	3 (20%)
2-5 times per week	3 (20%)
Unsure	1 (7%)

Abbreviations: IQR, Interquartile Range.

“[...] a lot of our clients have been able to access physiotherapy which they might have not been able to access in the community because a lot of our clients are marginalized as well as feel[ing more] comfortable in [accessing care within the program] because it’s an openly HIV+ place.” HCP-2

PLWH also reported that implementing physiotherapy within the interprofessional HIV day health program helped to fulfill an unmet need for rehabilitation in the HIV community broadly. In particular, participants described that implementing physiotherapy allowed PLWH to address their rehabilitation care needs, such as difficulty walking and challenges with overall mobility:

**Table 2.** Strengths and Challenges of Implementing Physiotherapy in the Interprofessional HIV Day Health Program From the Perspective of People Living with HIV and Healthcare Providers.

Strengths	Challenges
Improved access to physiotherapy and fulfilling an unmet need for rehabilitation in the HIV community	Managing expectations for physiotherapy
Tailored approach to physiotherapy within the context of HIV and complex multi-morbidity	Variable attendance at physiotherapy visits
Co-location improved communication among the interprofessional team, coordination, and engagement in care	Managing complex and diverse needs of people living with HIV
Improved function, psychosocial health, and quality of life outcomes	

“It’s hard to see the day health program without [a physiotherapist]. I find it very hard. I think [physiotherapy is] very important. It’s a connecting tool, a really strong and powerful connecting tool that really helps [PLWH] work with one’s physical body.” PLWH-3

Healthcare providers also reported that implementing physiotherapy within the interprofessional HIV day health program helped to fulfill an important need for rehabilitation for an aging HIV population with complex multi-morbidity:

“So [our] HIV+ patient population is aging. They have all the problems of the aging population generally; osteoarthritis, thinning bones, low back pain, de-conditioning which is sort of exacerbated by their HIV [...] So you know like muscle loss and wastage is worse in HIV, myopathy in HIV+ patients. So, all those things would be reasons to do physiotherapy.” HCP-1

*Tailored approach to physiotherapy within the context of HIV and complex multi-morbidity.* A strength of implementing physiotherapy within the interprofessional HIV day health program was that the physiotherapist had knowledge of HIV and complex multi-morbidity and was able to tailor their approach to care based on the unique challenges faced by this population. For example, PLWH acknowledged the importance of the physiotherapist having knowledge and expertise in rehabilitation in the context of HIV:

“[The physiotherapist needs to have] knowledge of physical capability, what aspects of the physical being are affected by the HIV virus or other related neuromuscular disorders. That is very important. A knowledge of capabilities, of the client’s capabilities, is very important and not pushing the client too hard, working with them in what is known or expected. [...] The physiotherapy [within the program] is very much aware of that [...] There are

also other issues of substance use and different other factors that affect some of the clients [ . . . The physiotherapist] has to be aware of all those factors too.” PLWH-5

Healthcare providers also described the benefits of having a physiotherapist with a focused practice in HIV care. In particular, healthcare providers reported that it was important for physiotherapists to have knowledge of and consider the impact of stigma and social isolation on many PLWH:

“A lot of [clients] talk about a lot of the stigma and the social isolation that they experienced and things like that. I think it [is] important for [physiotherapists] to try to gain that perspective.” HCP-4

*Co-location improved communication among the interprofessional team, coordination, and engagement in care.* Having the physiotherapist co-located with other healthcare providers and services within the interprofessional HIV day health program was viewed as improving communication among the interprofessional team, coordination, and engagement in care among PLWH. For example, many PLWH shared that having the physiotherapist co-located with other healthcare providers helped to facilitate improved communication between healthcare providers, which ultimately improved the care they received:

“I think the physiotherapist has to be connected in-house [ . . . ] The reason I say that is the physiotherapist can then talk to the social worker and talk to the counselors [ . . . ] It’s a real team effort that takes place and [the physiotherapist is] an integral part of that team. I think that team approach is the only way it’ll work properly. Now to refer out to [a physiotherapist] elsewhere, I don’t see that working.” PLWH-5

Healthcare providers also described that co-location of physiotherapy with other healthcare providers in the interprofessional HIV day health program helped to improve coordination of care, given that PLWH did not have to navigate healthcare services at multiple physical locations:

“I think [having physiotherapy within the program] is just one step towards [ . . . ] being a more multidisciplinary place where a client can go and receive nursing and receive physiotherapy, social work, [and] case management. So it’s just a step forward in making [the program] the place to go instead of [PLWH] needing to go to 10 different places.” HCP-2

Furthermore, PLWH and healthcare providers reported that having physiotherapy co-located with other well-attended services (e.g. the lunch program) within the interprofessional HIV day health helped to improve engagement in physiotherapy. For example, one healthcare provider described that clients often bring up a desire to engage in physiotherapy while they were attending the lunch program:

“A lot of those self-referrals [for physiotherapy] have been at [the lunch program]. So [clients] come up [ . . . ] and go ‘you know, I’m

a little afraid of falling and someone told me that I should see [the physiotherapist].” HCP-5

*Improved function, psychosocial health, and quality of life outcomes.* Both PLWH and healthcare providers described how physiotherapy led to improved function, psychosocial health, and quality of life outcomes. Many PLWH reported that attending physiotherapy within the interprofessional HIV day health program helped to improve their ability to function in day-to-day life (e.g. walking, standing tolerance, and participating in their activities of daily living), which in turn helped to improve their overall quality of life:

“[Physiotherapy has] improved my health. There’s no question about it; more stability and more confidence in walking and more confidence in having a shower without the fear of falling down. I have to be careful. I find now I have more strength in the shower and that’s so important. Greater ability to dress without too much difficulty and things I have to lift whether it’s food in the kitchen or when I’m cooking. It’s certainly helped me with daily activities.” PLWH-5

Healthcare providers similarly described how implementing physiotherapy contributed to improved functional outcomes, such as strength and flexibility, among PLWH who accessed the service:

“From what I can tell [clients] are really benefitting from the exercise program [that is led by the physiotherapist]. Like the [clients] who do the exercise program always seem really happy afterwards and I’ve heard that they’ve reported that they all feel stronger and better balanced in flexibility or things like that or strength.” HCP-3

In addition to improved functional outcomes, PLWH described how having access to physiotherapy within the interprofessional HIV day health program contributed to improved psychosocial health, which contributed to their overall quality of life. For example, one participant described how they experienced improved psychological well-being after engaging in a low intensity, group-based exercise program delivered by the physiotherapist:

“I feel more confident in myself physically and mentally and more mentally. Like psychologically, after coming from a [physiotherapist-led group-based exercise program] of not hard but basically mediocre type of a workout, you do feel better. Mentally and physically of course too, as long as you don’t overdo it.” PLWH-15

PLWH also described social benefits of engaging in physiotherapy. For example, one participant reported that attending physiotherapy helped to get them out of their house, which helped to improve their overall social engagement in the community:

“I think [physiotherapy has] been a big help for me to get out of my apartment. It’s been a really big help to meet people and to do different things and to do some fun things. The physical stuff is great because I’m a couch potato.” PLWH-1

Similarly, healthcare providers acknowledged the role of physiotherapy on addressing pain and disability, which can ultimately improve psychosocial health and overall wellbeing for PLWH:

“I think that a [physiotherapist] really would contribute a lot to quality of life for [PLWH] because pain and difficulty getting around I’m sure like really gets in the way of peoples’ goals, mental health, social functioning, and being able to work if they want to start working, things like that. So I think [physiotherapy] is like pretty integral to the overall like goals of like helping [PLWH] improve their wellbeing in general, like improve their health and wellbeing.” HCP-3

### *Challenges of Implementing Physiotherapy within the Interprofessional HIV Day Health Program*

Challenges of implementing physiotherapy within the interprofessional HIV day health program related to difficulty managing expectations for physiotherapy, variable attendance at physiotherapy visits, and managing the complex and diverse needs of PLWH.

### *Managing Expectations for Physiotherapy*

Some PLWH had preconceived expectations of what physiotherapy would entail. For those who came in with these expectations, they were often based on past experiences with physiotherapy, which adopted a different approach to care than physiotherapy within the interprofessional HIV day health program. For example, one participant was hoping for passive physiotherapy treatment (e.g. manual therapy) with regular follow-up, versus an approach that focused on active rehabilitation strategies, such as self-management support and therapeutic exercise:

“I thought I was going to have a hands-on physiotherapy like twice a week sessions where I was getting therapy for chronic issues.” PLWH-2

Healthcare providers also described challenges managing expectations for care with some PLWH accessing physiotherapy services. For example, at times, healthcare providers described tensions between client expectations and their own goals of providing physiotherapy that was evidence-based, goal-oriented, and time-limited:

“[Some clients] I think they just really want to have massage more than physiotherapy because they want to be you know relaxed and have more of a passive treatment and they’re not really interested in doing exercise. So [we] have to explain to them you know the tools that [physiotherapy] tend[s] to use and what [they’re] really

keen on is trying to get people to be more active and to do more activities, physical activity and do more exercise, more stretching, more deep breathing, more mindful activities, you know that kind of stuff that’s going to help with your overall health.” HCP-5

*Variable attendance at physiotherapy visits.* Both PLWH and healthcare providers described challenges with client attendance at physiotherapy visits within the interprofessional HIV day health program. For example, many PLWH described the impact of living with episodic health conditions, such as HIV and co-morbid illnesses, on their ability to attend physiotherapy visits:

“Well when I fall into a massive depression then I don’t do anything [like attending a physiotherapy visit]. I stop exercising. I stop eating. I just sleep and I become very isolated.” PLWH-6

Healthcare providers also described variable attendance at physiotherapy visits. Many participants described diverse factors that can impact PLWH’s ability to engage in physiotherapy. These factors commonly related to the uncertainty that comes with living with HIV, substance use, and financial insecurity. For example, one healthcare reported the impact of substance use and mental health on some client’s ability to attend physiotherapy visits:

“I think that [...] substance use and mental health interfere with peoples’ sort of ability to feel up to leaving the house or gauging what time it is, what day it is [...] I think a lot of clients like maybe don’t take the appointments super seriously or think they can easily rebook it or just like aren’t feeling up to it that day.” HCP-3

*Managing complex and diverse needs of PLWH.* PLWH and healthcare providers also described challenges when providing physiotherapy within the interprofessional HIV day health program, as most clients accessing physiotherapy experienced complex medical and social circumstances, such as social isolation and insecure housing. PLWH acknowledged the complexity of clients accessing physiotherapy:

“Well a lot of [clients] in the day health program have multiple issues. You know there’s not only HIV but in many cases addictions or mental health issues.” PLWH-6

Healthcare providers reported that the complexity of clients not only impacted client ability to engage in physiotherapy, but also made clinical decision-making challenging for the physiotherapist. Engaging in goal setting with clients and establishing realistic treatment plans were described as particularly challenging. For example, one healthcare provider highlighted the challenges of providing physiotherapy to clients living with HIV and long-standing co-morbid health conditions:

“The [clients] that were most challenging were those who had longstanding conditions [...] One client] had a stroke a number of years ago and had decreased hand function and really wanting

to regain all that to a state that it was prior. From a physiotherapy perspective you can work on that but was that a realist goal or outcome? So then having to talk about those expectations [...] proved quite challenging.” HCP-4

## Discussion

To our knowledge, this is the first qualitative study to explore the strengths and challenges of implementing physiotherapy within an HIV community-based care setting in Canada. Our results add to the literature by providing insight into models of rehabilitation service provision for PLWH, which has been identified as a research priority in the field of HIV and rehabilitation.<sup>30</sup> Results may be transferable to other community-based care settings that provide care for PLWH and complex multi-morbidity.

Although care for PLWH who have access to effective anti-retroviral therapy has largely shifted from acute hospital to community, there is a dearth of research on physiotherapy within HIV community-based care. Our results build on the work of Cobbing and colleagues<sup>31</sup> who identified the potential physical and psychological benefits of community-based care for PLWH, with a particular focus on home-based rehabilitation. Cobbing and colleagues determined with randomized control trial evidence that home-based rehabilitation can improve functional deficits and quality of life among PLWH<sup>32</sup> as well as qualitatively explored home-based rehabilitation in the context of HIV from the perspective of PLWH and healthcare providers in South Africa.<sup>33,34</sup> Our work builds on this foundational evidence to further provide in-depth perspectives from PLWH and healthcare providers on the implementation of physiotherapy in an interprofessional HIV day health program within a community-based facility focused on HIV care in Canada.

Participants in this study described specific strengths of implementing physiotherapy within the program. For example, PLWH and healthcare providers described that implementing physiotherapy in this HIV community-based care setting improved access for PLWH who might not have otherwise engaged in physiotherapy. Given that many PLWH do not routinely access physiotherapy<sup>22</sup> despite having rehabilitation needs,<sup>9</sup> implementing physiotherapy directly within HIV community-based care may be an important strategy to improve access for PLWH and complex multi-morbidity.

Participants in this research also described the value of having a physiotherapist within the program as it allowed for a tailored approach to rehabilitation, that considered the unique needs of PLWH and contextual factors specific to this population, such as stigma, uncertainty, and multi-morbidity.<sup>35-37</sup> Considering the stigma that is commonly experienced by PLWH when accessing non-HIV specific healthcare,<sup>38</sup> our results highlight that there may be added benefits of embedding interprofessional services, such as physiotherapy, directly within HIV community-based care settings. This aligns with previous work by Li and colleagues, who described how some

PLWH may feel more comfortable engaging in HIV specific rehabilitation interventions in community-based settings.<sup>39</sup>

Co-location of physiotherapy with other healthcare providers and services was described as another strength of implementing physiotherapy within the program. The value of co-location among healthcare providers has been described within other contexts, such as primary care.<sup>40</sup> Considering the growing prevalence of multi-morbidity<sup>41</sup> among PLWH, it is important for researchers and healthcare providers in HIV care to consider how to optimally implement healthcare services, such as physiotherapy, that meet the needs of PLWH. Given the high prevalence of multi-morbidity and complexity experienced by PLWH who accessed physiotherapy in this research, physiotherapy within HIV community-based care may benefit from adopting a chronic disease management approach, with a particular focus on providing self-management support for HIV as well as concurrent health conditions.<sup>42,43</sup> For example, physiotherapy in HIV community-based care may consider implementing formalized self-management programs for HIV as well as other common comorbid health conditions in order to appropriately address the healthcare needs of this population.<sup>44,45</sup>

Participants in this research also described improved health outcomes for PLWH who engaged in physiotherapy within the program. In addition to improved function and quality of life, PLWH and healthcare providers described improved psychosocial outcomes among PLWH as a result of engaging in physiotherapy. This finding aligns with previous work by deBoer and colleagues who described how physiotherapy within HIV care can focus not only on improving physical, but also psychological and social health outcomes.<sup>21</sup> Given the impact that interventions commonly used in physiotherapy, including physical activity and exercise, can have on mental health conditions such as depression and anxiety,<sup>46,47</sup> this highlights the added value of physiotherapy for PLWH and complex multi-morbidity on diverse biopsychosocial health outcomes. The finding that physiotherapy care can have positive impacts on psychosocial health outcomes is relevant given the high prevalence of depression and other mental health conditions among PLWH.<sup>48,49</sup>

Despite the perceived strengths of implementing physiotherapy within the interprofessional HIV day health program, participants also described specific challenges. Some PLWH described a desire for more ‘hands-on’ approaches and longer-term follow-up in physiotherapy. This is an important consideration for ongoing feasibility of models of care where physiotherapy is implemented with HIV community-based care settings. Previous research has explored expectations toward physiotherapy care and the potential impact of expectations on health outcomes.<sup>50</sup> Moving forward, physiotherapy within HIV community-based care may benefit from placing a particular focus on managing expectations with clients by highlighting what physiotherapy will (and will not) involve. For example, it may be worthwhile for physiotherapists within HIV community-based care to implement outcome measures, such as the Goal Attainment Scale, in order to establish mutually



agreed upon expectations and goals of care.<sup>51</sup> In order to support sustainability in the long-term, it may also be advantageous for physiotherapy in HIV community-based care to include episodes of short-term and goal-oriented care for PLWH during exacerbations of disability and focus on addressing specific health-related challenges and supporting self-management of HIV and relevant co-morbidities.<sup>11,52</sup>

Challenges with attendance at physiotherapy visits were also described by participants. Our finding aligns with previous research by Brown and colleagues who reported variable adherence to a physiotherapy-led rehabilitation program for PLWH.<sup>53</sup> Flexible scheduling and attendance policies may be particularly important for physiotherapy with HIV community-based care given the episodic and uncertain nature of living HIV and multi-morbidity.<sup>7,8</sup> Recommendations for implementing physiotherapy among interprofessional HIV care have been previously reported in the literature, including the importance of structuring physiotherapy delivery to accommodate the unique needs and priorities of PLWH.<sup>54</sup>

PLWH and healthcare providers also described challenges related to addressing the complex needs of PLWH who accessed physiotherapy services within the interprofessional HIV day health program. This speaks to the importance of providing physiotherapists with adequate entry-level training and continuing professional development opportunities to support the delivery of care to complex client populations, such as PLWH who experience both medical (e.g. multi-morbidity) and social (e.g. unstable housing) challenges. Previous research has described the importance of considering contextual factors, such as stigma, multi-morbidity, and competing priorities, and their impact on physiotherapy service delivery in the context of HIV.<sup>21</sup> Our findings further support the notion that physiotherapy within HIV community-based care should be flexible in order to meet the diverse, and often complex, needs of PLWH who are accessing physiotherapy, including those with uncertain and fluctuating episodes of disability.

Finally, it is important to acknowledge that although we identified distinct categories related to the strengths and challenges of implementing physiotherapy within an interprofessional HIV day health program, there are inherent connections across categories. For example, improved access to physiotherapy care may have resulted in PLWH with greater medical and social complexity accessing physiotherapy services, which in turn, created unique challenges for the physiotherapist within the program related to providing care for this complex client population.

### **Clinical Implications**

Results highlight the strengths of implementing physiotherapy within HIV community-based care. In particular, we found that having a physiotherapist co-located with other interprofessional healthcare providers within HIV community-based care had benefits. Furthermore, it may be important for both physiotherapists and other healthcare providers to focus on

collaborative goal setting in clinical care while establishing a clear understanding and realistic expectations of physiotherapy care.

### **Limitations**

There are limitations of this research that need to be acknowledged. We explored the implementation of physiotherapy within an interprofessional HIV day health program at Casey House, a community-based HIV facility in Toronto, Canada, that was publicly funded and included multiple services in addition to physiotherapy (e.g. case management, recreation therapy, meal services). This is important to consider given that incentives, such as meal services, may help to improve engagement in HIV care among PLWH with complex needs.<sup>55</sup> As such, it is unclear how transferable our findings are to contexts that are not publicly funded and do not include similar services. We also interviewed PLWH who had successfully accessed physiotherapy within the interprofessional HIV day health program. As such, it is possible that this research did not capture the diversity of perspectives of PLWH who may have benefited from physiotherapy but did not access this service within the interprofessional HIV day health program.

### **Conclusions**

Our findings provide in-depth perspectives from both PLWH and healthcare providers on the strengths and challenges of implementing physiotherapy in an interprofessional HIV day health program. We found that implementing physiotherapy within this program improved access to physiotherapy, allowed for a tailored approach to care within the context of HIV and multi-morbidity, and improved health outcomes for PLWH. Co-location of the physiotherapist with other healthcare providers and services appeared to facilitate communication among the interprofessional team, coordination, and engagement in physiotherapy care. Challenges of implementing physiotherapy related to managing expectations, variable attendance at visits, and managing complex and diverse needs of PLWH. Results may be transferable to other community-based care settings that provide care to PLWH and complex multi-morbidity. Continued research is needed to determine the longer-term impacts, on both PLWH and healthcare system outcomes, of implementing physiotherapy within HIV community-based care settings.

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