



The Canada-UK HIV and Rehabilitation Research Collaborative (CUHRRC) presents:
A Rapporteur Summary of the HIV and Rehabilitation Content presented at the 25th Annual Canadian Conference on HIV/AIDS Research (CAHR 2016)

Introduction on HIV and Rehabilitation

With more people living longer since diagnosis, HIV is now considered a chronic illness in developed countries such as Canada, Ireland, United States of America (USA) and the United Kingdom (UK). Many people with HIV are now aging with the health challenges of HIV, comorbidities and the side effects of treatment. Individuals may experience a range of health-related challenges known as disability, including symptoms and impairments (e.g. fatigue, weakness, pain), difficulties with day-to-day activities (e.g. household chores), challenges to social inclusion (e.g. ability to work) and uncertainty or worrying about future health over time, living with HIV.

Rehabilitation is broadly defined as any service that may address or prevent impairments, activity limitations or social participation restrictions experienced by an individual. The role for rehabilitation is increasing in the context of HIV, comorbidities and aging and has the potential to improve health and quality of life outcomes for people living with HIV. As a result, the field of HIV and rehabilitation research is evolving to meet the current needs of people living with HIV in countries such as Canada, the UK, Ireland and USA where people may experience similar health-related challenges.

The Canadian Working Group on HIV and Rehabilitation (CWGHR)

www.hivandrehab.ca

CWGHR is a national, multi-sectoral organization whose aim is to improve the lives of people living with HIV by advancing HIV rehabilitation, care, treatment and support. CWGHR works to bridge the traditionally separate worlds of HIV, disability and rehabilitation to promote quality of life through rehabilitation research, education and cross-sector partnerships.

Canada-United Kingdom HIV and Rehabilitation Research Collaborative (CUHRRC)

cuhrrc.hivandrehab.ca/

CUHRRC is an international research collaborative comprised of researchers, clinicians, representatives from community-based organizations, policy stakeholders and people living with HIV. The aim of the collaborative is to build on the enthusiasm of individual members to facilitate the advancement of research ideas and activities related to HIV and rehabilitation research. CUHRRC believes that forming partnerships and exchanging knowledge is integral to building a synergy between the established clinical rehabilitation HIV knowledge in the UK and the strong HIV research foundation in Canada.

Rapporteur Summary on HIV and Rehabilitation at CAHR 2016

This purpose of this rapporteur summary is to report on the HIV and rehabilitation content presented at the 25th Annual Canadian Conference on HIV Research (CAHR 2016) in order to increase awareness of research in the field. The rapporteur summary includes **51 abstracts** presented throughout the conference broadly classified according to the six research priorities in the [Framework of New Research Priorities in HIV, Disability and Rehabilitation](#): 1) episodic health and disability; 2) aging with HIV across the lifespan; 3) concurrent health conditions; 4) access to rehabilitation and models of rehabilitation service provision; 5) effectiveness of rehabilitation interventions; and 6) enhancing outcome measurement in HIV and rehabilitation research ([O'Brien et al., 2014](#)). The priorities are in no particular order of importance. Specific abstracts are referenced throughout, with a reference list available at the end of the summary. For a complete overview of all the abstracts and posters presented at CAHR 2016, please see the links at the end of this report.

Research Priority 1 - Episodic Health and Disability

Understanding the broad range of physical, cognitive, and mental health challenges, social participation restrictions, and uncertainty about the future experienced as a result of HIV, comorbidities and aging, and how these health challenges (or disability) may be episodic in nature.

- Due to the recent **improvements in access to antiretroviral therapy (ART) in Sub-Saharan Africa**, people are living longer with HIV in countries such as Zambia (Nixon et al., 2016). HIV is transforming into a chronic illness and therefore the impact of this change on healthcare services and policy need to be explored. Thirty-five participants were recruited based on gender (17 men and 18 women), time on ART (1-13 years), and socioeconomic status to partake in in-depth, semi-structured interviews, 6 months apart for this qualitative, longitudinal study. Participants reported both positive and negative consequences of ART which can be generalized into 3 themes: 1) Impact on one's body and life; 2) interventions that are accessible or missing; and 3) stigma. Researchers found that a main barrier of the current model of HIV care is that it primarily focuses on initiating and adhering to ART, with a lack of addressing counselling and rehabilitation. In the future, HIV policies and programs need to take into consideration living longer with HIV and quality of life.
- Simonik and colleagues conducted a descriptive qualitative study to explore [readiness to engage in exercise](#) and the factors that influence readiness to engage in exercise. Investigators conducted fourteen semi-structured interviews in Toronto with adults living with HIV who self-identified as having two or more comorbidities (median number of 9 comorbidities) (Simonik et al., 2016). Investigators conducted a thematic analysis to identify factors related to readiness to engage in exercise. Readiness to exercise fluctuated from not thinking about exercising to engaging in exercise on a daily basis. In addition, investigators found that readiness to exercise was influenced by the episodic nature of HIV and comorbidities as well as social support, perceptions and beliefs, past experience with exercise, and accessibility. It is important to consider and address these factors when developing exercise programs for people living with HIV (PLWHIV) or when encouraging PLWHIV to engage in physical activity.
- Vajravelu and colleagues conducted a narrative review to gain further understanding of the **episodic nature of HIV** as well as compare HIV to other chronic illnesses such as fibromyalgia (FM) and multiple sclerosis (MS). Investigators included 47 articles published during 2004-2014, that described the episodic nature of illness and health challenges. Investigators compared the three illnesses by examining the nature of disability as described in the Episodic Disability Framework (physical, cognitive, mental and emotional symptoms, difficulties in daily functioning, challenges to social inclusion, uncertainty) (Vajravelu et al., 2016). HIV was uniquely characterized by comorbidities, stigma and discrimination, side effects of medication and aging. People living with HIV, FM and MS experience similar issues related to episodic illness which may be translatable to other chronic illnesses. Future research should focus on pursuing access to rehabilitation issues for all episodic illness.
- To identify the **needs of PLWHIV** in Peel Region (Ontario), the Peel HIV/AIDS Network (PHAN) worked with five peer consultants to conduct a community consultation. The peer consultants were trained with the Ontario HIV Treatment Network's Universities Without Walls eLearning modules on topics such as focus group facilitation, community mapping and qualitative interviews (Ibáñez-Carrasco et al., 2016). Investigators learned the issues that PLWHIV face in Peel region. Many PLWHIV in Peel region tend to seek services in Toronto in an attempt to avoid disclosing to their community. From these findings, PHAN aims to enhance their online presence, form connections with organizations in Toronto so that they can refer PLWHIV back to PHAN as well as connect PLWHIV with service organizations and support services in their community.
- The **HIV, Health and Rehabilitation Survey (HHRIS)** aims to describe disability, comorbidities and rehabilitation services use among adults living with HIV in Canada (O'Brien et al., 2016). O'Brien and colleagues conducted a structural equation modeling analysis to investigate relationships between the dimensions of disability described in the HIV Disability Questionnaire (HDQ). The majority of participants were taking ART (90%) and living with ≥ 2 concurrent health conditions (72%). Key findings from the analysis included that physical symptoms/impairment was a strong predictor of difficulties with day-to-day activities (coefficient=0.54) and uncertainty was a strong predictor of mental-emotional health symptoms/impairments (coefficient=0.53). These findings help to conceptualize disability and serve as indicators of the role that rehabilitation professionals may play in reducing disability.

Research Priority 2 - Aging with HIV across the Lifespan

Exploring factors that contribute to healthy aging with HIV.

- **Social support** is integral to older PLWHIV (Emlet et al., 2016). Social support contributes to resilience, quality of life and is a protective factor against stressors. Emlet and colleagues conducted interviews with 30 PLWHIV aged ≥ 50 years living in Ontario. Investigators questioned participants regarding successful aging and conducted a thematic analysis of the interview transcripts. Participants noted that quality is more important than quantity in terms of social relationships and that pruning relationships (actively removing relationships that decrease their well-being) is a common part of aging successfully. Social support is important to older PLWHIV and they may need assistance in the pruning process to ensure successful aging.
- St. Michael's Hospital estimates that 50% of Canadian PLWHIV will be affected by **HIV-Associated Neurocognitive Disorder (HAND)** (Eaton et al., 2016). Eaton and colleagues utilized a Participatory Action Research (PAR) framework and a mixed methods approach to gain an understanding of the support services required by PLWHIV aged ≥ 50 who are concerned about HAND. Investigators conducted a survey with 108 participants and in-depth interviews with 20 of these participants. Through data collection, investigators aimed to assess concerns about cognitive health, and gaps in programs related to cognitive health. Investigators conducted a thematic analysis. These results can inform programs and services aimed at PLWHIV who are aging and concerned about HAND.
- Guillemi and colleagues collected data from patients attending an HIV clinic in Vancouver to assess **diabetes mellitus (DM)** in older adults (≥ 50) living with HIV. Investigators assessed 1118 participants and found that 294 developed DM after a median follow up of 13 years (Guillemi et al., 2016). Factors including earlier year of ART initiation, lower CD4 count and age ≥ 50 years at ART initiation were associated with having DM at the end of follow-up. The incidence of DM in this population was 1.8 times higher than the age-matched population. Further research needs to be conducted to discover other factors that are associated with DM incidence.
- Older women living with HIV in Canada are marginalized within HIV programming, research and policy. Ahluwalia and colleagues conducted a qualitative study to understand issues related to housing, stigma, discrimination and socially constructed roles and how these factors impact housing and health. Investigators conducted interviews with 39 older women (>40 years of age) living with HIV and thematically analyzed the results. Investigators focused on the data collected from the 20 women (51%) who identified as refugees (Ahluwalia et al., 2016). Overall, **refugee women living with HIV** face additional burdens than refugees not living with HIV, since disclosure and safety are concerns due to previous persecution and trauma. Refugee women living with HIV are faced with health issues, age related issues and challenges finding stable and affordable housing in addition to uncertainty of the future, separation from family members, family obligations and finding employment. It is important that community service providers are aware of and sensitive to the unique issues that refugee women living with HIV face such as disclosure and stigma and implement unique ways to provide services.
- Brown and colleagues conducted a retrospective evaluation of the specialist **HIV outpatient physiotherapy service** at Chelsea and Westminster NHS Foundation Trust (UK) that provides group interventions as well as individual treatment. Investigators measured health and functional status, access to rehabilitation, patient profile, and rehabilitation (1:1 treatment or rehabilitation class) treatments from electronic records (Brown et al., 2016). Of the 137 participants charts reviewed, the majority were male (83%), had an undetectable viral load (97%), were diagnosed with HIV more than 10 years ago (80%), were physically inactive (87%), had a median age of 52 years and were living with a median of 5 comorbidities in addition to HIV. Referrals to rehabilitation services were primarily from HIV physicians (47%) or dieticians (21%). Using the International Classification of Functioning, Disability and Health (ICF) Checklist, investigators found that common body function impairments included pain (88%) and joint immobility (75%), common body structure impairments included challenges with movement of a lower extremity (64%) and movement of the trunk (53%), activity limitation and participation restrictions including challenges with recreation and leisure activities (72%) and walking (56%) and environmental factors that influenced disability included social security income support (27%) and mobility aids (22%). Participants accessing the service utilized the individual rehabilitation treatments (56%) and the Kobler Rehabilitation (Exercise) Class (53%). Overall, comorbidities and functional disability were observed in this population. These findings highlight the need for widespread access to rehabilitation interventions to reduce disability and enhance quality of life for PLWHIV.

Research Priority 3 – Concurrent Health Conditions

Examining the health-related consequences of concurrent health conditions and multiple morbidities experienced by people with HIV. Understanding the complexity of disability experienced based on the number and type of conditions may help to inform ways to prevent or mitigate disability associated with HIV and concurrent conditions across the lifespan.

- A paucity of evidence exists about PLWHIV's experiences with **HAND** (Ibáñez-Carrasco et al., 2016). Ibáñez-Carrasco and colleagues explored the lived experience of HAND at The Dr. Peter Centre, St. Michael's Hospital and Casey House. The research team consisted of Peer Research Assistants (PRAs), clinicians, academics and students. Investigators interviewed 25 PLWHIV who had recently been diagnosed with HAND. Following data collection, qualitative data was coded and thematically analyzed. PRAs play an important role in the research setting and should be more involved in studies assessing the experience living with comorbidities associated with HIV.
- Ibáñez-Carrasco and colleagues assessed PLWHIV's experience with **HAND**. In this qualitative study entitled HEADS UP! Investigators screened 25 adults for HAND and followed up with an interview focused on the trajectory of HAND, its' effect on self-confidence, resilience and mood, and the role of HAND in any social interactions (Ibáñez-Carrasco et al., 2016). Investigators were able to conclude from the results that participants reported HAND-related maladaptive and adaptive strategies. Participants described feeling confused and anxious but used strategies such as humour to dismiss symptoms. Participants living with HAND reported missing appointments and making ART dosage errors among other consequences. It is important for health care providers to converse with their patients about HAND and the effect that it may have on their life. .
- Although HIV positive patients have a high risk of developing **nonalcoholic fatty liver disease (NAFLD)**, data on HIV patients with NAFLD is sparse (Vuille-Lessard et al., 2016). Investigators used transient elastography (TE) and associated controlled attenuation parameter (CAP) to study the prevalence of NAFLD in people with HIV. Investigators used logistic regression to study the cofactors of NAFLD and liver fibrosis in HIV-mono-infected patients without significant alcohol intake or hepatitis B or C infection. Of the 310 participants, any grade NAFLD, significant NAFLD, and severe NAFLD were identified in 55.3%, 33.7%, and 16.3% of patients respectively. Eleven percent of patients were diagnosed with significant liver fibrosis and 2.3% of patients were diagnosed with cirrhosis. Of the patients with significant NAFLD, 100% had at least two of the following predictors: Body Mass Index (BMI)>25, exposure to protease inhibitors, and elevated alanine aminotransferase (ALT). The results indicate that NAFLD diagnosis is common among HIV mono-infected patients, especially in patients who are obese, have elevated ALT, and were exposed to protease inhibitors. Additionally, significant NAFLD was found to be an independent predictor of liver fibrosis. As HIV-mono-infected persons are at high risk for developing NAFLD, it would be beneficial to implement non-invasive screening strategies.
- **Healthy life expectancy (HLE)** uses age-specific mortality and morbidity to estimate the expected years of living in good health (Hogg et al., 2016). Investigators sampled HIV positive (on HAART) and negative individuals ≥ 20 years of age living in British Columbia. Case-finding algorithms were used to calculate prevalence of comorbidities and the absence of these comorbidities was considered HLE. For PLWHIV, HLE ranged from 32 to 37 years in men and 19 to 32 years in women. HLE varied between HIV positive and negative individuals for liver diseases (HIV+ men: 65% vs. HIV- men: 96%; HIV+ women: 52% vs. HIV- women: 97%), Hepatitis B (HIV+ men: 82% vs. HIV- men: 99%; HIV+ women: 69% vs. HIV- women: 99%), and renal diseases (HIV+ men: 79% vs. HIV- men: 94%; HIV+ women: 41% vs. HIV- women: 95%). HLE varied considerably between HIV positive and negative individuals, particularly among women, for all comorbidities, most notably for liver diseases, Hepatitis B, and renal diseases.
- Little is known on the effects of syndemics on HIV care outcomes (Rourke et al., 2016). Rourke and colleagues studied the relationship between **syndemics of substance use and depression** and on HIV care usage and treatment. Information from 4,058 participants from the Ontario HIV Treatment Network (OHTN) Cohort Study was used to investigate the impact of the number of syndemic factors (depression, harmful alcohol use, recreational drug use, and cigarette smoking) on HIV care engagement and treatment. HIV care was measured via the following indicators: continuous care, ART, and suppressed viral load. Investigators found that those reporting more syndemic factors were less likely to engage in continuous care and ART than those with no syndemic factors. Additionally, there was a negative correlation between increasing numbers of syndemic

factors and suppressed viral load. Interventions focused on addiction and mental health should be integrated into health care.

- Gali and colleagues utilized data from physician billing claims and hospital discharges in British Columbia to understand how highly active antiretroviral therapy (HAART) in has affected the **risk of chronic comorbidities**. Investigators compared disease incidence in PLWHIV who initiated HAART in the pre-HAART expansion period (2000-2005) compared to PLWHIV who initiated HAART in the post-HAART expansion period (2006-2012) (Gali et al., 2016). When comparing these two groups, chronic liver disease infections decreased (RR of 0.67; 95% CI: 0.55, 0.82) however there were no significant differences for the other comorbidities measured. Further research needs to be conducted to detect differences in individuals who began HAART pre and post the HAART expansion period.
- In Ontario, the proportion of PLWHIV who have a **mental health issue** are approximately 2-fold higher than the general population (Lau et al., 2016). A paucity of evidence exists on health services outcomes for PLWHIV who have been hospitalized due to mental health issues. Lau and colleagues conducted a population-based study to assess health service outcomes following a hospitalization due to mental health issues for PLWHIV and the general population. Investigators utilized administrative databases to gather data on PLWHIV (n=980) and HIV-negative adults (n=251,323) (Lau et al., 2016). PLWHIV were more likely to be admitted to the hospital for a substance use disorder (31.4% vs 16.2%); SD=0.24). Investigators did not find significant differences between the two populations in terms of readmission rates, psychiatric visits or emergency department visits. Although these findings do not emphasize the mental health issues that the PLWHIV population faces, it is important to create programs in the community to address substance use issues.
- Closson and colleagues compared prevalence and incidence of **mood disorders** in PLWHIV and HIV-negative populations in British Columbia by utilizing data from the Comparison of Outcomes and Service Utilization Trends (COAST) study. Investigators used data from hospitals and physician billing on HIV-negative (n=514,619) individuals and PLWHIV (n=9,432). In PLWHIV, there were 3870 (41%) prevalent and 1656 (25%) incident cases of mood disorders (Closson et al., 2016). In HIV-negative adults, there were 86,022 (17%) prevalent and 60,834 (12%) incident cases of mood disorders. Investigators concluded from the data that PLWHIV were significantly more likely to be diagnosed with a mood disorder. Further research needs to be conducted to understand other factors related to mood disorder in PLWHIV.
- Kesselring and colleagues utilized data from the Comparison of Outcomes and Service Utilization Trends (COAST) study to compare incidence of **type 2 diabetes** in PLWHIV and HIV-negative adults in British Columbia. Investigators included 9,432 people living with HIV who had/are currently on HAART and 514,619 HIV-negative individuals. In PLWHIV, there were 444 (5%) prevalent and 320 (4%) incident cases with an incidence rate of 3.9 per 1 000 individual per year (Kesselring et al., 2016). In HIV-negative adults, there were 25,624 (5%) prevalence and 22,293 (5%) incident cases with an incidence rate of 4.0 per 1 000 individuals per year. Investigators found that HIV status was significantly associated with type 2 diabetes (odds ratio: 1.19, CI: 1.05-1.35). Further interventions need to focus on prevention of type 2 diabetes in the HIV population.

Research Priority 4 - Access to Rehabilitation and Models of Service Provision

Rehabilitation is broadly defined as any service that may address health challenges experienced by an individual due to HIV or other related concurrent conditions. This priority includes facilitators and barriers to accessing broad health and social services for people living with HIV as well as the development and evaluation of innovative models of health service delivery to better address the health-related needs of people living with HIV.

- Stephanie Nixon was invited to speak in the Social Sciences Plenary in a session entitled **Realizing Our Potential: Local to Global and Back**. To view the presentation, please [click here](#). In 1996, the advent of protease inhibitors, when used with other therapies in place, created combination therapy, or HAART. For those who receive HAART, HIV is now considered a chronic illness. With this development, new challenges have emerged such as living longer with HIV and side effects of the treatment/medications. The negative impact of HIV on body function and structure, activity, or participation is considered “disability” and any means to address these challenges is considered “rehabilitation”. Using rehabilitation in the context of HIV was first introduced in 1998 in Canada and has been growing exponentially in Sub-Saharan Africa over the past few years. Disability is a social construct that has 3 discourses: 1) Charity Model; 2) Medical Model; and 3) Rights

Model. The charity model of disability portrays people with disabilities as victims and promotes care for them. The medical model depicts disability as a health condition that needs to be fixed through medical care and promotes ableism. Although the medical model is necessary, it has limits that need to be addressed. The rights model focuses on society rather than the individual and promotes equality for all citizens, including people with disabilities. This societal model should also be considered with the medical model in the context of HIV and rehabilitation. Stephanie Nixon encouraged people to consider medical care and ableism in the future.

- As HIV continues to be an epidemic in **Canadian Aboriginal communities**, researchers and community members are looking for new strategies to prevent HIV transmission, remove stigma, and lower AIDS-related deaths (Prentice & Masching, 2016). Prentice and Masching used three phases to develop a community-led agenda: 1) a literature review to identify main themes; 2) in-person consultations with stakeholders; and 3) an online questionnaire. A total of 19 consultations were completed with 172 individuals and an additional 40 individuals completed the online questionnaire. The top priorities for people affected by or living with HIV were racism and stigma/discrimination. Other concerns included access to and involvement in healthcare and the presence of co-morbidities. Research strategies to combat these issues should include approaches that are led by Aboriginal communities.
- The incidence of HIV in Saskatoon accounts for almost half of the HIV diagnoses in Saskatchewan, with Indigenous populations having an incidence rate two to three times higher than the national HIV incidence rate (Hatala et al., 2016). **Inequities** in terms of **access to HIV-related healthcare services** between Indigenous populations in Saskatoon and the general population has led to Indigenous populations experiencing higher rates of HIV transmission, worse access to prevention and treatment services, and poorer health outcomes. Additionally, generalized methods of HIV prevention and treatment have shown to be less effective within Indigenous populations compared to the general population. Thus, working with Indigenous communities to define health service needs and priorities will help inform future HIV interventions and related services. Hatala and colleagues conducted a needs assessment and 30 semi-structured interviews with Indigenous people living with HIV/AIDS to identify the health service needs, barriers to treatment, and stakeholders' perspectives of Indigenous communities. Through better health education, improved resource utilization, and new affirmative health services, barriers to access of care can be addressed.
- Manitoba's HIV-related organizations and Aboriginal communities have partnered up in an effort to assess and address the **health care needs of Aboriginal women** in Manitoba (Gervais et al., 2016). This community-based study is part of a national project to understand the impact of HIV-related services for women. The goals of this project are: 1) to identify the strengths and weaknesses of HIV services currently in place; 2) recommend methods to address the shortcomings; 3) partake in knowledge synthesis and transfer. HIV positive Aboriginal women in Manitoba will help to develop the research objectives of this study.
- Kendal et al., (2016) explored the relationship between **physician specialty** and experience with HIV and the **quality of care** of patients with HIV. Researchers assigned HIV patients to physicians with one of five designated care models and the following outcomes were analyzed: receipt of antiretroviral therapy, cancer screening, and utilization of health services. Models with predominantly family physician treatment had higher odds of colorectal cancer screening and antiretroviral therapy than models with exclusively specialist care. Patients who were treated by family physicians exclusively had lower odds of hospitalization. These findings show that the method of care delivery influences the quality of care. The investigators suggest that more work needs to be done to determine the best method of implementing and delivering comprehensive care for HIV patients.
- Timely access to HIV health services is vital to improve the health and well-being outcomes of women with HIV (Duncan et al., 2016). Duncan and colleagues aim to identify the impact of **delayed access to HIV-related healthcare services** (defined as more than three months between time of diagnosis and time of first access to care) for women with HIV from the Greater Toronto Area, Canada. Of the 294 women in the study, 75 (25.5%) experienced delayed access to health care. Women who reported delayed access to HIV-related care experienced lower resiliency, less social support and higher depression scores than those with timely access to healthcare services. Additionally, women of non-Caucasian ethnicity experience higher odds of delayed access than Caucasian women. Women diagnosed with HIV more than six years ago had higher odds of delayed access than women who had been diagnosed less than six years ago. These findings suggest that there are multiple factors that impact access to care for women with HIV and this knowledge should be used to inform interventions to optimize access to HIV-related care and early diagnosis.

- Current health and social care systems do not meet the needs of people living long-term with HIV aiming to engage in valued activities (Restall et al., 2016). Restall and colleagues conducted a community-based qualitative study to better understand the **barriers PLWHIV face participating in valued activities** (such as exercising, parenting, working/volunteering) and how to overcome these challenges. The investigators led two focus groups and four individual interviews involving a total of 19 participants with HIV. Participants identified the following five barriers to engaging in valued activities: 1) fear and worry; 2) stigma and discrimination; 3) lack of basic needs; 4) restricted resources; and 5) insufficient supports and services. Participants indicated a desire for health and social care systems that help them explore valued activities, gain skills and experience, and increase access to participate in valued activities. There is a need for increased accessibility to health and support services for PLWHIV.
- Manitoba HIV Program's (MHP) primary care site is Nine Circles Community Health Centre (NC-CHC). NC-CHC has two **self-management programs** that are available to PLWHIV who receive care at the MHP (Ireland et al., 2016). One of the programs entitled 'Living Well with HIV' aims to improve understanding of HIV while the other program entitled "Get Better Together!" aims to enable participants to manage their health. Ireland and colleagues conducted a retrospective descriptive study to describe the PLWHIV who accessed 8 self-management courses. Future research aims to describe these characteristics and identify points along the health care journey where PLWHIV are most likely to engage in self-management programming.
- Khan and colleagues conducted a survey to assess Canadian **healthcare workers' knowledge** regarding **breastfeeding by mothers living with HIV**. The World Health Organization (WHO) has guidelines suggesting that mothers living with HIV should breastfeed in low income countries while mothers living with HIV in high income countries should formula feed. Investigators surveyed HIV providers, General Infectious Disease-Microbiology providers and Community Pediatricians to assess if providers were aware of or confused by these guidelines (Khan et al., 2016). Of the 152 participants, HIV providers demonstrated better knowledge regarding the meaning of exclusive breastfeeding, understanding that transmission risk is highest with mixed feeding, better knowledge regarding risk of transmission via breastmilk while on combination ART (cART) and overall better knowledge regarding provincially sponsored programs related to breastfeeding. Although this group had a high level of knowledge, gaps do exist between these groups. A more comprehensive program regarding breastfeeding for mothers living with HIV need to be developed and all providers need to be updated on current guidelines and transmission risks.
- Investigators sought to determine if gay and other men who have sex with men (GMSM) were **receiving proper healthcare and had engaged in healthcare** since GSM accounted for 77% of new HIV infections in Ottawa (Valela et al., 2016). Six-hundred and seventy-four GSM participated in the survey. Of those who participated, 87% reported having a primary care provider of which 90% reported seeing this provider at least once a year. In addition, 24% had not disclosed their sexual orientation to their primary care provider, 39% reported anxiety, 32% reported sadness and 31% reported depression and/or anxiety. In addition, 66% reported feeling somewhat comfortable or uncomfortable discussing sex with their provider which resulted in lower levels of knowledge of Pre-Exposure Prophylaxis (PrEP) (53%) and Post-Exposure Prophylaxis (PEP) (58%). There is a need for a more comprehensive approach to gay men's health to ensure that gay men are being informed about HIV risk reduction and sexual health.
- Côté and colleagues developed a virtual nursing intervention (VIH-TAVIE) to empower PLWHIV to **manage antiretroviral therapy (ART)** optimally. One-hundred and seventy-nine participants living with HIV engaged in a quantitative study that aimed to compare ART adherence in traditional versus virtual (four VIH-TAVIE interactive computer sessions) interventions (Côté et al., 2016). Investigators measured outcomes including medication adherence, self-efficacy and attitude toward medication intake. Both groups did not differ in terms of adherence over time or any of the other outcomes. Data from follow-up interviews showed that participants enjoyed how in the virtual intervention, the virtual nurse humanized the experience. Investigators concluded from the data that both traditional and virtual interventions have positive effects on adherence. Since there were no differences between the two interventions, VIH-TAVI could serve as a complementary service in addition to traditional methods.
- At Chelsea and Westminster NHS Foundation Trust (UK), there is a **specialist HIV outpatient physiotherapy service** that provides both group and individual treatment (Brown et al., 2016). Over a period of 2 years, Brown and colleagues administered the EQ-5D-5L to 137 participants. The majority of participants were male (83%), had an undetectable viral load (97%) and had a median age of 52 years. Pre-intervention (n=137), participants

demonstrated worse health status compared to HIV outpatients, elderly people at 12 month hospitalization risk and the UK population. Pre-intervention (n=137), participants living with HIV demonstrated worse health status when compared to elderly people at risk of hospitalization. Post-intervention (n=22), investigators found significant improvement in anxiety/depression (p=0.03), mobility (p=0.02), pain/discomfort (p=0.001) and usual activities (p=0.01) in PLWHIV who attended the individual treatment or a combination of individual and group treatment. Specialist HIV outpatient physiotherapy service can significantly improve outcomes and optimize both health and well-being.

- The aging HIV population is facing an increasing number of co-morbidities, highlighting the need for an increase in rehabilitation interventions and access to rehabilitation services (McDonnell et al., 2015). To examine the current **provision of HIV education in pre-registration physiotherapy and occupational therapy courses** across the UK, McDonnell and colleagues conducted semi-structured telephone interviews with the Course Leader or equivalent at sixteen higher educational institutions (HEI). All respondents expressed interest in an online educational module for their staff and students and expressed the popularity of online resources among students. Investigators reported on a total of 26 courses (9 occupational therapy courses and 17 physiotherapy courses). Of these courses, ten (38%) included formal HIV teaching content. Among the other courses that offered no formal teaching content, nine reported an opportunity to learn about HIV in a project or work placement while seven did not have any planned HIV related opportunities. Barriers to include HIV education in the curriculum include no room in curricula, a move away from condition-specific teaching and a move towards self-directed learning. Investigators recommendations include further surveying of HEIs on the projected need for students to have knowledge of and training in working with PLWHIV and barriers to providing HIV related education.
- The Dr. Peter Centre (DPC) is a health care facility that engages individuals in their own health care. A paucity of evidence exists on **perceptions of PLWHIV** who are accessing these services (Baltzer Turje et al., 2016). Baltzer Turje and colleagues conducted a survey with 121 participants to assess their attitudes towards services provided by the DPC. Of the 121 participants, 96% felt welcomes by staff always or most of the time, 93% felt cared for by DPC staff, 91% felt a sense of belonging always or most of the time and 90% felt respected by staff members. Community based organizations should implement similar questionnaires to understand perceptions and attitudes towards their services.
- Globerman and colleagues conducted a systematic review to examine barriers and facilitators to **retention in HIV care**. Retention allows for monitoring of adherence to ART, reducing HIV transmission risk and preventing comorbidities. Of the 5,522 citations that were initially identified, 73 met the inclusion criteria. Common barriers to retention in HIV care included substance use (n=18, 25%), age 18-55 years (n=10, 14%) and being on Medicaid or uninsured (n=8, 9%) (Globerman et al., 2016). Common facilitators to retention in HIV care included being insured (n=10, 14%), age >50 (n=9, 12%) and receiving case-management (n=8, 9%). When designing programs and interventions, it is important to take all barriers and facilitators into consideration.
- Kendall and colleagues conducted a populated-based study to investigate **breast cancer screening mammography and women living with HIV**. As women are aging with HIV, the need for mammography and awareness of age-related cancers increases (Kendall et al., 2016). Investigators utilized administrative databases to assess mammography among 1,447,027 women between the ages of 50 and 67. Of these, 623 women were living with HIV. Overall, women with HIV received screening mammography less than women without HIV (50% vs 63%). Recommendations or guidelines need to be developed to encourage older women living with HIV to undergo screening for breast cancer.
- Healthcare providers working in **rural and remote areas** where prevalence of HIV is higher often have **limited knowledge** regarding HIV diagnosis and treatment (Pendergraft et al., 2016). Since First Nation, Inuit and Métis people (FN/I/M) are disproportionately affected by HIV/AIDS, investigators developed online courses to better inform healthcare providers about HIV. Specific objectives of these courses were to i) diagnose and treat PLWHIV; ii) recognize barriers to care; and iii) recognize the diversity of this population and provide culturally appropriate care. Two-hundred and eighty-four health care providers completed the course and a survey following the course. Most participants felt that the course provided valuable content and clinical information (92%) and was relevant (88%). This course proved to be successful and should be disseminated to other remote communities in Canada.
- Challacombe and colleagues conducted a needs assessment with PLWHIV in Canada to understand the **knowledge needs of PLWHIV** and how these needs can be met. The Canadian AIDS Treatment Information

Exchange (CATIE) conducted an online survey with 438 participants (Challacombe et al., 2016). Ninety-four (94) percent of participants reported needing a little information on HIV, 92% reported needing a little information on HIV treatment. Priority topics that were listed by participants include HIV and aging, how to stay healthy, HIV treatment and how to deal with side effects. Participants reported a preference for receiving information online and in fact sheet, brochure or pamphlet format. This needs assessment highlights gaps in knowledge that can assist organizations in creating knowledge translation documents for dissemination.

- Simms and colleagues utilized a mixed-methods approach to understand the difficulties that PLWHIV face in Manitoba, outside of Winnipeg, in **accessing services** since most HIV related services and rehabilitation professionals are located in Winnipeg. Investigators conducted interviews and administered surveys to understand the rehabilitation needs of PLWHIV at a distance from services, barriers to access to rehabilitation services, participant characteristics and patterns of need (Simms et al., 2016). This needs assessment will provide service providers in Manitoba with information regarding hard to reach populations and will inform interventions targeting marginalized PLWHIV.

Research Priority 5 - Effectiveness of Rehabilitation Interventions

*Evaluating the effectiveness of rehabilitation interventions in order to prevent or mitigate disability experienced by people living with HIV. *This section also includes information about clinical interventions or studies in addressing HIV infection and its health-related consequences.*

- Nixon and colleagues developed an **educational tool for rehabilitation professionals** in Sub-Saharan Africa (adapted from the [Canadian E-Module for Evidence-Informed HIV Rehabilitation](#)). This tool specifically addresses 1) the role of rehabilitation in HIV in Sub-Saharan Africa; 2) information regarding HIV in Sub-Saharan Africa for rehabilitation professionals; 3) rehabilitation interventions for PLWHIV; 4) rehabilitation interventions for children living with HIV; and 5) outcome measurement tools (Nixon et al., 2016). With widespread support, Nixon and colleagues launched this tool in December 2015 and convened press events and workshops. It is important to raise awareness of this tool and for rehabilitation professionals in Sub-Saharan Africa to access the tool at <http://ssa.hivandrehab.ca/>
- A paucity of evidence exists on the **relationship between physical activity and metabolic health** as well as physical activity patterns, even though it is well known that physical activity has benefits for PLWHIV (Forde et al., 2016). Forde and colleagues recruited 20 men living with HIV and 20 age-matched HIV-negative men to engage in physical activity. Investigators assessed physical activity via activity logs completed by participants and an actigraph accelerometer and found that overall, men living with HIV were achieving physical activity guidelines and were significantly more physically active than their age-matched counterparts (Forde et al., 2016). In PLWHIV, significant inverse correlations existed between moderate physical activity and insulin ($p < 0.001$) and moderate physical activity and triglycerides ($p = 0.013$). The inverse relationship between physical activity and metabolic health indices was confirmed in this study. Widespread rehabilitation interventions for people living with HIV should be encouraged.
- Higher levels of **physical fitness** have been associated with higher levels of **cognitive function** in PLWHIV (McDermott et al., 2016). McDermott and colleagues conducted a 16 week exercise intervention with 13 participants to assess whether exercise could improve cognitive function. Participants were randomly assigned to an exercise group ($n = 6$) or a control group ($n = 7$). The exercise group engaged in a supervised aerobic exercise program 2-3 times per week and the control group received routine care. Investigators assessed aerobic fitness, cognitive function, metabolic profiles, sleep quality and anthropometrics. Investigators found that higher cognitive function was associated with moderate physical activity ($p = 0.04$) and aerobic fitness ($p < 0.01$). In the exercise group, there was a greater improvement in short term memory, daytime dysfunction (which describes daytime energy levels and ability to complete daily tasks). However, there were no significant improvements in global cognitive scores. Further research is required to assess the effect of exercise on cognitive health.
- O'Brien and colleagues conducted a 4 month **pilot community-based exercise (CBE) intervention** to reduce disability experienced by PLWHIV and to determine optimal implementation. Participants included adults living with HIV in Toronto who considered themselves medically stable and safe to engage in exercise (O'Brien et al., 2016). Participants met with a fitness instructor to assess their goals and establish an exercise program that

included aerobic, resistive, neuromotor and flexibility training. Participants were asked to exercise ~1.5 hours, 3X/week, for 16 weeks, with monthly education sessions. Exercise sessions were supervised weekly by a fitness instructor and participants were asked to retain an exercise log throughout the study. Investigators assessed cardiopulmonary fitness, strength, weight, body composition, flexibility, disability, contextual factors and demographic characteristics at 0, 2 and 4 months. Of the 28 participants who initiated the study, 19 (68%) completed the study. The median age of participants was 49 years and participants had a median of 4 comorbidities. Adherence (defined as attending $\geq 40\%$ of weekly supervised sessions) was achieved by 54%. Reasons for non-adherence included health status, lack of motivation and challenges with scheduling. Overall, the CBE intervention was positively received by participants who completed the study. For future CBE implementation, investigators should explore strategies to increase adherence.

- Harding and colleagues evaluated “The Kobler Rehabilitation Class” which is an **outpatient rehabilitation intervention** that combines physiotherapy-led group exercise and education for PLWHIV to support the physical, mental and social challenges associated with HIV. Investigators measured functional capacity, flexibility, upper and lower limb strength and health related quality of life of 92 participants at baseline (0 months) and post-intervention (24 months) and administered the Goal Attainment Scale (Harding et al., 2015). Referrals were largely for musculoskeletal (25.0%), oncological (19.6%) or cardio-metabolic (18.5%) reasons. Adherence (defined as attending $\geq 8/20$ sessions) was achieved by 46%. Reasons for non-adherence included physical and mental health challenges. At post-intervention, investigators assessed 37 participants and found that there were improvements in 6 minute walk test (6MWT) distance ($p < 0.001$), flexibility ($p < 0.001$), strength in triceps ($p < 0.001$), biceps ($p < 0.001$), shoulder-press ($p < 0.001$), chest-press ($p < 0.001$), and leg-press ($p < 0.001$). Health related quality of life improved in total score ($p < 0.001$), physical ($p < 0.001$), emotional ($p < 0.001$) and functional ($p = 0.065$) subscales. These results highlight a need for widespread rehabilitation interventions for PLWHIV and a need for these interventions to be flexible in nature to suit the episodic nature of HIV.
- The Asian Community AIDS Services (ACAS) conducted the Asian MSM Pathways to Resiliency (AMP2R) study to inform **programming related to resiliency and strength** since Asian men who have sex with men (MSM) face issues such as homophobia, stigma and racism (Alan et al., 2016). Alan and colleagues recruited 51 Asian MSM and 12 service providers to identify life transitions that impact health as well as resilience strategies that have proved effective for them in the past. Transitions that impacted participants’ sexual health included coming out, navigating sex and encountering HIV. Resilience Strategies that participants employed to navigate these issues included migration from oppressive environments, creating support networks, committing to self-care and balancing enculturation and acculturation. In addition to this, investigators developed the MSM Resilience Dialogues (MSMRD) which is an intervention that aims to encourage participants to recognize resilience and utilize resilience strategies. The community-based approach proved to be effective and contributed greatly to the development of the MSMRD. Other ethnic minority groups should adopt a similar approach to understanding the issues as well as resilience strategies that MSM can utilize living with HIV.
- Members of CUHRRRC, CWGHR and the Rehabilitation in HIV Association (RHIVA), were involved in an invited special session on HIV and rehabilitation entitled ***Living Longer and Living Well with HIV: Reaching New Heights in Healthy Aging***. To view the presentation, please [click here](#). Patty Solomon (McMaster University), Richard Harding (King’s College London), Darren Brown (Rehabilitation in HIV Association (RHIVA)), Stephanie Nixon (University of Toronto), Chris Lucas (Nine Circles Community Health Centre) and Kate Murzin (CWHGR) discussed the role and emerging evidence for rehabilitation in the context of HIV, aging and comorbidities and provided concrete examples of rehabilitation in clinical practice for PLWHIV. Utilizing a case study, Richard Harding discussed comorbidities, the implications of symptom burden, multidisciplinary management and living well when living with an episodic disability and multiple comorbidities. Stephanie Nixon continued by discussing how we might think about the case study from a rehabilitation perspective and what evidence exists to support rehabilitation interventions. Chris Lucas went on to discuss his personal experience aging with HIV and the difficulties he faces in accessing rehabilitation services. Darren Brown continued by discussing the Outpatient Specialist HIV Physiotherapy Service at Chelsea and Westminster Hospital and how both the individual and group based services occur in clinical practice to assist in addressing episodic disabilities, comorbidities and quality of life. Kate Murzin concluded the session by discussing how people living with HIV are fairly invisible from a policy perspective and how the Pan-Canadian Equitable Access to Rehabilitation Network is working towards policy change at government and organizational levels.

Research Priority 6 - Enhancing Outcome Measurement in HIV Rehabilitation Clinical Practice and Research

Enhancing the use and development of patient centered outcomes in HIV, disability and rehabilitation research. This can help to facilitate communication among clinicians and evaluate the effectiveness of various interventions.

- To create a patient-centered care system that focuses on patient satisfaction and high quality care, **patient-reported outcome measures (PROMs)** are needed to provide feedback to health care providers (Engler et al., 2016). Engler and colleagues conducted a scoping review of the use of PROMs with PLWHIV since the use of PROMs in clinical practice is relatively novel compared to the use of PROMS in research. Investigators identified 92 relative instruments most of which were focused on health-related quality of life (24%), resilience (23%), medication (17%) and symptoms (9%). Fewer tools were focused on stigma, healthcare evaluation, psychological impacts and body issues. This research is beneficial for healthcare providers who wish to utilize PROMs in their practice. Further PROMs need to be developed in areas such as stigma and healthcare evaluation.
- Although the prevalence of **HIV-Associated Neurocognitive Disorders (HAND)** has been estimated, it is unsure, whether the individuals used to make these estimates are representative of the HIV population (Ennabil et al., 2016). Investigators asked 410 patients aged 35+ who have been diagnosed with HIV for more than a year, without dementia or neurological disorders, to complete a questionnaire to evaluate the possibility of selection bias. The aim of the questionnaire was to compare the baseline indicators of those who agreed to participate in a cohort study on brain health to those who refused. Logistic regression was used to analyze the results to see whether the baseline indicators of work status (reported cognitive difficulties, age, and sex) differed between the accepters and refusers. Of these participants, 261 refused participation in a cohort study, 182 of whom completed the questionnaire. The data showed that the relationship between predictors of work status were the same for both accepters and refusers, demonstrating that estimates derived from participants are representative of the general HIV population.

Other Abstracts – Related to Research Methodology and Community-Based Research

The following abstracts relate to research methodological approaches (including community-based research) in the context of HIV and rehabilitation.

- O'Brien and colleagues conducted a cross-sectional web-based survey entitled the **HIV, Health and Rehabilitation Survey (HHR)**. Investigators utilized multiple recruitment strategies including electronic, on-site and snowball sampling. An additional 42 organizations took part in recruitment through via snowball sampling. Investigators submitted multiple Research Ethics Board amendments to broaden the recruitment strategy and ensure data validity. After participants completed the online questionnaire, they were asked to provide their e-mail addresses in order for them to receive a \$25 electronic gift card (O'Brien et al., 2016). Investigators flagged responses with completion time <10 minutes, IP addresses outside Canada, nonsensical responses, multiple responses from the same email address, missing responses (>50% of items) and responses with identical IP addresses. Of the 1171 responses received, investigators flagged 243 (23%) resulting in 941 responses (80% completion). From this process, investigators learned that it is important to consider online hacking when offering tokens of appreciation in anonymous web-based research, that invalid responses threaten the validity of data, community engagement is needed to ensure that target sample size is reached, recruitment via social media poses risks and ongoing input from Research Ethics Boards assist with challenges faced in data collection.
- In HIV research, **scoping studies** are being utilized more frequently to map evidence in emerging fields (Baxter et al., 2016). Baxter and colleagues conducted a cross-sectional web-based survey with community members, policy stakeholders, researchers and other stakeholders to understand the experiences of conducting scoping studies and the considerations for conducting scoping studies. Of the 83 individuals invited to complete the survey, 54 individuals (65%) completed the questionnaire. Forty-eight (58%) of these individuals, attended a scoping study meeting in Canada where all stakeholders discussed the results of the survey. Many participants

identified breadth of scope and iterative process as both a challenge and strength of scoping studies. Investigators assessed how this approach can increase research capacity, integrate knowledge translation and enhance consultation. Through administering the questionnaire and holding the multi-stakeholder consultation, investigators concluded that scoping reviews should be integrated into community-based research as it has the ability to improve HIV care, policy and programs.

- Rourke and colleagues investigated how the **involvement of community-based organizations in research studies** may play a role in encouraging PLWHIV to engage in research. Investigators collected data from 1011 participants from community-based agencies of which 593 (53%) were PLWHIV. Of the respondents, 621 (61%) were willing to participate in future health research. Increased willingness to participate in research studies was associated with both engagement by a leading community organization (OR: 3.59) and inclusion of a community advisory committee (OR: 3.49) (Rourke et al., 2016). Participants who were retired or on disability, had previous research experience or were older were more willing to participate in future research. Investigators concluded that community-based organizations play a large role in facilitating PLWHIV to participate in research. Investigators should continue to strengthen ties and recognize the value of community-based organizations.
- Worthington and colleagues conducted 10 focus groups with 60 participants to investigate **perceptions of “peer” and “community”** as defined by community-based research and community members in HIV. Separate focus groups were held for PLWHIV and people not living with HIV (Worthington et al., 2016). Peer was defined as someone with a shared understanding of the world and similar life experiences. Community was perceived differently by multiple groups. Some groups described community as a geographic area while others defined community as a group to which they belong (i.e. gay community). The definitions and perceptions of these terms are complex. It is important understand terms from all involved stakeholders including researchers, community-based organizations and PLWHIV.

CAHR Abstracts Highlighted in the Summary (References)

Ahluwalia A, Aguinaldo J, Lindsay J, Pisharody R, Desbiens M, Kangabe R, Chambers L, Zoccole A, Roesslein K, Leblanc M (May, 2016). Women Aging with HIV/AIDS and Housing: Experiences of Refugee Women. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SS3.2; pp52.

Baltzer Turje R, Fernando SM, Parashar S, Worthington C, Milloy M-J, McDougall P, Oliveira N, Hogg R (May, 2016). What Sets it Apart: Client Experiences at the Dr. Peter Centre. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP6.01; pp 149.

Baxter L, O’Brien KK, Colquhoun H, Levac D, Nayar A (May, 2016). Advancing Scoping Study Methodology in the HIV Community: Perceptions on Methodological Steps and Ways to Enhance Scoping Studies in HIV Community-Based Research. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP3.01; pp176.

Brown D, Nelson M, Bower M, Harding R. (May, 2016). People Living with HIV Have Worse Health Status Than Elderly People at Risk of Hospitalization, When Referred to Specialist HIV Outpatient Physiotherapy in the UK. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSPF.03; pp 111.

Brown D, Nelson M, Bower M, Harding R. (May, 2016). Presence of Complex Comorbidity and Functional Disability when Ageing with HIV; Review of Referrals to Specialist HIV Outpatient Physiotherapy in the UK. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSPF.02; pp 111.

Challacombe LA, McLay D, Koenig D, Rogers T, Lee E, Dube S, Knowles Z (May, 2016). Room for improvement: Knowledge Exchange Needs of People Living with HIV. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP6.10; pp193.

Chan S, Ireland L, Becker M, Keynan Y, Kasper K (May, 2016). The Need for Compassionate Supply of Antiretroviral Medications Provided Through the Manitoba HIV Program: A Retrospective Review. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP3.01; pp139.

Closson K, Osborne C, Kesselring S, Jabbari S, Franco-Villalobos C, Smith D, Ahmed T, Eyawo O, Patterson T, Hull M, Hogg R (May, 2016). Factors Associated with Mood-Disorder Diagnosis Among HIV-Positive and HIV-Negative Individuals in British Columbia. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP5.03; pp145.

Côté J, Godin G, Ramirez-Garcia P, Rouleau G, Bourbonnais A, Gueheneuc YG, Tremblay C, Otis J (May, 2016). Virtual Nursing Intervention (VIH-TAVIE) Efficacy in Empowering HIV Patients to Manage ART Optimally: Quantitative and Qualitative Results. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP1.01; pp97.

Duncan AL, Kazemi M, Kronfli N, Logie CH, Persad Y, Beaver K, Desbiens M, Carter A, Carlson A, Aden M, Benoit AC, Mack M, Zoccole A, Tharao W, Kennedy VL, Burchell A, Kaida A, Pokomandy A, Hogg R, CHIWOS Research Team (May, 2016). Multilevel correlates of delayed access to HIV-related care among women living with HIV in the Greater Toronto Area, Canada. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPH2.4; pp22.

Eaton AD, Watchorn J, Craig S, McCullagh JW, Mukandoli C, Wallace R, McClure D (May, 2016). HIV, Social Work, and Brain Health: A Mixed-methods Community-Based Research Study. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP5.03; pp181.

Emler C, Harris LM, Brennan DJ, Furlotte C, Pierpaoli CM (May, 2016). When Less is More: The Pruning of Social Networks by HIV-Positive Older Adults. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP15.02; pp207.

Engler K, Lessard D, Lebouche B (May, 2016). HIV-Specific Patient Reported Outcome Measures: A Scoping Review of Available Tools in 2015. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP14.01; pp134.

Ennabil N, Brouillette M, Fellows LK, Mayo N, Positive Brain health Now investigators (May, 2016). Mitigating the impact of selection bias on estimates of HAND prevalence. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP3.1; pp43.

Forde C, Loy A, ODea S, Mulcahy F, Gormley J, Daly C (May, 2016). Patterns of Physical Activity and Associations with Metabolic Health in Men Living with HIV Compared to Age Matched Controls. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP14.02; pp135.

Gali BJ, Jabbari S, Ma H, Eyawo O, Lima V, McGrail K, Hogg R, Moore D (May, 2016). Impact of Expanded Access to Highly Active Antiretroviral Therapy on Chronic Comorbidities among HIV-Positive Individuals in British Columbia. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP5.07; pp115.

Gervais L, Bruce SG, Payne M, Illsley A, Restall G, Sullivan T, Cheuk E, Reimer T, Becker M (May, 2016). Developing Women-Centered HIV/AIDS Services in Manitoba: A Community-Based Participatory Research Study. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: MD2.4; pp33.

Globerman J, Goglishvili D, Mitra S, Schoffel L, Gilliauskas D, Rachlis B, Rourke S (May, 2016). Barrier and Facilitators of Retention in HIV Care in High-Income Settings: A Systematic Review. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP8.01; pp156.

Guillemi SA, Harris M, Chacko SA, Ma H, Chia J, Bondy G, Montaner JG, Lima VD (May, 2016). Factors Associated with Incidence of Diabetes Mellitus (DM) in Older HIV Positive Patients. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP5.08; pp116.

Harding R, Brown D, Claffey A (May, 2016). Improved Function, Strength, Quality of Life & Goal Attainment in People with HIV Attending UK Specialist Physiotherapy-Led Group Rehabilitation Intervention. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP5.04; pp114.

Hatala AR, Meili R, Schwandt M, Bird-Naytowhow K, Pearl T, Enyioma A, Peterson J, Rooke E, Delcanto S (May, 2016). A Community Needs Assessment with Indigenous Peoples Living with HIV/AIDS in Saskatoon, Saskatchewan. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: MD2.2; pp22.

Hogg R, Montaner J, Eyawo O, Collins A, Zhang W, Chau W, Hull MW, Lima VD, Shoveller J, Barrios R (May, 2016). The State of Health: The impact of Select Comorbidities on Life Expectancy. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CS3.5; pp45.

Ibáñez-Carrasco F, Sha N, Habayama M, Gould S, Burchell N, Banks P (May, 2016). Using Community Mapping in a Participatory Consultation about PHA needs from an ASO: the Peel Region HIV/AIDS Network Experience. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP3.05; pp178.

Ibáñez-Carrasco F, Terpstra AR, O'Brien K, Chan Carusone S, Creal L, Rae A, Baltzer Turje R, McDougall P, Payne M, Medina C, Yamamoto A, Rourke S, Worthington C (May, 2016). HEADS UP! Results of a Qualitative Study of the Lived Experience of HIV-Associated Neurocognitive Disorder. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP5.07; pp183.

Ibáñez-Carrasco F, Terpstra AR, Worthington C, Chan Carusone S, Creal L, Rae A, Baltzer Turje R, McDougall P, Payne M, Medina C, Yamamoto A, Rourke S, O'Brien K (May, 2016). HEADS UP! Using a modified DEPICT Model for Participatory Analysis in a Qualitative Study of Neurocognitive Difficulties Among People Living with HIV. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP5.06; pp182.

Ireland L, Wiebe T, Fay S, Reimer T, McClarty L, Cheuk E, Restall G, Becker M, Kendall C, Liddy C (May, 2016). Characteristics of People Living with HIV Attending Self-Management Programs Offered in the Manitoba HIV Program. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP14.04; pp136.

Kendall CE, Taljaard M, Younger J, Hogg W, Glazier RH, Manuel DG (May, 2016). A population-based study evaluating the impact of physician specialty and physician HIV experience on the delivery of care for people living with HIV in Ontario. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP2.2; pp21.

Kendall C, Walmsley S, Jembere N, Burchell A, Loutfy M, Manuel DG, Raboud J, Rosenes R, Liddy C, Rourke S, Antoniou T (May, 2016). Women with HIV are Less Likely to Receive Age-Appropriate Breast Cancer Screening Compared to HIV Negative Women: A Population-Based Study in Ontario, Canada. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP10.02; pp159.

Kesselring S, Jabbari S, Franco-Villalobos C, Eyawo O, Ahmed T, Hull M, Hogg R (May, 2016). Factors Associated with Incidence of Type 2 Diabetes Among HIV-Positive and HIV-Negative British Columbians. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP5.02; pp144.

Khan S, McConnell M, Kennedy VL, Yudin M, Smieja M, Thabane L, Loutfy M, Read S, Bitnun A (May, 2016). Canadian Health Care Provider Knowledge on Breastfeeding by HIV-Infected Women. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP8.02; pp124.

Lau C, Kurdyak P, Kendall C, Bayoumi A, Burchell A, Loutfy M, Raboud J, Rourke S, Antoniou T (May, 2016). Health Service Outcomes Among Persons with HIV Following a Mental Health Admission: A Population-Based Study. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP10.01; pp128.

McDermott A, Vaporajan L, Forde C, Egana M, Gormley J, Bergin C (May, 2016). The Effects of a 16 week aerobic exercise programme on cognitive function in people living with HIV. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP14.03; pp135.

McDonnell E, Chegwiiden W, Brown D, Hamilton K, Hawkins C, Loughran K, Rich R, Stevens E, Wood C-A (May, 2016). Will the next generation of Rehabilitation Professionals be Ready to Treat People Living with HIV? Results of a Survey of UK Higher Education Institutions. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP5.11; pp117.

Nixon A, Bond VA, Solomon P, Cameron C, Mwaba C, Hanass-Hancock J, Siwale M, Yates T, Tattle S (May, 2016). Living Life on ART: Results of the Sepo II Study in Lusaka, Zambia. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SS3.1; pp51.

Nixon S, Cameron C, Chetty V, Cobbing S, Cockburn L, Mweshi M, Moses EK, Myezwa H, Nkandu EM, Nyingcho S, Okidi C, Omoroh F, Potterton J, Tattle S, Yates T (May, 2016). Knowledge Translation of HIV Research with Policy-Makers, Health Workers, and the Media in Sub-Saharan Africa: Successes and Lessons Learned. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP13.07; pp205.

O'Brien KK, Hanna S, Solomon P, Worthington C, Ibáñez-Carrasco F, Gahagan J, Nixon SA, Baxter L, Chan Carusone S, Jose-Boerbridge M, Baltzer Turje R, McDougall P, Robinson G, Reimer T, Nayar A, Tattle S, Yates T (May, 2016). Characterizing the Disability Experience Among Adults Living with HIV: A Structural Equation Model Using the HIV Disability Questionnaire. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP6.09; pp192.

O'Brien KK, Ibáñez-Carrasco F, Iku N, Solomon P, Worthington C, Kuzmanović D, Nixon SA, Gahagan J, Nayar A, Baxter L, Baltzer Turje R, McDougall P, Jose-Boerbridge M, Chan Carusone S, Robinson G, Tattle S, Yates T (May, 2016). Implementing an Online Web-Based Survey with Adults Living with HIV in Canada: Lessons Learned from the HIV, Health and Rehabilitation Survey. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada.

O'Brien KK, Ibanez-Carrasco F, Solomon P, Harding R, Cattaneo J, Chegwiiden W, Gahagan J, Baxter L, Worthington C, Gayle P, Merritt B, Baltzer-Turje R, Iku N, Zack E. Advancing research and practice in HIV and rehabilitation: a framework of research priorities in HIV, disability and rehabilitation. *BMC Infectious Diseases*. 2014, 14:3851 doi:10.1186/s12879-014-0724-8. <http://www.biomedcentral.com/1471-2334/14/724>

O'Brien KK, Nayar A, Bayoumi AM, Solomon P, Davis AM, Tang A, Murzin K, Carusone SC, Rourke S, Lowe K, Zobeiry M (May, 2016). Implementing a Community-Based Exercise Intervention to Improve the Health of Adults Living with HIV: A Pilot Study. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada.

Pendergraft K, Thomas D, Nasewich S, Galambos A, Nightingale M, Stokich D, Lockie L, Kille J, Westland K, Anis A, Tyndall M, Kestler M, King A, Masching R (May, 2016). Engaging Health Care Providers in Rural and Remote Settings through a Life Course on Community-Based and Culturally Relevant HIV Diagnosis and Treatment in BC and SK. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: EPHP15.06; pp171.

Prentice T, Masching R (May, 2016). Refining the Research Response: An Aboriginal HIV Research Strategy. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SS1.2; pp11.

Restall G, Carnochan T, Roddy P, Etcheverry E, Roger K, Sullivan T (May, 2016). "My focus is getting out into society." Exploring activities and social participation needs and goals of people living with HIV. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: MD4.6; pp39.

Rourke SB, Gardner S, Bekele TM, Rachlis B, Burchell A, Gilbert M, McGee F, Bacon J, Kendall C, O'Cleirigh C (May, 2016). Impact of syndemics of substance use and depression on annual HIV care engagement and treatment outcomes: Results from the OHTN Cohort Study (OCS). Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CS3.7; pp46.

Rourke SB, Watson J, Husbands W, Worthington C, Willison D, Chambers L, Adam B, Shi Qiyun, Globerman J, Bekele T (May, 2016). Engagement and Endorsement by a Leading Community Organization Facilitates Research Participation Among People Living with HIV and Those At-Risk in Ontario. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSPS.14; pp186.

Simms AM, Restall GJ (May, 2016). Perspectives of People Living with HIV: Activity and Participation Needs When Living at a Distance From Specialized Services. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP6.11; pp193.

Simonik A, Vader K, Ellis D, Kesbrian D, Leung P, Jachyra P, Carusone SC, O'Brien KK (May, 2016). Are you ready? Exploring readiness to engage in exercise in people living with HIV and multi-morbidity in Toronto, Canada. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada.

Simonik A, Vader K, Ellis D, Kesbrian D, Leung P, Jachyra P, Carusone SC, O'Brien KK. Are you ready? Exploring readiness to engage in exercise in people living with HIV and multi-morbidity in Toronto, Canada. *BMJ Open*. 2016, 6:5 doi: 10.1136/bmjopen-2015-010029. <http://bmjopen.bmj.com/content/6/3/e010029.abstract>

Vajravelu S, O'Brien KK, Moll S, Solomon P. The Impact of the Episodic Nature of Chronic Illness: A Comparison of Fibromyalgia, Multiple Sclerosis and Human Immunodeficiency Virus (HIV). Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CSP14.06; pp137.

Valela N, O'Byrne P, Faller E, Betim A, MacPherson P (May, 2016). Understanding the Health Status and Healthcare Needs of Gay and Other MSM in the Ottawa Area. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SS3.4; pp52-53.

Vuille-Lessard E, Lebouche B, Lennox L, Pexos C, De Pokomandy A, Giannakis A, Szabo J, Klein MB, Sebastiani G (May, 2016). Prevalence and Cofactors of Nonalcoholic Fatty Liver Disease diagnosed by Transient Elastography with Controlled Attenuation parameter in HIV Mono-infection. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: CS3.3; pp44.

Worthington C, Chambers L, Husbands W, Watson J, Willison D, Adam B, Globerman J (May, 2016). The Meaning of "Community" and "Peers" from the Perspective of Those Affected by HIV. Abstract presented at the 25th Annual Canadian Conference on HIV/AIDS (CAHR), Winnipeg, Canada. Abstract: SSP5.19; pp189.

For More Information

To view highlights from the CAHR 2016 conference, please visit:

<https://www.youtube.com/user/CAHRACRV>

To view the program from the CAHR 2016 conference, please visit: http://www.cahr-acrv.ca/wp-content/uploads/2015/10/CAHR-2016-PROGRAM_FINAL-FOR-WEB.pdf

To view the final abstracts presented at CAHR 2016, please visit: <http://www.cahr-acrv.ca/wp-content/uploads/2015/10/CAHR16-Abstracts-for-web-Final.pdf>

For more information about CUHRRRC, visit the [website](#), follow us [@CUHRRRC](#) or contact the CUHRRRC Coordinator at cuhrrc@utoronto.ca

Acknowledgements

The Rapporteur Summary on HIV and Rehabilitation Research at the 25th Annual Canadian Conference on HIV/AIDS Research (CAHR 2016) was supported by the Canadian Association for HIV Research (CAHR) and the Canadian Working Group on HIV and Rehabilitation (CWGHR).



Canadian Association for
HIV Research
L'association canadienne de
recherche sur le VIH



Canadian Working Group on HIV and Rehabilitation
Groupe de travail canadien sur le VIH et la réinsertion sociale

