

CONFERENCE
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2025

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on **HIV/AIDS**
Research



CONGRÈS DE
L'ACRV
2025

Le 34e Congrès
annuel canadien
de **recherche**
sur le **VIH/sida**

**Sustaining HIV Research Progress through
Collective Action from Coast to Coast**

**Appuyer les progrès de la recherche sur le
VIH par l'action collective partout au pays**

CAHR 2025
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ABSTRACTS
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Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV Pathogenesis and Animal models / Thème : Pathogénèse du VIH et modèles animaux

Abstract #17

Investigating the Therapeutic Potential of PPAR γ agonist, INT131, in HIV-Associated Neurocognitive Impairments

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Background: HIV-associated neurocognitive impairments (NCIs) affect ~50% of individuals with HIV, leading to cognitive, motor, and behavioral declines primarily driven by brain inflammation. Activation of peroxisome proliferator-activated receptor gamma (PPAR γ), a transcription factor involved in regulating lipid and glucose metabolism, has demonstrated anti-inflammatory effects in neurodegenerative diseases. However, its efficacy in addressing HIV-associated neurological complications, as well as potential sex differences in its effects, remains unclear. This study hypothesized that the selective, novel, PPAR γ agonist, INT131, could mitigate HIV-induced brain inflammation and neurocognitive deficits in male and female mice using the ecotropic HIV-1 (EcoHIV) mouse model.

Methods: Male and female mice were IP-injected with saline or EcoHIV (4×10^6 pg/ml of p24) and evaluated 6 weeks post-infection. Experimental groups included: (i) non-infected mice, (ii) non-infected mice treated with INT131 (20 mg/kg/day administered IP via osmotic pumps for 28 days), (iii) EcoHIV-infected mice, and (iv) EcoHIV-infected mice treated with INT131. Molecular analyses were conducted to quantify viral genes, inflammatory cytokines/chemokines, oxidative stress markers, and blood-brain barrier (BBB) tight junction proteins using qPCR and IHC in brain and spleen tissues. Behavioral assessments performed during INT131 treatment evaluated locomotion, learning, memory, and anxiety.

Results: In both male and female mouse brain and spleen tissues, INT131 treatment significantly reduced the expression of viral genes (vif, tat), inflammatory cytokines/chemokines (Tnf- α , Il-1 β , Ifn- γ , and Ccl2), oxidative stress marker (Nos2) as well as expression of the viral p24 protein. Furthermore, INT131 restored the expression of BBB tight junction proteins (Cldn5, Ocln, and Tjp1). Behavioral deficits, including impairments in locomotion, learning, memory, and anxiety, were reversed following INT131 treatment in both sexes.

Conclusion: These findings suggest that PPAR γ could serve as a novel molecular target for the treatment of HIV-associated brain inflammation, BBB dysfunction, and NCIs. (Supported by the Canadian Institutes of Health Research.)

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Abstract #97

Functional Characterizations of HIV-1 Nef Isolates Exhibiting Differential Virulence

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The Human Immunodeficiency Virus Type 1 (HIV-1) accessory protein Nef downregulates cell surface molecules such as CD4, MHC-I, CD28, and the restriction factor Serine Incorporator 5 (SERINC5) to promote HIV-1 pathogenesis and infectivity in vivo. Although these receptor downregulation activities mediated by Nef contribute to disease progression from acute HIV-1 infection to Acquired Immunodeficiency Syndrome (AIDS), it remains unclear how differential surface molecule downregulations by Nef influence HIV-1 virulence.

A recently identified hypervirulent subtype B (VB) strain of HIV-1 circulating in the Netherlands accelerates CD4+ T cell loss and progression to AIDS compared to other non-VB subtype B HIV-1 strains. Given the critical role of Nef in HIV-1 pathogenesis, we hypothesized that the VB Nef protein downregulates specific receptors, such as SERINC5, more efficiently than non-VB Nef proteins.

To address this, we compared the abilities of VB Nef and non-VB Nef to downregulate CD4 and SERINC5. In CD4+ HeLa cells coexpressing Nef and SERINC5, flow cytometry revealed that both VB and non-VB Nef proteins downregulate CD4 to similar extents. However, a polymorphic VB Variant harboring F103 mutation displayed enhanced SERINC5 downregulation. This finding is further supported by infection of Sup-T1 cells with pseudotyped viral vectors, where CD4 downregulation remained comparable across strains. Luciferase assay in infected TZM-bl cells also confirmed this enhanced SERINC5 downregulation by the F103 VB variant.

Our findings highlight the effects of specific polymorphisms on the ability of Nef to downregulate surface CD4 and SERINC5. Future work characterizing additional Nef-mediated receptor downregulations capabilities will provide further insights into the hypervirulent strain.

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Abstract #53

Using Humanized Mice to Characterize Effects of HIV, Mtb, and HIV/Mtb Co-infection on Lung CD4+ T Cell Subsets

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The Human Immunodeficiency Virus (HIV) compromises the immune system by depleting mainly CD4+ T cells, which can be categorized into different subsets based on their differentiation states and functions. HIV disrupts the intricate balance between these subsets, which is suggested to cause people living with HIV (PLWH) heightened susceptibility to opportunistic infections by pathogens such as Mycobacterium tuberculosis (Mtb), the causative agent of tuberculosis (TB) and leading cause of death among PLWH. Little is known about the adaptive immune responses during co-infection in specifically the lungs. Using humanized mice (hu-mice), we aim to address this research gap by characterizing the effects of HIV-1 on the different lung CD4+ T cell subsets and investigating how these effects may correlate with progression of TB. In the lungs of HIV-infected hu-mice, we observed significant depletion of CD4+ effector (TEFF) and effector memory (TEM) cells, whereas the relative proportion of naïve CD4+ T cells shifted towards increase. On the other hand, in Mtb-infected hu-mice, there was a significant increase and a trend towards increase in the lung CD4+ TEFF and TEM cells respectively, likely indicative of the activation and proliferation of these subsets in response to infection. At 2- and 4-weeks post-Mtb-infection, we also observed gradual increase in the proportion of CCR5-expressing CD4+ T cells, which have been reported to help recruit immune cells to the lungs for defense. In contrast, the CCR5-expressing CD4+ T cells were significantly depleted in the lungs of HIV-infected mice. These data show certain subsets that may be more involved in the defense against TB are preferentially depleted by HIV, providing a potential mechanism for how the backdrop of HIV infection promotes TB. In upcoming HIV/Mtb co-infection studies, we will examine how HIV's effects on these subsets may associate with TB disease severity, providing further insight into their interactions.

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Abstract #16

Antigen Stimulation Drives Clonal Expansion of Latent T cells under ART Suppression

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Antiretroviral therapy (ART) successfully reduces mortality rates in people living with HIV (PLWH) by suppressing Human Immunodeficiency Virus-1 (HIV) replication to undetectable levels. However, ART is not curative due to the establishment of the HIV reservoir that continues to persist despite prolonged ART suppression. It has been established that long-lived memory T cells represent the most important HIV reservoir population which is predominantly composed of CD4+ T cell clones that are established early after infection and increase under ART treatment. While factors such as integration site effects have been proposed to induce clonal expansion of HIV-infected T cells, our data points to cognate dendritic cell (DC):T cell interactions as the main driver of clonal expansion of latent T cell subsets through T cell receptor (TCR)-dependent signaling and cytokines that support a pro-survival state in these cells. Depending on the nature of the TCR stimulus, latent T cell proliferation can occur in the absence of virus reactivation. However, a remaining gap in knowledge is how antigen stimulation regulates opposing biological processes of (i) proliferation leading to clonal expansion or (ii) viral production leading to cell death. Here, we utilized a dual-fluorescent HIV latency reporter and antigen-specific human CD4+ T cell clones to modulate TCR signaling strengths using a panel of altered peptide ligands and directly examined the relationship between TCR signals and proliferative responses by latent T cells. Our preliminary data suggests that low avidity antigen stimulation drives proliferation without viral reactivation in latent T cell subsets while high avidity stimulation promotes virus reactivation and cell death. Our data argue that a critical balance between stimulatory and inhibitory pathways dictate which T cell subsets clonally expand under ART suppression. These studies have implications on stimulatory signals that can be therapeutically targeted to reduce the HIV reservoir size in PLWH.

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Theme: HIV Pathogenesis and Animal models / Thème : Pathogénèse du VIH et modèles animaux

Abstract # 96

From SIV to HIV: The Evolution of Nef Modulation on T Cell Activation and Its Impacts on Pathogenicity in Primate Hosts

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Human immunodeficiency virus type I (HIV-1) arose following cross-species transmission of simian immunodeficiency virus (SIV) infecting chimpanzees (SIVcpz). While SIV infections of its natural primate hosts are typically non-pathogenic, SIVcpz and HIV-1 infection is highly pathogenic in chimpanzees and humans, respectively. SIV/HIV pathogenesis is strongly influenced by the accessory protein, Nef. Indeed, Nef isolates from non-pathogenic SIV strains robustly downregulate the T cell receptor component CD3 ζ , which leads to lower levels of T cell activation. Conversely, Nef isolates derived from pathogenic infections fail to downregulate CD3 ζ , leading to increased chronic immune activation. We hypothesize that the increased pathogenicity of SIVcpz/HIV-1 resulted from Nef losing its ability to downregulate CD3 ζ , thereby leading to increased chronic T cell activation. Nef sequences generated from a reconstructed time-scaled phylogeny were used to measure CD3 ζ downregulation and investigate how this Nef function changed over time. We generated human CD8 α -CD3 ζ fusion constructs encoding the CD3 ζ cytoplasmic tail from diverse primate hosts, using the detection of cell surface huCD8 α as a measure of CD3 ζ downregulation by the reconstructed ancestral Nef proteins. Within the SIV/HIV lineage, only the reconstructed ancestor of all primate lentiviruses robustly downregulated CD3 ζ , while Nefs derived from the intermediate nodes in the SIVcpz/HIV-1 lineage lost this function altogether. This demonstrates that Nefs derived from the SIVcpz/HIV-1 lineage cannot downregulate CD3 ζ , which could therefore contribute to the elevated levels of chronic T cell activation consistent with pathogenic infections. Moreover, we observed Nef-mediated CD3 ζ downregulation was largely species-independent as the ancestor of all primate lentiviruses downregulated CD3 ζ from various primate species, however the exact magnitude may vary due to virus-host co-evolution. These results support the use of ancestral sequence reconstruction to characterize the deep evolutionary history of HIV-1. Our findings highlight the importance of Nef modulation of T cell activation and its contribution to pathogenicity.

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Abstract #130

A New Mouse Model of HIV in Pregnancy: the EcoHIV Pregnancy Model

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Background: Children who are born HIV-exposed but uninfected (HEU) are the fastest growing HIV-affected population, numbering at over 16 million children globally. There is a large gap in our understanding of how in utero exposure to HIV and antiretrovirals influence the development and long-term health of these children. A mouse HIV pregnancy model would greatly facilitate such research.

EcoHIV is an HIV virus that has been modified to express the envelope protein from the murine leukemia virus to allow infection in mouse immune cells. Here we present a new EcoHIV infection model in a mouse pregnancy.

Methods: 7-week-old C57BL/6 mice were infected with 2.5×10^6 pg EcoHIV virus or mock infected and were mated 1 week post infection. Pregnant dams were euthanized on gestational day (GD) 14.5 or 18.5 (N=5/group). Tissue and blood were collected. HIV infection was detected through HIV gag expression by qPCR. mRNA expression of neuroinflammatory markers were assessed in fetal brains (N=24/group). Mann-Whitney test was used for statistical comparisons.

Results: Injection with EcoHIV resulted in 100% maternal infection, confirmed by HIV gag detection in spleen tissue of all dams. Infection was detected in 4.7% of EcoHIV exposed fetuses. EcoHIV infection was associated with significantly lower fetal weights, lower placenta efficiency, and lower viability rates. mRNA levels of the inflammatory marker TNF α were increased, and mRNA levels of synapsin 1 and synaptophysin, both markers of neuronal health, were decreased in brains of EcoHIV exposed fetuses compared to controls.

Conclusions: The EcoHIV pregnancy model represents the first mouse pregnancy model that includes HIV. In utero EcoHIV exposure was associated with fetal growth restriction and placental insufficiency even in the absence of fetal infection, paralleling clinical findings. Neuroinflammation and neuronal toxicity in EcoHIV exposed uninfected fetuses, may represent a mechanism contributing to neurodevelopmental deficits seen in children who are HEU.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrégés

Theme: HIV Virology and Antivirals / Thème : Virologie du VIH et Antiviraux

Abstract #58

Host restriction factors ZAP and APOBEC3G interaction, results in Enhanced Restriction of HIV-1.

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The human APOBEC3 family of cytidine deaminases constitute an intrinsic defense mechanism that is effective against a range of viruses and retroelements. While these enzymes are well established as antiviral molecules that work independent of cofactors, the possibility of their protein-protein interaction network altering their antiviral activity has not been previously investigated. We analyzed an existing APOBEC3 affinity purification and mass spectrometry (AP-MS) data set and determined that APOBEC3G (A3G) interacts with ZAP, a zinc-finger antiviral protein (also called ZCCHV). ZAP is a Pattern Recognition Receptor (PRR) that binds single-stranded RNA and inhibits viral replication through multiple mechanisms, including targeting RNA for degradation and inhibiting its translation by binding to CpG dinucleotides. Both, A3G and ZAP are known to interact with HIV-1 RNA. ZAP action decreases HIV-1 titres and A3G induces mutations in newly formed HIV-1 (-)DNA. Despite these factors when expressed alone working at different HIV-1 lifecycle stages, we observed synergy between co-expressed A3G and ZAP that resulted in greatly reduced HIV-1 infectious titres from producer cells when compared to ZAP alone. The data suggests that the A3G-ZAP protein-protein interaction is enabling co-restriction in a manner unique from when each protein acts alone. Mechanistic details of this co-restriction will be discussed.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrégés

Theme: HIV Virology and Antivirals / Thème : Virologie du VIH et Antiviraux

Abstract #36

The HIV-1 Vif and APOBEC3F interaction involves the N-terminal domain of APOBEC3F

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APOBEC3, deoxycytidine/cytidine deaminases, are a seven-member family in humans named APOBEC3A through APOBEC3H, excluding APOBEC3E. APOBEC3s are host restriction factors against retroviruses such as HIV-1. They inhibit replication by deaminating cytosine to uracil in single-stranded DNA during reverse transcription in newly infected CD4+ T cells. The HIV-1 Vif protein interacts directly with APOBEC3 enzymes and induces their ubiquitination and proteasomal degradation to enable viral replication. The Vif-APOBEC3F interaction domain was originally mapped in the C-terminal domain of APOBEC3F. However, in 2021, Nchioua et. al. demonstrated that an N-terminal domain APOBEC3F mutant (R128T) compared to wild-type APOBEC3F exhibited greater Vif resistance and antiviral activity during infection with the HIV-1 Transmitted/Founder virus CH077. This unexpected result suggested that Vif interacted with the N-terminal domain of APOBEC3F. We hypothesized that the N-terminal domain of APOBEC3F had a role in Vif-mediated degradation. We confirmed this through co-immunoprecipitation with APOBEC3F wild type and mutants. In addition, the greater Vif resistance and antiviral activity of APOBEC3F R128T was observed with multiple Transmitted/Founder viruses. Altogether, our study supports a novel Vif interaction interface in the APOBEC3F N-terminal domain and provides new insights into the molecular mechanisms underlying APOBEC3F antiviral activity.

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Abstract #95

Understanding the Role of Glycosylation and Host Factors in the Transmission Fitness of Transmitted/Founder (T/F) HIV-1

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During transmission, a single human immunodeficiency virus 1 (HIV-1) clone, termed the transmitted/founder (T/F) virus, establishes systemic infection within the new host. Our group has previously identified key traits of T/F HIV-1 that contribute to its successful transmission, including variations in envelope glycosylation, and demonstrated that transmission modes—such as those from men who have sex with men (MSM), heterosexual (HET) individuals, and people who inject drugs (PWID)—significantly influence T/F transmission fitness in cervical tissue. Additionally, in ex vivo experiments, we have shown that lectin saturation of genital tissue explants, which prevents glycan binding, enhanced transmission, further emphasizing the role of envelope glycosylation in HIV-1 transmission efficiency.

To investigate the role of glycosylation in HIV-1 transmission fitness, we performed a lectin microarray analysis to compare the glycosylation profiles of T/F Env from derived from different transmission risk groups. While no differences were observed in glycosylation profiles between T/F viruses from different transmission modes, T/F Env showed distinct features compared to chronic Env, including lower levels of bisecting GlcNAc and higher levels of fucosylated glycans. Fucosylated glycans correlated with phenotypic data previously collected, including improved replication capacity in cervical tissue and faster host cell entry. These findings suggest glycosylation patterns, particularly fucosylated and complex glycans, may play a key role in T/F HIV-1's ability to evade immunity and establish infection in a new host. Future work will focus on systematically modifying the glycan profiles on T/F Env to assess their impact on transmission in human genital tissue explants, as well as using mass spectrometry to further investigate how specific glycosylation structures influence HIV-1 transmission. Glycosylation of the envelope poses a challenge to vaccine design by shielding critical epitopes on the HIV-1 surface. This project aims to characterize the glycan profiles of HIV-1 to inform and advance vaccine development.

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Abstract #169

Elucidating the interplay between HIV RNA packaging and nonsense mediated mRNA decay

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Human Immunodeficiency Virus (HIV) persists as a global threat with over 38 million people infected. While the mechanism of HIV viral genomic RNA (vgRNA) packaging is well-studied, vgRNA's ability to evade the Nonsense Mediated mRNA Decay (NMD) pathway is poorly understood. NMD functions to degrade transcripts that contain Premature Termination Codons (PTCs). Recent studies have demonstrated that NMD-essential UPF1 robustly and nonspecifically binds RNAs and translating ribosomes physically displace UPF1. Despite the full-length vgRNA containing multiple PTCs, many transcripts evade NMD and are selectively packaged into nascent virions. The Arts laboratory has identified a critical RNA secondary structure element termed the Genomic RNA Packaging Enhancer (GRPE) that overlaps the ribosomal frameshifting site needed for translation of the Gag-Pol polyprotein. It is hypothesized the GRPE modulates frameshifting frequency allowing for downstream UPF1 displacement, NMD evasion, and preferential vgRNA packaging. To confirm this, an HIV backbone was modified with luciferase reporters and an inducible promoter to quantitatively measure frameshifting frequency and RNA decay rates, respectively. Additionally, mutations were made to destabilize the GRPE RNA secondary structure, and their frameshifting frequencies, RNA decay rates, and packaging efficiencies were studied. With these mutants, we observed that ribosomal frameshifting was correlated with both RNA decay rates and packaging of the mutant transcript into nascent virions. Ultimately, these results suggest a model of HIV packaging that is concurrent with the translation status of the vgRNA itself and translation may serve as a mechanism of NMD protection. Understanding the mechanism behind HIV NMD evasion can greatly increase lentiviral gene transduction efficiencies as all currently used lentiviral transduction systems do not harbour a GRPE. Preliminary GRPE incorporation increased gene transduction 4-fold as a direct effect of increased packaging, enhancing the plausibility of lentiviral gene transduction to help in the cure of many genetic diseases.

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Abstract #257

CD4 is Not Required for HIV-1 Entry and Infection

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Despite improvements in HIV-1 therapies drug treatment failure and the inability to target latent viral reservoirs remain major limitations. Infection generally requires HIV recognizing the primary receptor CD4, followed by binding to either of the chemokine coreceptors, CXCR4 or CCR5. This binding mode enables cell entry by HIV gp41 fusion with the cell membrane. Investigators have believed for some time that initial binding to CD4 is required for HIV-1 infection. However, studies have shown that HIV-1 can enter cells lacking CD4 although this remains controversial, and the mechanisms are unclear. This study aims to identify a model CD4-negative cell line that is infectable with HIV-1 to study alternate entry mechanisms and determine whether CD4-negative cells can act as latent viral reservoirs. CD4-negative human osteosarcoma (HOS) cells expressing either coreceptor were infected with an envelope-pseudotyped, luciferase or GFP reporter HIV-1.; JR-FL-envelope for CCR5+ and HXB2-envelope for CXCR4+ cells. These cells were confirmed to be CD4 negative through flow cytometry, mRNA expression & the use of a CD4 blocking antibody (Ibalizumab) during infection assays. We found that HIV-1 can infect HOS cells, as demonstrated by post-infection luciferase and GFP expression that was blocked by the integration inhibitor Raltegravir. Infection in HOS cells is resistant to Ibalizumab but susceptible to coreceptor blockers, suggesting that infection is CD4 independent but coreceptor dependent. These results indicate that in the absence of the CD4 receptor, HIV-1 uses an alternative mechanism for viral entry into HOS cells. Further studies will examine infected GFP-positive cells, including single-cell RNA sequencing, determining mechanisms used for viral entry, and the use of a red/green reporter virus to investigate latency. Deepening our understanding of viral entry into CD4-negative cells may help identify unknown viral reservoirs, improve HIV-1 therapeutics, and contribute to finding an eventual cure.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV Virology and Antivirals / Thème : Virologie du VIH et Antiviraux

Abstract #233

HIV-Specific T-cell Responses and the Viral Reservoir in an Exceptional Elite Controller

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Background: Elite controllers naturally control HIV replication and have small viral reservoirs. Exceptional elite controllers (EEC) present with higher-level control, smaller and replication incompetent reservoirs, and are the model for functional cure. Further elucidation of associated immunological and virological factors is needed. We present an in-depth case study describing the HIV-specific immune responses and viral reservoir in an EEC.

Methods: Viral reservoirs in peripheral CD4+ T cells were quantified by quantitative viral outgrowth assay (qVOA) and intact proviral DNA assay (IPDA). Proviruses were sequenced with FLIP-seq and sub-genomic PCR of immunodominant regions of interest. Ex vivo IFN- γ responses were determined using ELISpot assays and peptides spanning the HIV proteome.

Results: The participant EEC is serologically HIV-antibody positive for 6 years, clinically asymptomatic with an undetectable plasma viral load, normal CD4 count, wild-type CCR5 and the protective HLA-B*27:05 allele. qVOA could not detect viral replication after long term culture of more than 600x10⁶ CD4+ T cells. IPDA showed ~1 intact provirus/10⁶ memory CD4+ T cells. FLIP-seq of 1.2x10⁶ central memory CD4+ T cells recovered one defective provirus. Targeted-PCR recovered three Gag sequences and six Nef sequences. All six Nef sequences had a deletion at Nef 75-79 (PLRPM), affecting residues required for MHC-1 downregulation. This Nef deletion could not be detected in >600 subtype-B clinical isolates. The patient has IFN- γ responses across the HIV proteome, including a CD8+ response to B*27 Gag KRWILGLNK and CD4+ response to Pol STAVKAACWWANVTQ.

Conclusion: Despite the absence of active viral replication, this EEC had detectable ex vivo CD4+ and CD8+ responses to multiple regions. The presence of a distinct Nef mutation associated with loss of MHC-1 downregulation suggests ongoing T cell responses are effective in maintaining the EEC phenotype. Our study highlights the importance of Nef inhibition in allowing the immune response to control HIV.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV Virology and Antivirals / Thème : Virologie du VIH et Antiviraux

Abstract #303

Identification of a Metabolic Profile Associated with Immunologic Quiescence in the Vaginal Lavage of Kenyan Women with Delayed HIV-1 Seroconversion

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Metabolites, like butyrate and lactate play a crucial role in maintaining gut mucosal homeostasis by enhancing epithelial barrier function and promoting immune tolerance to commensal microbes. Recent findings from the Kaushic lab demonstrated that lactic acid mitigates inflammatory effects of dysbiotic short-chain fatty acids (SCFAs at mM concentrations) and prevents HIV-1 particles from migrating through the VK2 vaginal epithelium. However, evidence in human vaginal mucosa remains sparse. This study hypothesized that HIV-exposed but seronegative (HESN) women exhibit a distinct vaginal metabolite profile that contributes to low immune activation and robust barriers against infection.

We quantified SCFAs, inflammatory mediators, and hydrogen peroxide (H₂O₂) levels in cervical-vaginal lavage (CVL) samples from Kenyan HIV-seronegative female sex workers (HESN, n=21) and HIV-susceptible controls (n=22). SCFAs, including phenylethylamine (median 23 vs. 16 µM, p=0.02), butyrate (median 26 vs. 12 µM, p<0.0001), and propionate (median 28 vs. 11 µM, p<0.0001), were elevated but still within eubiotic ranges in HESN samples. Our in vitro study showed that butyrate could reduce HIV-1-elicited response of interferon regulatory factor-1 (IRF-1), which is key to transactivation of HIV-1 promoter and inflammatory cytokine. Additionally, metabolites like histamine (median 13 vs. 26 µM, p<0.0001), pyruvate (median 13 vs. 26 µM, p=0.0002), acetyl-ornithine (median 14 vs. 25 µM, p<0.001), and tyramine (median 15 vs. 24 µM, p=0.02) were significantly lower in HESN, correlating with reduced levels of pro-inflammatory chemokines (GRO-α, MIG, MCP-1, TGFα, RANTES, TNFα). Consistent with these findings, basal H₂O₂ levels were elevated in HESN CVL (median 77 vs. 15 µM, p<0.0001), which may inhibit HIV-1 and dampen immune activation. Taken together, these results suggest that vaginal metabolites play a role in mucosal homeostasis, immune modulation, and susceptibility to acquisition of HIV-1 infection.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV Virology and Antivirals / Thème : Virologie du VIH et Antiviraux

Abstract #131

Doravirine Phenotypic Susceptibility and Plasma Viral Load Outcomes in Individuals with HIV Harboring One or More Commonly-Selected NNRTI Resistance Mutations

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Introduction: Doravirine (DOR) was designed to retain activity against HIV harboring common NNRTI resistance-associated mutations (RAMs) including K103N, Y181C and G190A. However, the effectiveness of DOR-containing ART combinations in treating individuals with combinations of NNRTI RAMs remains incompletely understood. We assessed DOR phenotypic susceptibility and plasma viral load outcomes in 8 individuals harboring NNRTI RAM combinations who switched to a DOR-containing regimen.

Methods: For each participant, a representative plasma HIV RNA partial pol sequence was single-genome amplified and used to construct a clonal recombinant NL4-3 stock. Viruses were propagated in an immortalized GFP-reporter cell line in the presence of 0.01-10,000nM NNRTIs with EC50 fold-changes (FC) determined relative to NL4.3. Phenotypic DOR resistance was defined as a FC>3.

Results: All control NL4-3 viruses harboring single mutations (K103N/V106A/Y181C/G190A/F227C/ M230L) exhibited NNRTI resistance consistent with the Stanford HIVdb algorithm (v9.6). In contrast, 3/8 clinical isolates displayed lower DOR phenotypic resistance than predicted: participants 66 and 69, predicted as intermediate and low DOR resistance respectively, had FC<3, suggesting a susceptible phenotype, while participant 24, predicted as high DOR resistance, had a FC=4.1 suggesting moderate DOR resistance. All eight participants maintained pVL <40 copies/mL at their last visit while on DOR, including participant 46 who harbored a Y318F substitution conferring high-level DOR resistance as expected. Notably, after a 4-month ART interruption during which pVL rebounded to >100,000 c/mL, participant 46 re-suppressed to 42 c/mL after restarting the same regimen.

Conclusion: Individuals harboring HIV with various common NNRTI RAM combinations can be successfully treated with DOR.

Supporting Document

Table: Genotypes, phenotypes, treatment details and plasma viral load outcomes for 8 individuals with prior NNRTI RAMs who switched to DOR-containing regimens

Participant	NNRTI RAMs	Sampling date	Date of DOR switch	Prior Regimen	DOR Regimen	Predicted DOR Resistance Level (Stanford)	Phenotypic DOR EC50 (nM)	Phenotypic DOR FC	GSS of other ARVs	pVL at Switch (HIV RNA copies/mL)	Follow up (months)	Last on-DOR pVL (HIV RNA copies/mL)
1	Y181C, G190A	Sep 2008	Apr 2021	FTC+TDF+ETR+DRV/r+RAL	3TC+DRV/r+DTG+DOR	Low	77	3.1	2	<40	18.1	<40
6	K103N, Y181C	Jan 2001	Dec 2021	FTC+TDF+ETR+DRV/r+RAL	FTC+TAF+DRV/r+BIC+DOR	Potential Low	26.8	1.1	3	<40	16.0	<40
10	Y188H	Nov 2009	Aug 2021	FTC+TDF+DRV/c	FTC+TAF+BIC+DOR	Susceptible	30.6	1.2	3	<40	18.2	<40
24	V106A	Mar 2012	Nov 2021	3TC+ABC+RPV+DTG	3TC+ABC+DTG+DOR	High	101.9	4.1	2	<40	18.4	<40
26	K103N, G190A	May 1999	Sep 2021	ETR+DRV/r+RAL	3TC+DRV/c+DTG+DOR	Susceptible	36	1.5	2.5	<40	20.7	<40
46	K103N, V108I, I135T, H221Y, Y318F	Feb 2007	Oct 2020	3TC+ETR+DRV/r+RAL	FTC+TAF+DRV/r+BIC+DOR	High	1789	72.6	2	<40	10.1	<40
66	K101E, I135T, Y181I, G190A	Jun 2000	Aug 2021	3TC+ABC+ETR+ATV/r+DTG	3TC+ABC+DRV/c+DTG+DOR	Intermediate	64.1	2.6	2.5	<40	20.9	<40
69	V106I, V108I	Jan 2019	Jan 2022	FTC+TDF+DTG	3TC+TDF+DOR	Low	58.9	2.4	2	<40	12.5	<40

3TC, lamivudine; ABC, abacavir; ATV, atazanavir; BIC, bictegravir; /c, cobicistat; DOR, doravirine; DRV, darunavir; DTG, dolutegravir; ETR, etravirine; FTC, emtricitabine; /r, ritonavir; RAL, raltegravir; RPV, rilpivirine; TAF, tenofovir alafenamide; TDF, tenofovir disoproxil fumarate; pVL, plasma viral load. Resistance interpretations were performed using the Stanford HIV Drug Resistance algorithm (v9.6) accessed on 03 October 2024 (<https://hivdb.stanford.edu/hivseq/by-sequences/>)

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #332

Characterization of Antibodies from Human Antibody Transgenic Mice Induced by the Germline-Targeting Immunogen eOD-GT8 and Modified Derivatives Designed to Prime VRC01-class HIV-specific B cells

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VRC01-class broadly neutralizing antibodies (bnAbs) are key targets for human immunodeficiency virus type 1 (HIV-1) vaccine design due to their specificity for the conserved CD4-binding site (CD4bs) on gp120. Germline-targeting immunogens, such as engineered outer domain germline targeting version 8 (eOD-GT8), have demonstrated potential in activating naïve B-cell precursors of VRC01-class bnAbs in people. eOD-GT8 is designed without a glycan on the perimeter of the CD4bs to enhance VRC01-class precursor activation. This glycan, located at position 276 on gp120, occurs in most HIV-1 strains and is accommodated by affinity-matured VRC01-class bnAbs. Consequently, booster immunogens will likely need to include this glycan to guide precursor B cells toward affinity maturation.

Here, we present initial insights from antibody responses in human-antibody transgenic mice induced by eOD-GT8 and its modified derivatives. Consistent with clinical trial findings, mice immunized twice with nanoparticle-displayed eOD-GT8 produced sera that modestly neutralized (~30%) a sentinel HIV-1 strain without the 276-glycan at the lowest serum dilution tested but failed to neutralize the same virus altered to contain the 276-glycan. In contrast, mice boosted with eOD-GT8 incorporating the 276-glycan produced antibodies that neutralized 276-glycan-bearing viruses (30-40% at 1:20 serum dilution). ELISA analyses showed that all mice develop antibodies to the nominal CD4bs as presented on eOD-GT8, with a more significant fraction of CD4bs-specific antibodies observed in those receiving modified eOD-GT8. Paired antibody sequence analyses from singly-sorted memory B cells indicate that eOD-GT8-immunized animals predominantly utilize VH3-23 (77%; n=34), associated with CDR H3-dominated CD4bs recognition. In contrast, mice boosted with modified eOD-GT8 exhibited a broader V-gene usage, including VH3-23 (52%), VH3-20 (20%) and VH1-24 (10-30%) (n=73). We are investigating the functional implications of these alternative V-gene-utilizing antibodies, particularly their potential ability to accommodate or circumvent the 276-glycan, to inform future immunogen design strategies to elicit VRC01-class bnAbs.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #196

Sociodemographic, Clinical, and Immunogenetic Factors Associated with HIV Reservoir Size and Total Proviral Burden

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Introduction: Understanding the factors influencing HIV persistence is critical for developing curative strategies. We investigated sociodemographic, clinical, and immunogenetic correlates of HIV reservoir size and total proviral burden during antiretroviral therapy (ART).

Methods: We cross-sectionally studied 153 adults with HIV receiving ART. HIV reservoir size (genomically-intact proviruses/million CD4+ T cells) and total proviral burden (total HIV DNA copies/million CD4+ T-cells) were measured using the Intact Proviral DNA Assay, using custom primers/probes where required. HLA-I types were characterized by sequencing.

Supporting Document

Table: Factors associated with intact HIV reservoir size and/or total proviral burden: univariable analyses

Variable	Intact reservoir (intact proviral copies/million CD4+ T-cells)	Total proviral burden (total proviral copies/million CD4+ T-cells)	Direction of association
Era of HIV acquisition (≤1995; 1996-2012; 2013-now)	ns	Kruskal-Wallis p=0.0001	More recent HIV acquisition = smaller total proviral burden
Age	ns	Spearman's ρ=0.31, p=0.00009	Older age = larger total proviral burden
Sex assigned at birth	ns	ns	no association
Ethnicity	ns	ns	no association
HIV subtype (B as reference)	ns	Mann-Whitney p=0.029	Non-B subtype = smaller total proviral burden
Current ART regimen (INSTI-based as reference)	ns	Mann-Whitney p=0.00053	INSTI-based regimen = smaller total proviral burden
Total time with pVL>500 copies/mL	Spearman's ρ=0.18, p=0.048	Spearman's ρ=0.53, p=1.2×10 ⁻⁹	Longer time w/ pVL>500 = larger intact reservoir and total proviral burden
Total time with pVL<500 copies/mL	ns	Spearman's ρ=0.31, p=0.00025	Longer time w/ pVL<500 = smaller total proviral burden
Nadir CD4+ T-cell count	Spearman's ρ=-0.2, p=0.016	Spearman's ρ=-0.41, p=1.5×10 ⁻⁸	Lower nadir = larger intact reservoir and total proviral burden
Recent CD4+ T-cell count	Spearman's ρ=-0.18, p=0.023	Spearman's ρ=-0.18, p=0.03	Lower recent count = larger intact reservoir and total proviral burden

Recent CD4+/CD8+ ratio	Spearman's $\rho=-0.32$, $p=0.0002$	Spearman's $\rho=-0.37$, $p=1.2 \times 10^{-5}$	Lower ratio = larger intact reservoir and total proviral burden
HLA allele carriage: B*27:05	Mann-Whitney $p=0.0086$, $q=0.15$	ns	B*27:05 carriage = smaller intact reservoir
HLA allele carriage: B*15:01	Mann-Whitney $p=0.0095$, $q=0.15$	ns	B*15:01 carriage = larger intact reservoir
HLA allele carriage: C*03:03	Mann-Whitney $p=0.0265$; $q=0.19$	ns	C*03:03 carriage = larger intact reservoir
HLA allele carriage: B*07:02	ns	Mann-Whitney $p=0.01$; $q=0.19$	B*07:02 carriage = larger total proviral burden
HLA allele carriage: C*02:02	ns	Mann-Whitney $p=0.026$; $q=0.19$	C*02:02 carriage = smaller total proviral burden
HLA allele carriage: A*02:01	ns	Mann-Whitney $p=0.027$; $q=0.19$	A*02:01 carriage = larger total proviral burden

ns = not significant
INSTI = integrase inhibitor
pVL = plasma viral load
HLA alleles associations adjusted for multiple comparison with q-values

Results: Participants were 89% male with a median age of 54 (Q1-Q3:39-60) years. The median recent CD4+ T-cell count was 740 (Q1-Q3:565-935) cells/mm³, median nadir CD4+ T-cell count was 220 (Q1-Q3:110-413) cells/mm³, and median recent CD4/CD8 ratio was 0.89 (Q1-Q3:0.64-1.24). Participants had received triple-ART for a median 10 (Q1-Q3:5.5-19.4) years, and 66% were receiving integrase inhibitor-based regimens at sampling. Most (91%) had subtype-B HIV. The median reservoir size and total proviral burden were, respectively, 76 (Q1-Q3:26-176) and 922 (Q1-Q3:408-2102) HIV copies/million CD4+ T-cells. These measurements correlated strongly with one another (Spearman $\rho=0.69$, $p<0.0001$). The table lists factors significantly associated with intact reservoir size and/or total proviral burden in univariate analyses. Notably, the relationship between numerous variables and reservoir size/proviral burden differed based on HIV acquisition era, indicating that the latter exerted strong modifying effects.

Conclusions: Associations between low CD4-related measures and a larger reservoir emphasize the importance of early ART initiation. HLA associations, notably between the protective allele HLA-B*27:05 and a smaller reservoir, support host genetic effects on HIV persistence.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #236

Detection of Cytolytic CD56brightCD16dim Natural Killer Cells in Women on Depot Medroxyprogesterone Acetate

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Background: In Sub-Saharan Africa, the most common form of injectable contraceptive is Depot MedroxyProgesterone Acetate (DMPA). There is controversy in the field as some studies have associated DMPA use with increased risk for HIV acquisition. Natural Killer (NK) cells are among the immune system's first responders and may have a protective role against HIV infection. NK cells represent 10% of peripheral blood mononuclear cells (PMBCs) and are classically divided into two subgroups based on their expression of CD56 and CD16. The CD56dimCD16bright NK cells are known for their cytolytic activity, while the CD56brightCD16dim NK cells play a crucial role in cytokine production. This study aims to assess the effects of DMPA on NK cell phenotypes.

Methods: Blood was collected from women from the Sex Worker Outreach Project (SWOP) in Nairobi, Kenya. The case group were participants using DMPA for at least two cycles. Controls included non-hormonal contraceptive users (non-HC), with samples collected during both the follicular and luteal phases. NK cell functions were evaluated by flow staining for CD107a (a marker of degranulation), NKG2D (an activation receptor), and IFN- γ following stimulation with either PMA/ionomycin or K562 cells.

Results: The cytokine-producing NK cells from DMPA users exhibited lower per cell IFN-gamma production following PMA/ionomycin stimulation than non-HC over the menstrual cycle (luteal $p=0.011$; follicular $p=0.005$). When stimulated with K562 cells, these NK cells from DMPA users showed increased degranulation compared to those from non-HC collected at the follicular phase of the menstrual cycle ($p=0.007$).

Conclusion: Our analysis shows that DMPA use correlates with NK cell functions. While the cytokine NK cells are traditionally regarded as only cytokine producers, our findings suggest this subset in women using DMPA has a heightened capacity for cytolytic function. Whether this phenotypic effect is protective, or a byproduct of increased HIV risk, remains to be determined.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrégés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #232

T Cell Death: A Challenge for Immune Response Detection in the Context of AIDS

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Studying specific responses in blood and lymphoid organs is essential for vaccine development and diagnosis of infectious diseases. Following antigenic stimulation, the expression of molecules such as CD69, CD137/4-1BB and CD154/CD40L enables the detection of specific T lymphocytes (activation-induced markers/AIM assay) by flow cytometry. This assay has been applied in contexts like SARS-CoV-2 and HIV infection and vaccination.

HIV and its simian counterpart (SIV) induce immune dysfunction by triggering apoptosis in CD4 T lymphocytes, which are pivotal to adaptive immune responses. The infection also disrupts other components of the immune system, such as the production of interleukin-12 (IL-12), a cytokine that plays a role in preventing CD4 T cell apoptosis. Other cells including B and CD8 T are also altered, further emphasizing the impact of HIV/SIV on the development and maintenance of vaccine-induced responses.

Our objective was to optimize methods for monitoring vaccine responses in humans (PBMC) and in a macaque model infected with SIV (PBMC and peripheral lymph nodes). Using the AIM assay and an in vitro proliferation assay following antigen stimulation, we observed increased basal expression of activation markers, likely reflecting the chronic immune activation associated with SIV infection. Following stimulations, we also detected exacerbated cell apoptosis, suggesting activation-induced cell death (AICD). A combined AIM and Annexin V assay demonstrated that cells expressing activation markers are more prone to die, making their detection more complex. These findings underscore the complexities of studying antigen-specific responses in the context of chronic viral infections like HIV/SIV.

Therefore, optimizations to minimize T cell apoptosis are ongoing to improve the sensitivity of these analyses. The improved methods adapted to the macaque model will allow for more precise studies of vaccine immune responses, particularly in lymphoid organs that are difficult to access in human studies.

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Abstract #307

Impact of Dolutegravir Resistance Mutations on HIV-1 Integration Site Targeting and Reservoir Dynamics

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The use of dolutegravir (DTG) in modern antiretroviral regimens has significantly improved HIV-1 management. However, the virus has developed resistance mechanisms, observed especially among subtype D-infected individuals, exacerbating the global challenge of controlling HIV. Resistance to DTG has been linked to key integrase polymorphisms that reshape HIV-1 reservoirs, fostering the emergence of more dynamic and resilient viral populations. This study investigates how DTG-resistant mutations in subtype D integrase influence integration site preferences under therapeutic conditions. HIV-1 chimera viruses were constructed using the subtype B NL4-3 backbone incorporating subtype D integrase with key DTG-resistant integrase mutations, such as R263K or N155H. Control viruses without DTG-resistant integrase mutations were also generated for comparison. These viruses were used to infect cells cultured with or without DTG, and integration site libraries were prepared for Illumina sequencing and analyzed using the Barr Lab Integration Site Pipeline. Under both untreated and DTG-treated conditions, the HIV-1 chimeric viruses demonstrated preferential integration into specific genes, including MROH1, COLEC11 and SCN5A, which have been implicated in previous studies as potential contributors to HIV-1 reservoir formation. Notably, viruses carrying the N155H and R263K integrase mutations also showed significantly higher integration in long interspersed nucleotide elements (LINEs) and near short interspersed nucleotide elements (SINEs) compared to non-mutant controls. This preference was amplified under DTG treatment, potentially due to the presence of non-canonical B-form DNA structures, such as inverted repeats, at these integration sites. These findings reveal that DTG-resistant integrase mutations influence HIV-1 integration by targeting specific genes and regulated genomic features like SINEs and LINEs, particularly under therapeutic pressure. Further research into the biochemical mechanisms driving these patterns will inform the development of next-generation therapies to disrupt persistent HIV-1 reservoirs and help improve global HIV-1 treatment outcomes.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #138

Incidence and Probable Causes of Non-suppressible Viremia during Antiretroviral Therapy in a Large Population-based Cohort of People Living with HIV

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Introduction: People living with HIV (PLWH) receiving antiretroviral therapy (ART) can experience non-suppressible viremia (NSV), characterized by detectable plasma viral loads (pVL). Clinical guidelines state that NSV is caused by drug adherence/absorption issues or emergent HIV drug resistance, and recommend regimen modification. However, NSV can also be due to virus release from reservoir cells, which is not clinically actionable. We investigated the incidence and possible causes of NSV in a population-based cohort in British Columbia.

Methods: We retrospectively analyzed clinical histories and archived plasma from 2396 PLWH who donated their samples to research, and who were eligible to experience NSV on or after January 1, 2017. We defined an NSV episode as ≥ 2 consecutive pVL:50-1000 copies/mL ≥ 1 month apart that occurred after ≥ 4 months of ART-mediated suppression (pVL <50 copies/mL). NSV episodes ended upon pVL re-suppression (two consecutive pVL <50 copies/mL ≥ 4 months apart), or with virologic failure (pVL >1000 copies/mL), or the end of follow-up.

Results: Of 2396 participants, 245 (10.2%) experienced 289 NSV episodes, each lasting a median 232 (Q1-Q3:101-532) days. Overall, 75.8% of NSV episodes ended in re-suppression. We quantified antiretroviral levels during 125 NSV episodes from 184 plasma samples using a validated Mass Spectrometry assay: only 6.5% had low drug levels suggestive of incomplete adherence. HIV drug resistance genotyping during NSV for 88 participants revealed emergent drug resistance in only 8.0% (7/88) of cases. Of 43 NSV episodes with both drug levels and resistance data, 32 (74%) were not explainable by either low drug levels or emergent drug resistance.

Conclusions: NSV is relatively common, and typically lasts for >200 days. The NSV episodes described here are largely unexplained by emergent HIV drug resistance or adherence/absorption issues, suggesting viral reservoir release as the cause. Further research is needed to confirm these findings and inform updates to clinical guidelines.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #146

Non-suppressible HIV Viremia During Antiretroviral Therapy: Genetic Composition, Evolutionary Dynamics and Possible Cellular Sources

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Introduction: Non-suppressible viremia (NSV) during ART can originate from clonally-expanded proviruses, but NSV's genetic composition, evolutionary dynamics and cellular sources remain incompletely understood. We phylogenetically characterized HIV diversity in four participants experiencing prolonged NSV.

Methods: Longitudinal single-genome partial pol sequencing was performed for 4-7 timepoints per participant, including pre-ART and during NSV. For two participants, near-full-length single-genome provirus and/or viral outgrowth sequencing from blood CD4+ T-cells was also performed.

Results: During NSV, which lasted a median 3.5 years, antiretrovirals were consistently detected in plasma and no emergent HIV drug resistance was observed. To date, 466 longitudinal plasma HIV sequences have been collected. Pre-ART HIV diversity was extensive in participants 1-3 who initiated ART in chronic infection, and minimal in participant 4 who started ART early. NSV sequences were all clonal. Participants 1 and 2 each experienced two NSV episodes, each featuring a different clone distinct from plasma sequences circulating immediately pre-ART. The phylogeny suggested the NSV sequences were archival. Viruses sampled longitudinally during participant 4's ~7-year NSV episode were clonal, and matched a plasma sequence present immediately pre-ART. Participant 3's ~5-year NSV episode featured at least three clones whose frequencies varied over time, where the dominant clone matched a plasma sequence isolated just after ART initiation. NSV sequences from participants 1, 2 and 4 had major splice donor site mutations that likely impair HIV replication. Despite >1000 near-full-length proviruses sequenced for participants 3 and 4, many of them clonal, we have not yet identified a blood provirus matching the NSV.

Conclusion: As reservoir-origin viremia is not clinically actionable, understanding NSV is paramount to avoid unnecessary ART regimen changes and anxiety. Results show that NSV commonly originates from clonally-expanded proviruses with 5' leader defects. In some cases, origin proviruses are either minority variants in blood or reside in other anatomical sites.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: HIV latency and immunology / Thème : Latence et immunologie du VIH

Abstract #99

HCV-Specific CD4+ T-Cells are Susceptible to HIV-1 and Contribute to Viral Persistence during ART

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Background and Objectives: Hepatitis C virus (HCV) infection is a serious comorbidity in people with HIV-1 (PWH). Antiretroviral therapy (ART) reduces HIV replication to undetectable levels but does not eliminate HIV reservoirs, which persist in memory CD4+ T-cells with diverse antigenic specificities. We investigated whether HCV-specific CD4+ T-cells are permissive to HIV and contribute to HIV persistence during ART, before/after spontaneous HCV clearance.

Methods: Memory CD4+ T-cells from chronically-infected HCV+ and HCV-negative controls (n=20/group) were infected with CCR5-tropic HIVNL4.3BaL in vitro. HIV integration and replication were measured by real-time PCR and HIV-p24 flow cytometry and ELISA, respectively. CFSE-based T-cell proliferation combined with intracellular HIV-p24 staining were used to examine the susceptibility of HCV-specific T-cells to HIVNL4.3BaL infection in HCV resolvers (n=8) and HCV chronic (n=2) participants. In one ART-treated PWH who naturally resolved HCV infection, Activation Induced Marker (AIM) assay was used to phenotype HCV-specific T-cells. Integrated HIV-DNA was measured in sorted HCV-specific T-cells. A monocyte-derived dendritic cell-based viral outgrowth assay (MDDC-VOA) was used to detect replication-competent HIV reservoirs.

Results: CD4+T-cells from chronically-infected HCV+ participants were more susceptible to HIVNL4.3BaL infection in vitro compared to HCV- controls, as demonstrated by intracellular (p=0.034) and soluble HIV-p24 quantification (p=0.030). HCV-specific T-cells proliferating in response to HCV-NS3 expressed CCR5 and supported productive HIV infection in vitro. In one ART-treated PWH acutely infected with HCV, the MDDC-VOA demonstrated that HCV-specific T-cells exhibit a follicular-helper phenotype and carry replication-competent HIV-DNA. Following spontaneous HCV clearance, the pool of HCV-specific T-cells decreased in frequency and shifted toward a Th17 phenotype, but remained highly enriched in integrated HIV-DNA.

Conclusion: Our results provide evidence that HCV-specific CD4+ T-cells are susceptible to HIV infection and may represent long-lived HIV reservoirs persisting during ART upon HCV spontaneous resolution. This raises awareness on the need to promptly treat HCV infection in PWH.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #66

High levels of anti-HHV-8 IgG binding capacity are linked with low HHV-8 viremia in people with and without HIV

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Introduction

The human herpes virus 8 (HHV-8) causes Kaposi Sarcoma (KS) and is linked with some type of B-cell proliferation disorders that develop upon aging and immunosuppression, including in people living with HIV (PLWH).

HHV-8 establishes latency in cellular and anatomical reservoirs in epithelial cells as well as B-cells. Factors controlling latency and replication remain seldomly described. We developed HHV-8 specific serological and virological assays to assess ex-vivo whether antibodies targeting HHV-8 could control replication.

Methods

Serum and cell lysate were obtained from cis and transgender men of the Engage cohort in Montreal. Participants with active KS (11 PWH on ART [HIV KS] and 11 HIV-negative classic KS [cKS]) were included from the McGill biobank. Circulating levels of IgG binding to BCBL1 HHV-8-infected cells were quantified by flow cytometry. Digital-droplet-PCR was used to assess HHV-8 DNA levels in blood extracts and biopsies.

Results

In absence of KS, HHV-8 seropositivity was higher in PWH than HIV-negative participants (67.5% vs. 41.8%, $p < 0.001$). Moreover, in 106 HHV-8 seropositive participants, levels of anti-HHV-8 IgG were higher in PLWH than in 260 HIV-negative controls (median 1.5 vs 1.2AU, $p = 0.03$). Levels of anti-HHV-8 IgG were negatively correlated with HHV-8 viremia in whole blood extracts ($r = -0.48$, $p = 0.004$, $n = 46$).

Patients with KS were all seropositive for HHV-8. HIV KS had higher levels of anti-HHV-8 IgG levels than cKS (3.7 vs. 1.8AU, $p = 0.02$). Interestingly, HIV KS had lower circulating HHV-8 viremia than cKS (695 vs. 8405 copies/106 cells, $p = 0.04$). However, HHV-8 DNA levels were similar in KS lesion biopsies for the 2 groups (HIV KS: 68.103 vs cKS: 323.103 copies/106 cells, $p = 0.89$).

Conclusion

In both symptom-free carrier and KS patients, high levels of anti-HHV-8 IgG were associated with low circulating viremia. Whether higher anti-HHV-8 IgG levels contribute to prevent KS development should be further studied.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #24

Impact of HIV Integrase Strand Transfer Inhibitors (INSTIs) on Placental Folate Transporters: Potential Implications for Neural Tube Defect (NTDS) Risk

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Background: The 2018 Botswana Tsepamo study reported an increased risk of NTDs in fetuses exposed to dolutegravir from conception. Folate deficiency in fetal development has been associated with NTDs. Annually, over 1 million people with HIV taking antiretroviral drugs become pregnant, making it critical to investigate potential interactions between INSTIs and folate transport pathways in the developing fetus. We investigated the in vitro effect of in utero exposure to INSTIs on the expression of placental proteins critical for fetal folate delivery.

Methodology: HTR8/SVneo and BeWo human placental cell lines representative of the first and third pregnancy trimester, respectively, were treated with clinically relevant doses of dolutegravir, bicitegravir, cabotegravir or DMSO control for a period of 3, 6, 24, or 48 hours. mRNA and protein expression of folate receptor- α (FR α), and transporters, reduced folate carrier (RFC) and proton-coupled folate transporter (PCFT), were assessed by qPCR and immunoblotting respectively. Functional assays to determine any changes in the activity of these folate receptor/transporters were performed.

Results: We observed a significant downregulation of the mRNA and protein expression of: i) FR α and PCFT in dolutegravir treated cells by 50%, ii) FR α , RFC, and PCFT in bicitegravir treated cells by 20%, and iii) a very modest effect on FR α and RFC in cabotegravir treated cells. Functional assay data paralleled the expression findings. FR α and PCFT activity was lower in DTG treated cells, whereas activity was unaffected in bicitegravir and cabotegravir treated cells.

Conclusion: Our findings suggest that the observed dysregulation of folate transporters in the placenta caused by INSTIs, particularly dolutegravir, could potentially result in an in utero folate deficiency that could place the fetus at increased risk for adverse birth outcomes. Future studies will further examine, in vivo, fetal folate levels and potential drug toxicity. (Supported by OHTN and CIHR).

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #242

Oral Cannabinoids Modulate Immune Cell Populations and Inflammatory Gene Expression Signature in People with HIV Under ART: Results of the CTN PT028 Clinical Trial

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Background: People with HIV (PWH) face accelerated comorbidities due to chronic inflammation.

Cannabinoid-based medicines have potential anti-inflammatory benefits, suggesting their potential to reduce inflammation in PWH. Herein, we assessed changes in gene signature associated with immune cells and inflammatory pathways in PWH receiving oral cannabinoids under suppressive ART.

Methods: Ten participants were randomized to receive cannabidiol (CBD) only or CBD combined with Δ^9 -tetrahydrocannabinol (THC) capsules for 12 weeks, with dose titration. Single-cell RNA sequencing was performed on PBMCs from six individuals (3/arm) at baseline and week 12. Gene expression libraries were sequenced using Illumina NovaSeq, and differential gene expression (DEG) analysis was conducted with log₂ fold-change > 0.25 and adjusted P<0.05. Gene Ontology Biological Process (GOBP) analysis assessed dysregulated pathways.

Results: CBD+THC treatment led to more DEGs than CBD-only, particularly in CD14+ classical monocytes and CD8 T-cells. Both treatments increased CD4+CD8+ double-positive T-cells and plasmacytoid dendritic cells (pDCs), with CBD-only reducing CD14+ and CD16+ monocytes. The rise in double-positive T-cells was linked to higher DNA repair and stress-response genes, while pDC increases were marked by reduced innate immune responses and migration. In the THC+CBD arm, CD14+ monocytes showed DEGs linked to circadian regulation (ARNTL, NR1D1), reduced pro-inflammatory cytokines (IL-6, IL-1 β), and enhanced inhibition of TGF- β signaling pathway (SMAD6, SMAD7, SMURF1, BAMBI). GOBP analysis showed dysregulation in apoptosis, differentiation, and proliferation in CD14+ monocytes. CD8 T-cells showed higher expression of genes related to stress response and cell survival (CENPA, USP2, PPP1R15A, TNFAIP3, NR4A2) along with reduced immune activation (SH2D3C, ARHGEF3, TRAF3IP3) and inflammation (TNFAIP3, VDR, PLA2G4).

Conclusion: Oral cannabinoid treatment resulted in changes mostly in monocytes and CD8 T-cells profile and inflammation, while CBD+THC vs CBD alone had a more pronounced immune-regulatory effect. Findings suggest a potential role for oral cannabinoids as adjunct therapy for HIV-related inflammation and immune dysfunction.

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Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #129

Identification of ALDH Activity in Myeloid Cells as a New Marker of Immunological Dysfunction and Cardiovascular Risk in People with HIV: Modulation by Statins

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Background:

HIV-1 persists during antiretroviral therapy (ART) and chronic immune activation/inflammation fuels comorbidities, such as cardiovascular disease (CVD). We previously demonstrated that myeloid cells expressing the enzyme ALDH (retinaldehyde dehydrogenase), which converts vitamin A into retinoic acid (RA), promote HIV-1 outgrowth in CD4+ T-cells via RA-dependent mechanisms. Thus, we hypothesized that ALDH activity is a novel functional marker of immunological dysfunction that predicts subclinical atherosclerosis in people with HIV (PWH).

Methods:

Studies were performed on PBMCs of ART-treated PWH (n=42) and uninfected controls (n=40) from the Canadian HIV/Aging Cohort Study (CHACS), with/without subclinical coronary artery atherosclerosis visualized as total plaque volume (TPV) and coronary artery calcium (CAC) score by computed tomography angiography. The ALDH activity was measured by flow cytometry on immune cells identified using lymphoid/myeloid lineage markers: CD4+CD3+ T-cells, dendritic cells (DC, CD3-HLA-DR+CD1c+), and monocytes (CD3-HLA-DR+CD1c-) subdivided into classical (CD14+CD16-), intermediate (CD14+CD16+), and non-classical (CD14-CD16+) monocytes.

Results:

The ALDH activity was predominantly detected in myeloid cells [i.e., dendritic cells (DCs), monocytes], mainly intermediate monocytes. The frequency of ALDH+ DCs and monocytes was significantly increased in PWH compared to controls, coinciding with an increased TPV (851 versus 143 mm³; p<0.0001). Counterintuitively, ALDH activity was slightly lower in TPV+ versus TPV- PWH. One explanation may be that a fraction of PWH (42%) received statins, which is known to decrease ALDH activity. Indeed, ALDH activity was significantly decreased in PWH receiving statins compared to statin-naïve participants. Finally, the CAC score positively correlated with the frequency of ALDH+ monocytes in HIV+ART TPV+ participants (p=0.0390, r²=0.4534), suggesting a potential link between ALDH activity and plaque calcification.

Conclusion:

These studies point to ALDH activity in myeloid cells as a new functional marker of aberrant immune activation and potential predictor of CVD risk in PWH, and support the beneficial effects of statins in decreasing ALDH activity.

Supporting Document

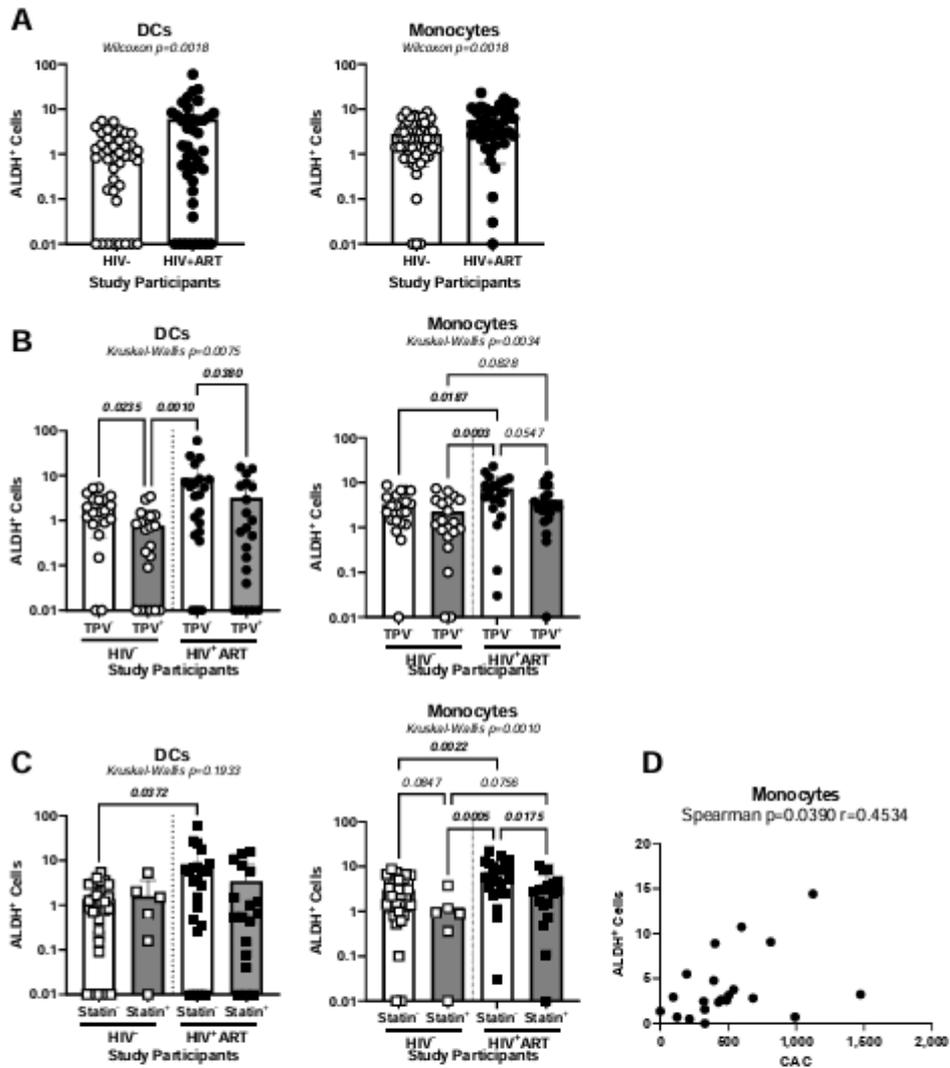


Figure 1: Increased ALDH activity in ART-treated PWH and modulatory effects of statins

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #184

Immuno-metabolic signature associated with HIV-induced neurocognitive disorders (HAND) during antiretroviral therapy (ART): a focus on gut-brain axis

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Background: Despite ART, people with HIV (PWH) are at higher risk of comorbidities including HIV-associated neurocognitive disorders (HAND). Worse HIV clinical outcomes are associated with (1) increased tryptophan (Trp) catabolism into Kynurenine (Kyn) via indolamine2,3-dioxygenase (IDO) expressed by myeloid cells, (2) imbalance in endocannabinoidome (eCBome) lipid mediators characterized by inverse relationship between N-acyl-ethanolamines (NAEs) vs 2-monoacylglycerols (MAGs), and (3) gut mucosal damage. Herein, we assessed the interplay between these perturbations in the context of HAND in PWH under ART.

Methods: Age- and sex-matched plasma samples from PWH on ART and clinically diagnosed with (n=40) and without (n=40) HAND, were obtained from the Brain Health Now cohort, in addition to 20 HIV- controls. Plasma eCBome mediators and tryptophan catabolites were measured by LC-MS/MS. Plasma inflammatory markers were quantified by Luminex or ELISA.

Results: Trp/Kyn ratios (IDO activity) were significantly increased in HAND+ compared to HIV- participants. Regardless of HAND status, significant increases in the Trp metabolites anthranilic acid, 5-hydroxy-indole-acetic acid were observed in PWH, while their levels of xanthurenic acid were decreased. HAND was associated with disrupted eCBome with increased levels of NAEs congeners PEA, SEA, OEA, LEA, and DPEA(n-6), but no change in MAGs. Significantly higher levels of MCP-1, TNF- α and sCD163 were found in HAND+ vs HIV-. Regardless of HAND, inflammatory markers IP-10, MIG and sTNFR-II, as well as I-FABP and Reg-3 α (gut mucosal damage markers) and sCD14 (microbial translocation) were significantly elevated in PWH vs HIV-. No difference for IL-6 and IFN- γ were found among study groups.

Conclusion: HAND is associated with a peculiar immuno-metabolic signature characterized by increased IDO pathway activity, disrupted eCBome in favor of NAE congeners, and increased myeloid inflammatory markers MCP-1, TNF- α and sCD163.

Basic Sciences Oral Abstract Session / Sciences fondamentales présentation orale d'abrévés

Theme: Comorbidities, coinfections and complications / Thème : Comorbidités, coinfections et complications

Abstract #276

Screening Viral Host Dependency Factors and Human Loss of Function Polymorphisms Identifies AP1G2 as a Potential Broad-acting Host-directed Antiviral Candidate for HIV and SARS-CoV-2

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Multiple genome-wide knockout/knockdown studies of viral infection have identified sets of host dependency factors (HDFs) that are essential for viral replication. Although these factors may be candidates for developing novel antivirals, defining candidates that do not lead to drug toxicity is challenging. One opportunity to identify targets is to leverage available human genome resources to determine which HDFs harbour homozygous loss of function polymorphisms in healthy people. To that end, we sought to combine data from 27 genome-wide host dependency factor screens that covered HIV, Hepatitis C, Hepatitis D, SARS-CoV-2, SARS-CoV, Ebola, Influenza A, Zika, Dengue and West Nile virus, with the genome aggregation database (gnomAD) including >125,000 human exome and >15,000 whole-genome sequences. We identified 2,907 unique HDFs combined across all viruses, including 353 which were essential for ≥ 2 viruses and 2 which were essential for 5 viruses. Of the combined list, 137 targets were deemed non-essential by the observed/expected constraint (O/E) score and the presence of homozygous loss-of-function variants found within the gnomAD control population. We identified AP1G2 (adaptor related protein complex 1 subunit gamma 2), a gene involved in clathrin-mediated transport within the trans-golgi network as a promising HDF target for HIV and SARS-CoV-2. AP1G2 has an O/E score of 0.96, placing it in the highly non-essential range (where 1.0 represents highly non-essential and 0 indicates essential). Currently CRISPR gene-editing in cell-lines is ongoing to confirm the HIV host dependency of AP1G2. We will assess HIV proliferation in AP1G2 $-/-$ cell lines using X4 and R5-tropic HIV-1 strains and pinpoint the specific role of AP1G2's in HIV replication. Future studies will be done to verify an impact on HIV and SARS-CoV-2 proliferation.

Basic Sciences - Poster Abstract / Sciences fondamentales - Abrégés affiches

Abstract #188

Multi-colour Immunophenotyping and Sorting to Study HIV-1 Heterogeneity

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The surface protein profile of HIV-1 is incredibly diverse, as these enveloped virions can incorporate a wide range of human proteins through budding from an infected cell. Our research demonstrates many of these newly acquired proteins can influence viral homing, attachment, and inflammatory responses. Despite its low transmission efficiency, HIV's ability to modulate its surface protein composition could offer significant adaptive advantages, aiding its persistence and spread. Given that just one virus, among a myriad of diverse particles, is required to establish an initial infection, the contributions of individual virion phenotypes become crucial in understanding infection and designing more effective vaccines. Our lab has been pioneering new methods in Flow Virometry (FV) to perform high-throughput quantification of surface proteins on individual virions. In this study we developed techniques for multi-colour immunophenotyping of HIV-1, to detect the co-incorporation of multiple antigens on single virus particles. First, we employed HIV pseudoviruses as controlled virus model systems to simultaneously stain multiple proteins on individual particles. We then applied these techniques to HIV isolates propagated in CD4+ T cell lines and PBMCs, observing natural patterns of co-incorporation. In parallel, ongoing studies are optimizing virus sorting protocols to purify and isolate homogenous virus subpopulations, representing a new approach for studying viral heterogeneity. The isolation of uniform virus subpopulations will enable controlled biological studies to better understand how distinct virion phenotypes influence HIV biology and disease. The development of multi-colour immunophenotyping and virus sorting protocols will yield new knowledge of HIV biology that could inform novel therapeutic and vaccine approaches.

Basic Sciences - Poster Abstract / Sciences fondamentales - Abrégés affiches

Abstract #77

Liquid-liquid phase separation contributes to cGAS-mediated immune responses to HIV-1 infection

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Reverse cDNA transcripts of HIV-1 are detectable by the intracellular dsDNA sensor, cyclic GMP-AMP synthase (cGAS), upon HIV-1 capsid core disassembly in macrophages. The induction of the cGAS-stimulator of interferon genes (STING) pathway leads to the activation of the transcription factor, interferon regulatory factor 3 (IRF3), and the production of interferons to counteract viral infections. Liquid-liquid phase separation (LLPS) is emerging as a key mechanism to organize cellular processes such as the innate immune response mediated by cGAS. cGAS and dsDNAs assemble into membrane-less organelles through the process of LLPS, and cGAS-mediated immune responses are enhanced by Ras GTPase-activating protein-binding protein 1 (G3BP1). As shown by our laboratory, proteins that make up the HIV-1 capsid core also co-condense and phase separate (Cell Reports 2023). In this work, we propose that HIV-1 interferes with the LLPS of cGAS to repress innate immunity and antiviral activity.

Using purified HIV-1 or HIV-1 with fluorescently-labelled proteins (IN-eGFP), microscopy and proximity ligation assay techniques, we show that intact HIV-1 capsid cores and cGAS are in proximity early post-infection in macrophages. Yet, the immune response remains low despite hyper-stimulation of cGAS. Viral capsid cores, identified by IN-eGFP-labelled cores or with an anti-NC antibody, are found within clouds of cGAS condensates. HIV-1 infection also significantly reduced cellular stress responses in macrophages by reducing the abundance of G3BP1 condensates. This work reveals that HIV-1 infectivity is assured via interactions of critical immune sensors within biomolecular condensates and by suppressing stress responses post-infection. A future experiment will determine if HIV-1 alters the phase separation of cGAS, notably through capsid's interaction with G3BP1, to repress the cGAS-mediated antiviral response.

This project highlights the role of LLPS in innate responses to virus infection, presenting it as a potential tool to enhance host antiviral responses against HIV-1.

Phenotypic cell-based assays determined the EC50 values and the fold resistance relative to the NL4.3 WT strain. Sequences were analysed for resistance to drugs using the Stanford HIV Drug Resistance algorithm accessed on 03 October 2024 (<https://hivdb.stanford.edu/hivseq/by-sequences/>): S, susceptible; PL, potential low-level resistance; L, low-level resistance; I, intermediate resistance; H, high-level resistance.

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Abstract #318

HIV-1 Integration Dynamics Under Raltegravir Pressure: Targeting LINEs as a Mechanism of Resistance

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Antiviral resistant HIV-1 remains a significant challenge in the pursuit of a cure. Raltegravir, an integrase inhibitor, blocks HIV-1 integration into the host genome, but resistant strains retain the ability to integrate. Whether raltegravir-resistant strains alter their integration site preferences, which could influence their pathogenesis, remains under explored. This study investigates how HIV-1 subtype D integrases adapt their integration site profiles under sub-inhibitory raltegravir concentrations in vitro. Resistant HIV strains were selected by progressively increasing raltegravir concentrations over time. Genomic DNA was extracted from HIV-infected cells at various time points, and integration site profiles were analyzed using the Barr Lab Integration Site Identification Pipeline (BLISIP). Early infection stages showed a predominant preference for integration within genes. However, as raltegravir pressure increased, integration frequency near genes decreased, while integration within long interspersed nuclear elements (LINEs) became significantly enriched during later infection stages. LINEs are known to influence chromatin structure and transcriptional activity, and their enrichment at integration sites may impact proviral and/or nearby host gene expression. These findings suggest that raltegravir-resistant HIV adapts its integration site preferences over time, with decreased targeting of genes and increased targeting of LINEs, potentially contributing to altered viral pathogenesis. This shift highlights a possible mechanism by which resistant HIV-1 evades therapeutic pressure, offering new insights into the behaviour of drug-resistant HIV-1 integration. Understanding these changes in integration dynamics may inform the development of strategies to address raltegravir resistance and improve therapeutic outcomes.

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Abstract #31

Investigating central nervous system toxicity and safety of commonly used antiretroviral drugs

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Background: Persistent central nervous system (CNS) inflammation in people living with HIV (PLWH) remains a critical concern despite effective viral suppression achieved through antiretroviral therapy (ART). CNS inflammation at the blood-brain barrier (BBB) can impair barrier integrity, facilitating immune cell infiltration and contributing to cognitive dysfunction. Clinically, dolutegravir (DTG), although effective, has been associated with neuropsychiatric adverse effects. Our group demonstrated that DTG disrupts the BBB by inducing pro-inflammatory cytokines and altering tight junction protein expression, leading to increased permeability. However, the modulatory effects of nucleoside reverse transcriptase inhibitors (NRTIs), such as tenofovir alafenamide (TAF) and emtricitabine (FTC), administered with DTG on CNS inflammation remain unexplored. NRTIs, primarily known for their antiviral activity, have been reported to suppress inflammasome activation and reduce inflammatory signaling pathways, including cytokines and chemokines. This study investigates whether NRTI backbones, in combination with DTG, reduce inflammatory responses at the BBB.

Methods: Primary cultures of mouse brain microvascular endothelial cells (BMECs), an in vitro BBB model, were cultured and treated with DTG (5000 ng/mL) alone or in combination with NRTI backbone (TAF 300 ng/mL + FTC 4000 ng/mL) for 24 hours. Control groups included DMSO (vehicle) treatment. Inflammatory cytokines and chemokines mRNA expression levels (e.g., Il6, Ccl2, Cxcl1, Cxcl2, Il23a, Il12b) were quantified using qPCR analysis

Results: NRTI backbone treatment in combination with DTG significantly reduced the expression of key pro-inflammatory markers, including Il6 (~20% reduction), Cxcl2 (~30% reduction), and Il23a (~40% reduction), compared to DTG-treated cells alone. This reduction indicates a potential modulatory role of NRTIs in mitigating DTG-induced inflammatory responses at the BBB.

Conclusion: Our findings demonstrate that NRTI backbone, in combination with DTG, exhibit anti-inflammatory properties that could mitigate dolutegravir-induced BBB inflammation. This highlights the potential of NRTI-associated regimens to address ART-associated CNS inflammation and improve neurological outcomes in PLWH.

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Abstract #218

In Vitro InSTI exposures reduce pluripotency and mitochondrial reactive oxygen species in human embryonic stem cells

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Introduction: Over half of people living with HIV globally are women, mostly of reproductive age. In Canada, 25% of people with HIV are women. In 2023, people living with HIV gave birth, to 239 children, and 96% had received antiretroviral therapy during pregnancy. While there are several classes of antiretrovirals, integrase strand transfer inhibitors (InSTIs) are commonly used given their high tolerability and efficacy, including during pregnancy, despite limited or mixed safety data such as mitochondrial dysregulation in vitro and in animal models.

Methods: Human embryonic stem cell lines CA1S and H9 were exposed to InSTIs (raltegravir, bictegravir, dolutegravir, cabotegravir) at 0.01, 0.1, 0.5, and 1x C_{max} (peak plasma concentration) for 3.5 days, then assessed by flow cytometry for cellular health, including pluripotency, apoptosis, and mitochondrial reactive oxygen species (mtROS). Multidimensional reduction with supervised X-shift clustering was used to analyze the co-expression of cellular health markers. Differences between drug exposures and 0.1% DMSO control were determined by Wilcoxon-rank sum test.

Results: Bictegravir exposure was associated with spontaneously differentiating apoptotic cells with low mtROS ($p=0.005$). Both dolutegravir and cabotegravir exposure also increased the number of spontaneously differentiating cells with low mtROS levels ($p=0.013$ and $p=0.008$, respectively), and decreased the number of early apoptotic pluripotent cells ($p=0.005$ and $p=0.020$, respectively). Raltegravir exposure was not significantly different from the DMSO control.

Conclusions: Bictegravir, dolutegravir, and cabotegravir induced a loss of pluripotency, with a shift toward spontaneously differentiated cells, alongside a reduction in mtROS levels. These findings suggest potentially detrimental effects on early development with InSTI exposure during embryogenesis.

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Abstract #242

Oral Cannabinoids Modulate Immune Cell Populations and Inflammatory Gene Expression Signature in People with HIV Under ART: Results of the CTN PT028 Clinical Trial

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Background: People with HIV (PWH) face accelerated comorbidities due to chronic inflammation. Cannabinoid-based medicines have potential anti-inflammatory benefits, suggesting their potential to reduce inflammation in PWH. Herein, we assessed changes in gene signature associated with immune cells and inflammatory pathways in PWH receiving oral cannabinoids under suppressive ART.

Methods: Ten participants were randomized to receive cannabidiol (CBD) only or CBD combined with Δ^9 -tetrahydrocannabinol (THC) capsules for 12 weeks, with dose titration. Single-cell RNA sequencing was performed on PBMCs from six individuals (3/arm) at baseline and week 12. Gene expression libraries were sequenced using Illumina NovaSeq, and differential gene expression (DEG) analysis was conducted with log₂ fold-change > 0.25 and adjusted P<0.05. Gene Ontology Biological Process (GOBP) analysis assessed dysregulated pathways.

Results: CBD+THC treatment led to more DEGs than CBD-only, particularly in CD14+ classical monocytes and CD8 T-cells. Both treatments increased CD4+CD8+ double-positive T-cells and plasmacytoid dendritic cells (pDCs), with CBD-only reducing CD14+ and CD16+ monocytes. The rise in double-positive T-cells was linked to higher DNA repair and stress-response genes, while pDC increases were marked by reduced innate immune responses and migration. In the THC+CBD arm, CD14+ monocytes showed DEGs linked to circadian regulation (ARNTL, NR1D1), reduced pro-inflammatory cytokines (IL-6, IL-1 β), and enhanced inhibition of TGF- β signaling pathway (SMAD6, SMAD7, SMURF1, BAMBI). GOBP analysis showed dysregulation in apoptosis, differentiation, and proliferation in CD14+ monocytes. CD8 T-cells showed higher expression of genes related to stress response and cell survival (CENPA, USP2, PPP1R15A, TNFAIP3, NR4A2) along with reduced immune activation (SH2D3C, ARHGEF3, TRAF3IP3) and inflammation (TNFAIP3, VDR, PLA2G4).

Conclusion: Oral cannabinoid treatment resulted in changes mostly in monocytes and CD8 T-cells profile and inflammation, while CBD+THC vs CBD alone had a more pronounced immune-regulatory effect. Findings suggest a potential role for oral cannabinoids as adjunct therapy for HIV-related inflammation and immune dysfunction.

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Abstract #272

Evaluation of HIV-2 Indeterminate Confirmation Results using the Bio-Rad Geenius HIV-1/2 Supplemental Assay

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Introduction: Efficient diagnostic workflows for HIV are critical to ensure timely treatment while avoiding unnecessary confirmatory testing. HIV-2, though rare, presents diagnostic challenges due to overlapping reactivity patterns with HIV-1. This study evaluates the rate of HIV-2 indeterminate samples detected between 2016 and 2023 in Alberta using the ARCHITECT HIV Ag/Ab Combo assay combined with the Bio-Rad Geenius™ HIV-1/2 Supplemental Assay testing algorithm.

Methods: A total of 8,360 samples were tested on ARCHITECT Assay, with COI values stratified into defined ranges. Reactive sample results were confirmed with the Geenius™ assay as HIV-1 positive, HIV-2 indeterminate, HIV-2 positive, or HIV-positive untypable. Statistical significance of assay performance across COI ranges was assessed using Chi-square tests.

Results: Of 3,400 ARCHITECT reactive samples, 2,208 were confirmed as HIV-1 positive, 41 as HIV-2 indeterminate, 1 as HIV-2 positive, and 2 as HIV-positive untypable on the Geenius™ assay. Of the 3,400 reactive samples, 936 (27.5%) had COI values between 1-5 and were more likely to be false positives: 896/936 (95.7%) were negative for HIV, 38 (4.1%) were HIV-2 indeterminate (IND), and 7 (0.7%) were HIV-1 positive by Geenius™. For COI values ≥ 500 , nearly all samples (99.8%) were HIV-1 positive. Of the 24 unique patients testing HIV-2 IND, 18 (75%) had adequate follow-up testing for HIV-2, of which, all (100%) were confirmed to be negative for HIV-2 despite being IND on the Geenius™.

Conclusion: There is high agreement between the ARCHITECT and the Geenius™ for HIV-1, but highlights limited use in sending HIV-2 indeterminate samples for confirmatory testing, as none were confirmed to be HIV-2 positive in this analysis. The ARCHITECT assay demonstrates strong concordance between high COI values (≥ 500) and HIV-1 confirmation. Additionally, the false positive rate for samples with COI values of < 5 highlights the need for continual confirmation testing in that range.

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Abstract #249

Impact of oral cannabinoids on the endocannabinoidome and gut microbiome in people with HIV on antiretroviral therapy (CTN PT028 Pilot Clinical Trial)

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Background: Cannabinoid-based medicines (CBM) have garnered attention due to their anti-inflammatory potential in people with HIV (PWH), whose comorbidities are driven by chronic inflammation. The expanded endocannabinoid system [or endocannabinoidome (eCBome)] and gut microbiota serve as regulators of many homeostatic processes and inflammation, but their cross-talk in PWH has not been examined. In a prospective, randomized pilot clinical trial involving PWH on antiretroviral therapy (ART) who were randomly assigned to cannabidiol (CBD) ± Δ^9 -tetrahydrocannabinol (THC) capsules for 12 weeks, titrating doses as tolerated, we examined the impact of CBM on plasma eCBome mediators and gut microbiota.

Methods: Ten individuals were randomized, 5 to the CBD+THC arm and 5 to the CBD-only arm, and eight individuals completed the study. Plasma for THC and CBD metabolites was collected at each visit and measured in batch by LC-MS/MS. eCBome mediators were measured at each visit, whereby fecal microbiota was assessed by 16S rDNA sequencing at treatment initiation and at the end of the treatment period.

Results: Plasma concentrations of THC and CBD metabolites varied throughout the course of the study. Capsule administration resulted in a significant decrease in the mono-acyl-glycerols (MAG) 2-eicosapentaenoylglycerol (2-EPG) and 2-oleoylglycerol (2-OG). No changes were observed in other eCBome mediators measured. PWH in the distinct treatment arms had different fecal bacterial taxa at baseline. These differences persisted through the course of the study and were not altered by capsule administration. However, Coprobacillus and Lachnospiraceae UCG001 abundance was lower in the THC/CBD arm, while Collinsella abundance was higher compared to the CBD arm.

Conclusion: The 2-MAGs 2-EPG and 2-OG were reduced following capsule administration. No changes in fecal bacterial taxa were observed following 12 weeks of treatment. Findings suggest that CBM may have promise to reduce some eCBome mediators in PWH, although larger studies are needed to confirm observations.

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Abstract #69

Early Immune Responses to COVID-19 Vaccination in Immunocompromised Patients: Females Display Increases in Biomarkers of Reactogenicity

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BACKGROUND: Vaccination has been crucial in the prevention and control of SARS-CoV-2, but immunocompromised patients, such as people living with HIV or end-stage renal disease (ESRD), remain at risk. Studies have shown ESRD patients have reduced antibody production and memory B-cell differentiation in response to COVID-19 vaccination. However, little is known about how early innate immune responses contribute to these differences. Further, sex-stratification is limited in COVID-19 vaccination studies despite knowledge of sexual dimorphism in immune responses.

METHODS: Blood samples were collected from individuals before and 1-4 days post-dose 1 of the BNT162b2 vaccine. RNA sequencing was performed in ESRD (n=10 female, n=7 male) and healthy controls (HC) (n=19 female, n=9 male) and 19 plasma cytokines were quantified in ESRD (n=8 female, n=7 male) and HC (n=12 female, n=8 male). Detailed enrollment and follow-up questionnaires were collected and individuals with prior COVID-19 were excluded from the analysis.

RESULTS: Females were more reactogenic to COVID-19 vaccination irrespective of population, displaying increases in IL-10 (ESRD log₂ fold-change (FC)=3.18, Wilcoxon p<0.01; HC FC=3.95, p<0.001), IL-2 (ESRD FC=4.72, p<0.0001; HC FC=3.42, p<0.0001), and IL-13 (ESRD FC=2.35, p<0.01; HC FC=1.85, p<0.0001). HC females showed increased macrophage derived cytokines in response to vaccination such as IL-1 β (FC=3.97, p<0.0001), IL-6 (FC=2.65, p<0.0001), and TNF- α (FC=1.57, p<0.001). No significant differences in cytokine concentrations were observed when comparing females in both groups post-dose 1.

CONCLUSIONS: Overall, females displayed greater reactogenicity to vaccination. Qualitative differences like pre-existing inflammation in people living with ESRD influenced early innate immune responses. Females with ESRD exhibited non-significant increases in macrophage derived cytokines, known markers of inflammasome activation, in response to vaccination. These findings highlight the importance of sex-stratified immunological research to uncover unique vaccine responses in both healthy and immunocompromised populations. Such insights could inform population- and sex-specific vaccination strategies.

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Abstract #122

Retinoic Acid Counteracts the Antiviral HIV Activity of Aryl Hydrocarbon Receptor in Macrophages by Promoting its Non-Genomic Functions

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Background

SAMHD1 limits HIV-1 replication by restricting dNTP pools. Agonists of the aryl hydrocarbon receptor (AhR), specifically 6-formylindolo [3,2-b] carbazole (FICZ), has been shown to decrease SAMHD1 phosphorylation through the transcriptional repression of cyclin-dependent kinases 1/2 (CDK1/2), enhancing its antiviral activity. Conversely, our research indicates that retinoic acid (RA) enhances HIV-1 replication in monocyte-derived macrophages (MDM) by promoting SAMHD1 phosphorylation. Given the significance of macrophages in HIV-1 infection in areas rich in both AhR ligands and RA, such as the intestine and placenta, we investigated the interplay between these pathways in regulating SAMHD1 activity and HIV-1 replication in macrophages.

Methods

MDM were treated with all-trans RA (ATRA) and/or FICZ and then exposed to single-round VSV-G-pseudotyped HIV-1. HIV replication was assessed using HIV-1 p24 ELISA and nested real-time PCR for reverse transcripts and integrated HIV-DNA. Western immunoblotting for SAMHD1/pSAMHD1 and RT-PCR for validating AhR-related genes were conducted.

Results

FICZ inhibited HIV-1 replication in MDM at multiple levels, including reverse transcription and integration, but this effect was negated in the presence of RA, which significantly boosted HIV-1 replication. FICZ reduced SAMHD1 phosphorylation, but RA countered this effect by increasing CDK1 expression. Additionally, analysis of AhR-associated genes in RA-treated MDMs showed downregulation of the AhR nuclear translocator (ARNT) and upregulation of the AhR repressor (AHRR), indicating a shift towards non-genomic AhR functions.

Conclusions

Our findings highlight opposing roles of the AhR and RA pathways in regulating SAMHD1's antiviral activity, pointing to a diminished AhR-mediated antiviral response in MDMs when RA is present. This underscores the potential for natural SAMHD1 modulators as innovative therapeutic targets for HIV-1.

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Abstract #212

Elevated inflammatory genes associated with spontaneous HIV reactivation from latency

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Introduction

Viral latency remains a significant barrier to achieving an HIV cure, but mechanisms underlying latency and reactivation are not fully understood. In this study, we investigated cellular gene expression profiles associated with spontaneous and prostratin-induced HIV reactivation using a latent T cell line model.

Methods

A CEM-derived CD4+ T cell clone (C-Lat) harbouring a transcriptionally silent full-length HIV provirus encoding a Nef-GFP reporter gene was used as a latency model. Cells were stimulated with prostratin (a protein kinase C agonist) or left unstimulated. HIV-expressing (GFP+) cells, reflecting spontaneous or prostratin-induced viral reactivation, and matched non-expressing (GFPneg) cells were isolated using flow cytometry. Bulk RNA sequencing was performed to quantify gene expression in each cell population. Differentially expressed genes were identified based on fold change. Gene Set Enrichment Analysis (GSEA) was used to investigate underlying biological pathways.

Results

In total, 31 genes exhibited at least five-fold induction in both spontaneous and prostratin-induced HIV-expressing (GFP+) cell populations (compared to their respective GFPneg controls); while 124 genes displayed at least a three-fold increase over controls. GSEA revealed the enrichment of inflammatory and immune activation gene sets in both spontaneous and prostratin-induced reactivated cells. Most notable of these was the MSigDB Hallmark TNF- α signalling via NF- κ B pathway, which has been associated previously with the induction of HIV. Within this pathway, seven genes (EFNA1, BCL3, EGR2, CD69, MAP3K8, BCL6, and PLEK) demonstrated at least a three-fold increase in expression in reactivated cells compared to GFPneg controls.

Conclusions

This study provides new insight into cellular gene expression and signalling events that may contribute to HIV reactivation. Significant enrichment of inflammatory pathways, most notably for TNF- α , was observed in CEM T cells undergoing both spontaneous and prostratin-induced HIV reactivation. Our results highlight potential gene targets that can inform therapeutic strategies to eliminate latent HIV reservoirs.

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Abstract #337

Spatial Transcriptomics reveals persistent reservoirs in the rhesus macaque gut are associated with tertiary lymphoid aggregates and stress response activation

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Despite effective antiretroviral therapy (ART), HIV-1 persistence is the major obstacle to a functional cure. Understanding the tissue microenvironment associated with persistence during ART is key. We have developed immunoPET/CT-guided-omics allowing the identification and subsequent interrogation of foci of viral gene expression using the SIV/rhesus macaque model. Here we compare the spatial transcriptomics (10x Visium) of the local gut tissue neighborhood of the rebound eclipse-phase foci (4-6 days post-ATI) from animals initiating ART 4 days (short lifespan reservoir) or 10 weeks (persistent reservoir) after high-dose challenge. Adjacent tissue sections containing foci of rebounding virus were evaluated with SIV proviral PCR, immunofluorescence, and spatial transcriptomics. SIV presence in both short lifespan and persistent conditions was associated with higher transcriptional levels, up-regulation of genes related to SIV infection, and activation of innate immune responses. Notably, we also detected significant differences between the short lifespan and persistent reservoirs. The biomarkers and pathways for the persistent reservoir revealed the activation of the integrated stress response (ISR) with its characteristic translational reprogramming and cellular adaptation. Pathway analyses reveal many parallels between the persistent reservoir foci of virus rebounding 6 days after ATI and the tumor microenvironment (TME) which is the contextual basis of modern cancer research. SIV in persistent reservoirs was distinctly associated with IgA plasma cells, monocytes, and cycling gamma-delta T-cells, while in short lifespan reservoir was associated with IgG plasma cells, Th17 cells, and DCs. Additional signatures of epithelial cells combined with pathway analysis suggest that persistent reservoirs are associated with gut tertiary lymphoid aggregates and characterized by a regional ISR adaptation to restore cellular homeostasis. We propose that the integrated stress response facilitates the development of a viral microenvironment very analogous to the well-defined TME suggesting both utilize the altered microenvironment as a physiological sanctuary to persist while evading immune responses.

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Abstract #299

G-quadruplex DNA and their binding proteins: new players in HIV-1 Integration Site targeting in the human genome

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The persistence of latent HIV-1 reservoirs following integration into host cells is the main barrier to curing HIV-1. Despite antiretroviral therapy, latently infected proviruses can reactivate, leading to CD4+ T cell decline and AIDS. The site of integration and the DNA structures that surround it are critical to establishing latent infection. G-Quadruplex DNA (G4s) have been identified as DNA structures that influence HIV-1 integration and latency. G4s are poly-guanine tracts that form stable 4-stranded helices and it has been established that stabilizing G4s promotes integration near G4s and increases the proportion of latently infected cells. Moreover, liquid chromatography mass spectrometry identified three host G4-binding proteins (G4BPs) associated with the HIV-1 pre-integration complex (PIC): Nucleolin, Nucleophosmin-1, and hnRNPA1. Based on these findings, we hypothesized that G4s, in conjunction with PIC-associated G4BPs, guide the HIV-1 PIC to specific genomic regions, facilitating integration site selection and favoring proviral latency.

To test this hypothesis, cells were treated with small interfering RNAs to reduce the expression of the identified G4BPs. Then, cells were infected with HIV-1 with a subtype B backbone possessing either subtype B or D integrase. Genomic DNA was harvested and analyzed using a custom bioinformatics tool, the Barr Lab Integration Site Identification Pipeline. In cells with reduced G4BP expression, integration near genes and transcription start sites—both regions enriched in G4s—was significantly diminished for both HIV-1 subtypes. A clinically relevant integration site hotspot was also identified in control samples but was lost when G4BP expression was reduced. Additionally, changes in G4BP expression influenced the orientation of integrated proviruses relative to gene targets, which is known to affect proviral transcriptional activity. These findings identify G4s and G4BPs as new players in HIV-1 integration site targeting and suggest that G4BPs may serve as promising therapeutic targets for disrupting latent HIV-1 reservoirs.

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Abstract #322

An HIV/Virus-like Particle co-packaged with an immunostimulatory RNA motif enhances HIV Latency Reversal within CD4+ T cells of individuals receiving cART during chronic infection

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BACKGROUND/AIMS

The persistence of a latent HIV reservoir within the population of CD4 T cells fails combined with antiretroviral therapy (cART). The elimination of this latent viral reservoir is a crucial aspect of current strategies for an HIV-1 cure. Our previous non-infectious HIV/Virus-like particle (HLP) specifically reactivated the latent viral pool in HIV-specific CD4+ T cells of individuals treated for 5-20 years on stable cART during acute and chronic HIV infection. For improved safety, HLP production was derived from near full-length HIV-1 genome (HP) mutated to prevent genomic RNA packaging. However, without gRNA, the HLP showed a lower latency reversal level than an HP in the CD4+ T cells. In this study, we hypothesize that by co-opting the existence of HIV genome with novel RNA motifs, we can preferentially package the RNA adjuvant into HLP which can enhance HIV latency reversal effectiveness.

METHODS

Encapsidated HLP was generated by co-transfecting Multi RNA adjuvant and HLP plasmids into HEK-293T cells. Both RNA copies of the novel adjuvant and HLP were quantified by qRT-PCR. Next, we used THP-1 dual cell lines and human PBMCs to test the immunostimulatory responses. Nested-PCR and RT/nested-PCR were used to amplify proviral and latent reactivated viral genomes. RNA viral copies released into supernatant were quantified by qRT-PCR, viral diversity by next-generation sequencing using Oxford Nanopore.

RESULTS

A 4:1 plasmid ratio expressing RNA adjuvant versus the HLP is optimal to generate a newly encapsidated HLP that almost completely excludes remnant genomic HIV RNA. Our encapsidated HLP can activate NF-κB significantly more than HLP alone. The encapsidated HLP had a higher level of viral RNA copies released after latency reversal than HLP alone.

CONCLUSION

The encapsidated HLP could induce immunostimulatory effects and enhance the HIV latency reversal within CD4+ T cells in individuals on long-term cART.

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Abstract #230

Identification of Transcriptional Active SIV-Infected Cells in Rhesus Macaques

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The phylogenetic closeness of non-human primates to humans makes them attractive models for assessing the pathogenicity related to infectious diseases, such as HIV infection. Rhesus macaques (RMs) offer the opportunity to decipher (i) cellular and anatomical reservoirs and (ii) the immune consequences associated with viral persistence in tissues despite early antiretroviral therapy (ART) (1-3). Among the infected CD4 T cell subsets, we and others have reported that T follicular helper (Tfh) cells represent one of the main viral reservoirs in lymphoid tissues of SIV-infected RMs.

Therefore, we decided to explore in greater depth gene profile of Tfh cells compared to those expressed in effector memory (TEM) and naïve CD4 T cells; in particular, given the nature of Tfh cells, which are mostly localized within B cell follicles in lymphoid tissues.

By combining cell sorting with flow cytometry and bulk RNA-sequencing, we analyzed the profiles of these T cell populations isolated from the spleen and mesenteric lymph nodes of RMs, either infected with the SIVmac251 strain (20 AID50) or treated with an early ART (day 4 post-infection) (1-3).

One of our main results indicates that Tfh cells who display a distinct transcriptomic profile compared to TEM and naïve cells, demonstrate an altered profile in SIV-infected RMs that persists despite early ART administration. Such profile is associated with a partial restoration of Tfh cells in lymphoid tissues. Single cell transcriptomic analysis reveals the presence of heterogeneous Tfh cell subsets.

Given the importance of Tfh cells for B cell and vaccine immune responses, understanding more in deep their gene profile in lymphoid tissues is of main importance. Strategies aiming to restore and rejuvenate Tfh cells may contribute to improve immunity and vaccine immune responses in people living with HIV.

1 Rabezanahary Mucosal Immunol. 2020.

2 Rabezanahary J Virol. 2020

3 Clain JCI Insight. 2023

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Abstract #98

Characterizing Host Factors Involved in Uncoupling HIV-1 Nef-Mediated Downregulation of SERINC5 and CD4

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The Human Immunodeficiency Virus Type 1 (HIV-1) Nef accessory protein is expressed early during HIV-1 infection and contributes significantly to evasion of host immune surveillance. Nef modulates cellular trafficking pathways to downregulate the expression of various immune effectors on the surface of host cells, including the HIV-1 entry receptor, Cluster of Differentiation 4 (CD4). Another protein downregulated in this manner is Serine Incorporator 5 (SERINC5), a multi-pass transmembrane protein that incorporates into progeny virions during egress and inhibits fusion with target cells, thereby reducing infectivity. Nef restores infectivity by engaging cellular adaptor proteins (APs) to internalize SERINC5 via clathrin-mediated endocytosis. An endocytic dileucine sorting motif ([D/E]xxxL[L/I]₁₆₅) in the C-terminal region of Nef is critical for establishing the association with APs necessary for antagonism of SERINC5 and CD4, suggesting equivalent pathways are involved in the downregulation of both proteins.

We previously identified a Nef DN₁₆₄ND polymorphism located within the dileucine motif that ablates SERINC5 downregulation while preserving CD4 downregulation. We hypothesize that the DN₁₆₄ND polymorphism alters the interaction between Nef and APs involved in cellular trafficking, due to its location within the dileucine motif, which ultimately uncouples the two pathways. We used bimolecular fluorescence complementation (BiFC) with confocal microscopy to discern the interaction between Nef and SERINC5 within the endocytic pathway of transfected cells. We aim to further characterize the subcellular compartments and APs involved in the functional uncoupling to elucidate the pathway through which SERINC5 is trafficked during Nef-mediated downregulation. The results of this investigation may have important implications for the development of novel therapeutics that target Nef. If administered during the early stages of infection, such drugs could reduce HIV-1 proliferation and improve health outcomes in people living with HIV-1.

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Abstract #139

Looking Beneath the Viral Envelope Using Flow Virometry

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Introduction: HIV viral stocks contain an abundance of extracellular vesicles (EVs) that can share size, density, and surface protein composition to viral particles. Differentiating viruses from EVs remains a key challenge given the overlapping structural properties of these nanoparticles. Herein, we are developing flow virometry approaches to detect viral structural proteins present abundantly inside virus particles to overcome this problem. Drawing from the well-established technique of intracellular staining in flow cytometry, here, we have developed intravirion staining techniques targeting the capsid protein of HIV-1, Gag p24, known to be minimally incorporated in EVs.

Methods: HIV-1 pseudoviruses were permeabilized, fixed and stained with 2 different anti-p24 antibodies, namely, clone KC57 conjugated to R-PE or FITC, and clone 28B7 conjugated to APC. Unpermeabilized viruses were used as controls. We also tested the impact of Amicon-based filtration to remove PFA from staining reactions prior to permeabilization and intravirion staining. We also performed a simultaneous surface stain and intravirion stain of pseudovirus particles expressing different human proteins. Optimized intravirion staining protocols were then performed on HIV-1 propagated in PBMCs to demonstrate utility in biologically relevant virus model systems.

Results and Conclusions: Our results showed optimal intravirion staining of Gag p24 with PFA fixation and saponin permeabilization in staining reactions with and without filtration to remove PFA. The KC57-FITC anti-p24 antibody yielded the highest levels of intravirion staining that was demonstrated to be specific, with no staining observed on unpermeabilized viruses. Our results demonstrate for the first time that simultaneous detection of surface and intravirion antigens can be achieved with flow virometry methods. Intravirion staining using flow virometry can have a wide range of applications including accurate discernment of viruses from EVs, identification of virion-incorporated cytoplasmic proteins and/or nucleic acids or to characterize the incorporation of host restriction factors and/or antiviral molecules in virus particles.

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Abstract #204

Fingerprinting HIV-1 Particles to Discern Cellular Origins

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HIV-1 acquires its lipid envelope during egress from infected cells. In doing so, virions incorporate cellular proteins from the plasma membrane into nascent viral envelopes. Our lab has been extensively characterizing these virion-incorporated host proteins as they can remain functional and alter virus biology. For example, our recent works demonstrated the exploitation of PSGL-1 as a viral attachment factor, and the utilization of virion-incorporated CD14 to shuttle bacterial LPS. Beyond functionality, incorporated proteins also offer researchers a tool to discern virus origins. We hypothesize that HIV-1 from different tissues may incorporate proteins that reflect the unique producer cell types, thereby allowing the inference of the cellular source of HIV-1 reservoirs.

Herein, we propagated HIV-1BaL in donor-matched peripheral-blood mononuclear cells (PBMCs) and monocyte-derived macrophages (MDMs) isolated from three different donors. Virus-containing supernatants were then analyzed by mass spectrometry. We discovered that, while MDM- and PBMC-derived HIV-1 share a large fraction of identified proteins, there were statistically significant differences in the enrichment of those proteins between the two groups. This differential enrichment drove PBMC and MDM clusters by principal components analysis, and hierarchical clustering. Volcano plots identified differentially expressed proteins, and a curated list was validated through flow virometry, immunoprecipitation and western blots.

A key challenge in HIV cure strategies is identifying the key viral reservoirs to target and eliminate infectious virus from systemic shedding. The goal of this work is to determine how characterizing the human proteins on viral particles might improve our understanding of HIV-1 reservoirs. Our results highlight the ability to discern PBMC- and MDM-derived HIV-1 based solely on these virion-incorporated human proteins, reinforcing our hypothesis that virions emerge from infected cells with a unique protein fingerprint that can inform on cellular origin. Ongoing studies are extending these findings to additional cell types and tissue sources, including clinical samples.

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Abstract #110

Effect of HIV-1 Envelope Protein Site-Specific N-Glycosylation Pattern on Transmission

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Human immunodeficiency virus 1 (HIV-1) remains a global health challenge, affecting ~39 million people. New HIV-1 infections are typically established by a single transmitted/founder (T/F) virus, with the heavily glycosylated HIV-1 envelope protein gp120 playing a key role in transmission. We hypothesized that specific N-glycosylation patterns are associated with the successful transmission of T/F viruses, while chronic viruses develop more diverse glycosylation profiles to evade antibody neutralization.

To evaluate gp120 glycosylation patterns between T/F and chronic virions, solubilized viral lysates were visualized on SDS-PAGE gels, gp120 bands were excised, digested with trypsin and chymotrypsin, and resulting glycopeptides were subjected to electron-transfer/higher-energy collision dissociation mass spectrometry analysis. Glycopeptide analysis software analysed site specific gp120 N-glycosylation across 24-27 N-glycosylation sites using a library of 55 glycoforms representing common glycans added to gp120 in the endoplasmic reticulum (high mannose), trans-Golgi and Golgi (complex). Preliminary findings indicate the proportion of complex glycans on the T/F isolate, B4, is higher than the chronic isolate, Q0. Despite having fewer N-glycosylation sites, B4 has more than double the amount of glycosylation than Q0. Equivalent N-glycosylation sites between B4 and Q0 were aligned based on sequence and structure position. At most equivalent sites, B4 had a higher count of glycosylation and high mannose glycoforms.

Transmission fitness of the B4 and Q0 was assessed via a multi-virus competition on human cervical tissue under treatment conditions that saturate C-type lectin receptors and mannose glycans on gp120. Results indicated that B4 had significantly higher replication fitness on cervical tissue. However, in Th1 and Th17 cell lines, Q0 outcompeted B4, suggesting cervical tissue may benefit T/F viruses in establishing infection.

Insights into T/F and chronic gp120 glycosylation profiles may identify features essential for HIV-1 transmission, potentially serving as robust vaccine targets and enhancing the understanding of gp120 glycosylation's role in transmission.

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Abstract #247

Activating Transcription Factors (ATFs) during HIV and SIV Infection

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Activating Transcription Factors (ATFs), which belong to the basic leucine zipper group, play a crucial role in the regulation of gene expression by binding to DNA at cyclic AMP response element (CRE) motifs (1). Disruption of the symbiosis between the endoplasmic reticulum and mitochondria may contribute to cell death induced by human immunodeficiency virus (HIV) infection (2). Among the ATFs, ATF5 regulates mitochondrial stress, cell survival and cell death, but its functions remain poorly understood in the context of host-pathogen interactions. Therefore, our main objective was to clarify the role of ATF5 during HIV/SIV infection.

We used primary human monocyte and lymphocytes infected with HIVBaL. We sorted cell populations of rhesus macaques either non infected (n=2) or infected with SIVmac251 (n=4). We performed qPCR and bulk RNAseq for analyzing the expression of the members of the ATF family. We also generated a plasmid encoding for atf5.

Our results show an early and transient expression of ATF5 gene expression in HIV-infected monocytes. Furthermore, we found higher expression of ATF5 in hepatic CD4 T cells. Further analyses are underway to elucidate the signaling cascades induced by ATF5 to highlight the critical nodes responsible for cell death, as well as the effect of ATF5 during viral infection.

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- 2) Petit J Biol Chem. 2002

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Abstract #182

Deciphering HIV-1 Vpu accessory protein function using a novel infectious molecular HIV-1 clone

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Human immunodeficiency virus type 1 (HIV-1) uses the Vpu accessory protein to evade immune surveillance. Vpu modulates BST-2, CD4, and HLA-C to enhance viral egress, evade antibody-mediated cellular cytotoxicity, and prevent cytotoxic T cell responses, respectively. These functions are dependent on Vpu amino acid motifs that interact with host cell proteins to subvert trafficking pathways. However, it is difficult to decipher specific Vpu motifs as a 83 base pair overlap between the vpu and env ORFs exists in the bicistronic mRNA encoding these two proteins, affecting 27 amino acids of Vpu. Accordingly, this has precluded the identification of sequence determinants that define Vpu function, specifically at its C-terminal end, in a fully infectious context. To address this, we created a vector encoding the full infectious molecular clone of the transmitted/founder HIV-1 strain CH58, with the vpu and env ORFs separated entirely. Furthermore, we flanked vpu with restriction digest target sequences, allowing for cloning of whole Vpu proteins from additional strains into the infectious backbone. To validate this approach, we inserted the NL4-3 Vpu protein into this backbone and tested constructs for their ability to downregulate BST-2, CD4, and HLA-C in primary CD4⁺ T cells. Both CH58 Vpu and NL4-3 Vpu downregulated BST-2 and CD4; however, NL4-3 Vpu was unable to downregulate HLA-C. We also demonstrated that the N-terminus of Vpu is required for HLA-C downregulation by Vpu, as replacing the first 27 amino acids of CH58 Vpu with NL4-3 Vpu in this backbone blocked HLA-C downregulation. Taken together, our molecular clone will be used to further elucidate how Vpu downregulates host protein targets in a fully infectious context. Given the importance of Vpu during HIV-1 infection, a full understanding of its functions in a relevant context may inform potential therapeutic strategies to help PLWH.

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Abstract #41

Multi-Ancestry GWAS of HIV viral load in ~13,000 people living with HIV reveals novel risk loci.

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There are around 39 million people worldwide living with HIV, with a significant portion of this population residing in Sub-Saharan Africa (UNAIDS, 2024). HIV set-point viral load (spVL) is a critical indicator of disease progression and transmission risk, making it a key target for genetic studies. This project aims to identify genetic variants influencing HIV spVL through a multi-ancestry genome-wide association study (GWAS) and fine-mapping, leveraging data from approximately 13,000 individuals across African, European, African-American, and Hispanic ancestries. Genotype data from 23 cohorts were obtained through the International Collaboration for the Genomics of HIV (ICGH). Following the processing of each cohort for quality control, principal component analysis, and genotype imputation, a linear mixed-model regression was performed and results were aggregated via meta-analysis to determine the impact of each single nucleotide polymorphism (SNP) on spVL. While confirming the findings of previous GWAS, novel findings of the meta-analysis include association of the SNP rs35962362 in the ZNF586 gene as an HIV susceptibility marker. Fine-mapping each individual risk locus identified putatively causal SNPs, and provided insight into the heterogeneity of both novel and known HIV risk loci. This study represents the largest and most diverse GWAS of HIV spVL to date, integrating advanced statistical tools and data from multiple ancestries. This study also accounts for weaknesses in previous GWAS that have lacked power for discovery due to small sample size and lack of genetic diversity. By identifying genetic loci associated with HIV spVL, the findings provide a foundation for understanding the genetic basis of HIV control and disease progression.

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Abstract #70

Host genetic variants linked to lower HIV set-point viral load are associated with lower interferon signaling responses

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HIV set-point viral load (spVL) is a strong predictor of disease progression and transmission risk, with approximately 25% of variance attributable to host genetic factors. A genome-wide association study identified a novel region on chromosome 1 significantly associated with decreased HIV spVL and in vitro knockout of CHD1L increased HIV replication in myeloid but not Jurkat T cells. However, the relationship between spVL-associated variants, CHD1L expression, and spVL remains unclear. This study explored the relationship between spVL-associated variants and CHD1L expression in monocytes and CD4+ T cells to assess cell-type-specific responses. Analysis of CHD1L expression in CD4+ T cells from people living with HIV did not differ by genotype. However, in monocytes, individuals heterozygous for protective spVL alleles exhibited significantly lower CHD1L expression compared to homozygous reference individuals as determined by qPCR, suggesting lower CHD1L expression corresponds to lower HIV spVL. Next, we utilized transcriptomic profiles of healthy African American individuals from the Immune Variation project using DESeq2 to test whether HIV spVL-associated variants influenced genes downstream of CHD1L. While no genes were differentially expressed based on genotype in CD4+ T cells, 27 genes were downregulated amongst individuals with protective spVL alleles in monocytes. Pathway analysis revealed individuals with protective spVL-associated alleles exhibited lower expression of genes involved in cytokine and interferon signaling. While a strong interferon response restricts HIV replication in vitro, increased expression of interferon stimulating genes has been associated with increased HIV set-point viral load previously. While further work is needed to determine whether transcriptome changes are directly mediated by CHD1L, these results suggest that HIV spVL-associated variants modulate overall immune activation which may affect HIV pathogenesis differently during acute or chronic infection. Overall, these findings highlight new insights into genetically regulated control of HIV and HIV pathogenesis.

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Abstract #295

Evaluation of HIV-1 Proviral Epitopes with High Affinity to Circulating HLA Class I Alleles in Two Brazilian Cities as Potential Targets for HIV Therapeutic Vaccines

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Despite the success of antiretroviral therapy, the life-long use of antiretroviral treatment requires a high financial investment, results in an increase of antiretroviral resistance and may have side effects. Thus, novel treatment strategies are emerging based on therapeutic vaccination of people living with HIV (PLHIV), where viral replication will be controlled at undetectable levels by the host's immune system after antiretroviral treatment discontinuation. Thus, the present study longitudinally evaluated the HIV-1 proviral epitopes inferred from near full-length genome (NFLG) sequences with high affinity to the most frequent HLA-A, -B and -C alleles of PLHIV from two Brazilian cities, Rio de Janeiro (RJ) and Rio Grande (RS). Overall, 86 PLHIV (RJ = 46; RS = 40) were recruited and had their peripheral whole blood collected. HIV-1 proviral NFLG were PCR-amplified and ultradeep-sequenced in an Illumina MiSeq platform. Results were analyzed in Geneious package and T-cell epitopes were predicted using the MHC-I Binding Prediction Tool. All samples included in the first timepoint were sequenced and 96.5% (83/86) had the NFLG determined. Six epitopes with high affinity to the most frequent HLA alleles were selected among viral sequences from RJ (RTLNAWVKV-Gag, HQKEPPFLW-Pol, KHQKEPPFL-Pol, TQDFWEVQL-Pol, VLDVGDAYF-Pol and VNTPLVVKL-Pol) and three from RS (KHQKEPPFL-Pol, TQDFWEVQL-Pol and VLDVGDAYF-Pol). Twenty RJ individuals had a second timepoint collected after two years of follow-up and the six selected HIV proviral epitopes remained in the peripheral blood compartment of 19 (95%) samples. Altogether, a set of HIV epitopes were selected in two conserved regions of HIV proteins. These epitopes showed high affinity to the most frequent HLA class I alleles, were highly conserved among circulating viruses and highly stable across time in the samples analyzed. Therefore, these are promising immunogen candidates for the development of therapeutic vaccines to counteract HIV-1 infection and disease progression in those regions of Brazil.

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Abstract #317

HIV target cell abundance in adolescent girls and young women from Uganda: associations with age and STIs

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Adolescent girls and young women (AGYW) in generalized HIV epidemics experience increased risk of HIV acquisition, but it is unknown the extent to which biological mechanisms contribute. Studying the genital immune cell milieu among AGYW is critical to better understanding whether age is associated HIV transmission-related factors, controlling for other predictors of HIV risk such as other STIs, sexual behaviour, contraceptives, and other possible confounders.

We examined the immune cell frequency and abundance at baseline in the genital tract of AGYW aged 15-24 in fishing villages near Entebbe, Uganda. A total of 277 participants were enrolled in this prospective cohort, with girls aged 15-17 (n = 114), 18-20 (n = 63), and 21-24 years (n = 100). A high prevalence rates of STIs was observed within this cohort, including human papillomavirus (HPV) (40%), Chlamydia trachomatis (CT) (14%), Neisseria gonorrhoeae (NG) (2%), Trichomonas vaginalis (TV) (9%), and herpes simplex virus (HSV) seroprevalence (45.6%).

We observed a significant increase in the abundance of CD4+ T-cells among younger participants (aged 15-19) [$\beta = 0.25$, 95% CI (0.05 - 0.44), $p=0.014$] suggesting an age-related associations with genital immune cell abundance. Age remained a predictive factor for immune cell abundance in multivariable linear regression models adjusting for the presence of STIs [$\beta = 0.24$ 95% CI (0.02 - 0.47) $p=0.03$], HPV, and HSV-2 serology, highlighting the potential for immunological shifts to influence susceptibility among younger AGYW.

Our ongoing analyses will further explore the role of soluble inflammatory markers, microbiome, and their relationship with genital immune cell populations. These findings will inform strategies to optimize prevention and care interventions tailored to the unique immunological needs of AGYW in high-burden settings.

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Abstract #64

Investigating changes in the immune profile post Mpox infection in People Living with and without HIV

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Background: Since the May 2022 Mpox outbreak, 1,837 cases and 51 hospitalizations have been reported in Canada. The outbreak disproportionately affected people living with HIV (PWH). There are significant gaps in understanding how HIV affects immune responses to Mpox infection in PWH. Understanding the effect of HIV on immune response following Mpox infection may inform development of vaccines and treatments.

Methods: Peripheral Blood Mononuclear Cells (PBMCs) from 13 individuals enrolled in the Monkeypox Prospective Observational Cohort Study were used. Participants included HIV+ and HIV- individuals at least 3 months post Mpox-infection as well as Mpox-naïve HIV+ control individuals. Differences in proportions of peripheral CD4+ and CD8+ T cells, Natural Killer (NK) cells, Monocytes, Dendritic Cells (DC), and Innate Lymphoid cells (ILCs) were enumerated using spectral flow cytometry (SONY Spectral ID7000).

Results: All participants were male with median age of 40. PLWH participants (n=9) had an average CD4+ T cell count of 799 cells/mm³, and all were on ART. No significant changes were observed between HIV+ vs HIV- groups post Mpox infection in the proportions of B cells, NK cells, monocytes, and DC. We found a significant decrease in CD4+ T cell counts in PWH post-Mpox infection compared with both HIV- individuals post-Mpox infection (p=0.036) and Mpox-naïve HIV+ control patients (p=0.01). We also observed a significant decrease in the proportions of ILC2 in PWH post-Mpox infection compared to HIV- patients post-Mpox infection (p=0.012).

Conclusions: The lack of differences in immune proportions post-Mpox infection in HIV+ vs HIV- individuals may relate to the small sample size or normalization of immune cell numbers by time of sample collections. Furthermore, as the HIV+ participants were not immunocompromised, this may have precluded us from observing significant differences. Work is ongoing to investigate changes in different T cell subsets, cytokine profiles and HIV reservoir size.

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Abstract #281

Contribution of CCR5 and GPR15 chemokine receptors during simian immunodeficiency virus infection and antiretroviral therapy

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HIV specifically infects T lymphocytes expressing CD4 molecules and a chemokine receptor namely CCR5 or CXCR4. Unlike HIV, CXCR4 is not used by the simian immunodeficiency virus (SIV) to infect T cells while SIV infects cell lines expressing the chemokine receptor GPR15. However, its role in vivo remains elusive.

Our hypothesis is that GPR15 may contribute to SIV infection. In this study, we determined i) the dynamics of CD4 T cells expressing CCR5 and GPR15 and ii) whether these cells are infected establishing viral reservoirs after antiretroviral therapy (ART).

Rhesus macaques (RMs) were infected with SIVmac251 (20 AID50). ART was administrated at day 4 post-infection (tenofovir/emtricitabine/raltegravir or dolutegravir/ ritonavir). After necropsy, lymphoid tissues, including the spleen, mesenteric and axillary/inguinal lymph nodes, as well peripheral blood were recovered. The phenotype of CD4 T cells expressing CCR5 and GPR15 were analyzed by flow cytometry. CCR5 and GPR15 T cell subsets were sorted by flow cytometry and viral RNA and DNA were quantified by qRT-PCR.

Our results demonstrate that CD4 T cells expressing CCR5 and GPR15 are distinct CD4 T cell subsets in RMs. Whereas CCR5 is expressed by effector memory and terminal differentiated CD4 T cells, GPR15 is mainly expressed by central memory T cells. We observed a transient depletion of CD4 T cells expressing CCR5 and GPR15 during the acute phase of infection both in the blood and peripheral lymph nodes. This depletion is prevented by ART. In chronically SIV-infected RMs, a decrease in the percentage of CD4 T cells expressing these coreceptors was also noticed in mesenteric lymph nodes. Sorting of CD4 T cell subsets expressing GPR15 and CCR5 demonstrated the presence of cell-associated SIV DNA.

Altogether, our results describe the impact of GPR15 as a coreceptor for SIV participating in the establishment of viral reservoirs in RMs.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: HIV in women, in pregnancy and pediatrics / Thème : Le VIH chez les femmes, pendant la grossesse et pédiatrie

Abstract #85

Linear Growth Among Infants With In Utero Tenofovir Disoproxil Fumarate and Tenofovir Alafenamide Exposure

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Background:

Tenofovir disoproxil fumarate (TDF) is a NRTI of choice for treating pregnant women with HIV (but not in prepubertal children due to bone toxicity concerns). Tenofovir alafenamide (TAF), a pro-drug with improved bone safety, is becoming more widely used and was recently recommended in pregnancy. Some studies among TDF-exposed infants demonstrated linear growth impairment at 12 months; limited outcomes with TAF are available. We evaluated linear growth among children with in utero TDF & TAF exposure.

Methods:

Children born to mothers with HIV treated with antiretroviral therapy (ART) from 2011-2022 were retrospectively reviewed at our centre. Height-for-corrected-age (HFA) z-scores at 12 and 18 months were compared between TDF-, TAF-, and unexposed infants using Kruskal-Wallis test. Among those on TDF/TAF, outcomes were compared for those also exposed to protease inhibitors (PI) vs no PI.

Results:

Outcomes were available for 157 children. Mean (SD) gestational age was 38.9 (2.0) weeks, with 80 (51%) females. 83 (53%) were TDF-exposed, 9 (6%) were TAF-exposed, and 65 (41%) were exposed to neither. 25 (30%) of TDF-exposed and no TAF-exposed were exposed to PI. Median (IQR) HFA z-scores at 12 months in TDF-, TAF-, and neither-exposed infants were 0.7 (-0.1, 1.3) vs 0.6 (0.3, 0.9) vs 0.5 (0.1, 1.2) (p=0.99). Among infants with TDF+PI vs TDF without PI, z-scores were 0.3 (-0.1, 1.0) vs 0.7 (-0.1, 1.5) (p=0.37). Among 128 participants with outcomes at 18 months, median z-scores in TDF- (n=70), TAF- (n=4) and neither-exposed (n=54) were 0.5 (-0.2, 1.2) vs 0.9 (0.7, 1.0) vs 0.2 (-0.3, 1.1) (p=0.54).

Conclusions:

No association was identified between HFA z-scores at 12 or 18 months and TDF exposure; small sample size of TAF-exposed infants limited ability to detect differences. With most ART-infants globally being exposed to TDF, it is essential to understand its impact on children's health.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: HIV in women, in pregnancy and pediatrics / Thème : Le VIH chez les femmes, pendant la grossesse et pédiatrie

Abstract #162

Adequacy of Antiretroviral Treatment in Pregnancy and Vertical Transmission Rates in Canada: Data from the Canadian Perinatal HIV Surveillance Program

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Objectives: To describe demographics of mother-infant pairs (MIP), antiretroviral treatment (ART) during pregnancy, and vertical transmission (VT) rates in Canada in 2023, and to compare trends in ART coverage during pregnancy and VT rates in 2023 versus 2014-2022.

Methods: Data are collected annually from 22 Canadian pediatric and HIV centres of the Canadian Perinatal HIV Surveillance Program. Data collected include maternal characteristics, pregnancy ART and infant outcome.

Results: There were 247 infants born in 2023 (250/year in 2014-2022); 32% were from Ontario, 24% from Quebec, 18% from Saskatchewan, 15% from Alberta, 7% from Manitoba; 4.5% from BC and 0.4% from Maritimes. 57% were Black, 25% were Indigenous, and 11% were white. Overall, 77% of pregnant women/people acquired HIV heterosexually, 17% through injection drug use and 3% perinatally. The proportion of pregnant women/people receiving <4 weeks of ART in 2023 was 7.4% (18/242). The proportion of pregnant women/people receiving <4 weeks of ART since 2014 was significantly higher in Manitoba, Saskatchewan and Alberta (8.8%, 69/786) compared with the remainder of Canada (5.3%, 65/1229; OR=1.97 (1.42, 2.72); $p < 0.001$). However, this difference was no longer significant after accounting for mode of infection and ethnicity (aOR=0.94 (0.55, 1.59); $p = 0.81$); the same conclusion was reached after excluding the data from the COVID years (2020-2021). There were five cases of VT in 2023 (VT rate = 2.0%, 5/247), including three infants whose mothers received <4 weeks of ART (16.7%, 3/18), and two infants whose mothers received ART for ≥ 4 weeks (0.9%, 2/224).

Conclusions: Suboptimal ART in pregnancy remains a major problem and VT events continue to occur in Canada at unacceptably high rates. Tailored interventions designed to engage pregnant women/people with HIV experiencing barriers to care are needed if further reductions in VT rates are to be achieved.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: HIV in women, in pregnancy and pediatrics / Thème : Le VIH chez les femmes, pendant la grossesse et pédiatrie

Abstract #180

Structural Brain Differences in School-Aged Children Who Are HIV-Exposed Uninfected

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Background:

Antiretroviral therapy (ART) has significantly lowered the rate of perinatal HIV transmission in Canada, increasing the number of children who are HIV-exposed but uninfected (CHEU). While the neuroanatomic developmental effects of in-utero HIV and ART exposure have been studied in younger children, a gap remains for those aged 6 to 12 years. This study is the first to examine impacts in this age group.

Methods:

Participants included 58 CHEU (31 female, 27 male; mean age=8.7, SD=1.5; 71% African/Caribbean/Black; 29% premature birth (< 37 weeks)) and 38 children who are HIV-unexposed, uninfected (CHUU) (15 female, 23 male; mean age=8.8, SD=1.6; 45% African/Caribbean/Black; 8% premature birth) from Ontario, Canada. T1-weighted MRI scans were processed to extract cortical and subcortical volume, cortical thickness and surface area, and grey-/white-matter tissue classification. Linear models—adjusted for sex, age, income, and total brain volume—were fit to explore the effect of exposure group on each neuroanatomic measure. Sex-stratified models were also calculated.

Results:

CHEU exhibited smaller total brain volumes and thinner cortices compared to CHUU. Within the male cohort, volumetric age-exposure interactions were noted in the pars opercularis, left rolandic operculum, and left precentral gyrus, suggesting delayed maturation in CHEU. Reduced cortical thickness in CHEU was noted in the frontal lobe, with pronounced effects between male CHEU and CHUU in the orbital middle frontal gyrus. Hippocampal volume was also reduced in male CHEU. An age-exposure interaction in the volume of the amygdalae suggests an altered growth trajectory or reduced growth among CHEU.

Conclusions:

These findings indicate that in-utero HIV and ART exposure may impact brain development, particularly in regions associated with motor function, expressive language, memory, and emotion. The results align with previously reported deficits in motor and language abilities, emphasizing the need for early interventions and support for CHEU.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: HIV in women, in pregnancy and pediatrics / Thème : Le VIH chez les femmes, pendant la grossesse et pédiatrie

Abstract #189

Investigating the Effects of HIV Integrase Strand Transfer Inhibitors on Expression of Fatty Acid Transporters in the Placenta of Healthy Mice

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Background:

Integrase strand transfer inhibitors (INSTIs) are part of current recommended antiretroviral regimens (ART) for people with HIV, including pregnant persons. In utero exposure to HIV/ART has been associated with higher risk for neurodevelopmental deficits in children who are HIV-exposed, uninfected. Fatty acid (FA) transport, which is vital for fetal brain development, has not been explored in the context of HIV/ART. We explored the effects of INSTI exposure on placental expression of FA transporter genes in a mouse pregnancy model.

Methods:

Healthy C57BL/6 mice (N=10-20 dams/arm) were treated with INSTI-based ART (bictegravir, cabotegravir, dolutegravir, or raltegravir administered with TDF/FTC), or water as a control, at therapeutic concentrations via oral gavage from conception until sacrifice (gestational day 15.5). Placental gene expression was assessed by qPCR. Generalized linear models assessed differences versus controls. Correlations with fetal and placental weights were analyzed using Spearman's rank correlation.

Results:

INSTI treatment altered gene expression of FA transport proteins (Fatps), FA binding proteins (Fabps), lipases (Lpl, Lipg), and fatty acid translocase (Cd36/Fat) when compared to controls, with differential results based on treatment regimen (Table 1). Significant reductions in expression of nuclear transcription factors Pparg and Rxra was observed across treatment regimens. Expression of lipases was strongly associated with placental weight but not fetal weight in the cabotegravir treatment arm.

Conclusion:

Treatment with therapeutic doses of all INSTIs alters expression of placental FA transport associated genes. Changes in Pparg expression, which regulates expression of Fatps, Fabps, and lipases, suggests it is driving changes in transporter expression.

Supporting Document

Table 1: Difference in mean expression with 95% confidence interval of placental fatty acid related genes compared to control across INSTIs.

	Bictegravir N= 18 placenta N= 9 litters	Cabotegravir N= 18 placenta N= 9 litters	Dolutegravir N= 20 placenta N= 10 litters	Raltegravir N= 20 placenta N= 10 litters
Gene	Mean difference in expression compared to control (95% confidence interval) ¹			
Fatp1	-0.29 (-0.57, -0.02) *	0.15 (-0.13, 0.42)	-0.13 (-0.39, 0.14)	-0.15 (-0.42, 0.11)
Fatp4	-0.41 (-0.55, -0.27) ***	-0.13 (-0.27, 0.02)	-0.20 (-0.34, -0.06)	-0.26 (-0.40, -0.12) **
Fatp6	-0.94 (-1.18, -0.70) ***	-0.74 (-0.99, -0.50) ***	-0.47 (-0.71, -0.24)	-0.62 (-0.85, -0.39) **
Fabp4	0.27 (-0.02, 0.57)	0.51 (0.26, 0.77) ***	-0.08 (-0.30, 0.14)	-0.31 (-0.53, -0.09)

<i>Fabp5</i>	-0.85 (-1.11, -0.59) ***	-0.82 (-1.04, -0.60) ***	-0.46 (-0.65, -0.27) ***	-0.59 (-0.78, -0.39) ***
<i>Fabp-pm</i>	-0.54 (-0.71, -0.37) ***	-0.52 (-0.66, -0.37) ***	-0.24 (-0.37, -0.11) ***	-0.35 (-0.47, -0.22) ***
<i>Cd36/Fat</i>	-1.64 (-2.18, -1.11) ***	-1.59 (-2.07, -1.11) ***	-1.34 (-1.80, -0.88) *	-1.41 (-1.86, -0.96) **
<i>Lpl</i>	-1.31 (-1.73, -0.90) ***	-1.22 (-1.60, -0.84) ***	-0.95 (-1.30, -0.60) *	-1.12 (-1.47, -0.78) ***
<i>Lipg</i>	-1.01 (-1.23, -0.79) ***	-0.81 (-1.04, -0.58) ***	-0.69 (-0.91, -0.45) **	-0.65 (-0.86, -0.43) *
<i>Pparg</i>	-1.36 (-1.69, -1.03) ***	-1.26 (-1.60, -0.92) ***	-1.06 (-1.38, -0.74) **	-1.13 (-1.45, -0.82) ***
<i>Rxra</i>	-0.37 (-0.55, -0.18) ***	-0.36 (-0.51, -0.19) ***	-0.008 (-0.15, 0.13)	-0.13 (-0.26, 0.007)

Fatp, fatty acid transport protein; *Fabp*, fatty acid binding protein; *Lpl*, lipoprotein lipase; *Lipg*, endothelial lipase; *Cd36/Fat*, fatty acid translocase; *Pparg*, peroxisome proliferator activated receptor gamma; *Rxra*, retinoid X receptor alpha. N=20-40 placentae from 10-20 dams for each arm.

¹Mean difference (95% confidence interval) of expression levels calculated using 2^{-DDCT} expressed in arbitrary units. All differences compared to control which is normalized to 1. Computed using generalized linear models. (* p < 0.05, ** p < 0.01, *** p < 0.001)

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: HIV in women, in pregnancy and pediatrics / Thème : Le VIH chez les femmes, pendant la grossesse et pédiatrie

Abstract #315

Demographic and Clinical Outcomes of Pregnant Women Living with HIV in Saskatchewan – A Retrospective Study

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Background

Saskatchewan (SK) continues to record the highest HIV incidence rates in Canada. Epidemiological trends shifted in 2020 from intravenous drug use to heterosexual transmission as a primary risk factor. In 2023, women of childbearing years represented an estimated 62% of new HIV diagnoses. This study reports the HIV, HCV, syphilis, and associated health outcome prevalence among women living with HIV (WLWH) in central and northern SK.

Methods

A dataset of 184 pregnant WLWH was created by retrospective chart review of the Canadian Paediatric & Perinatal HIV/AIDS Research Group (CPARG) database and clinical electronic medical records from January 1, 2018, to December 31, 2023. 180 live infants born to WLWH receiving care in Saskatoon, SK, accounting for all infants born to WLWH in Saskatoon, central and northern regions, representing 68% of all cases in SK. Three time periods were analyzed and compared: T1=Jan.1, 2018–Dec. 31, 2019; T2=Jan.1, 2020–Dec. 31, 2021; T3=Jan.1, 2022–Dec. 31, 2023. Descriptive variables, testing, treatment, and laboratory trends across periods were extracted.

Results

Table 1: HIV Maternal Outcomes January 1, 2018 – December 31, 2023 (attached)

Conclusions

The use of ARVs at conception is remarkably low. However, data indicates that adherence can be supported when pregnant women are engaged in care. Although injection drug use continues to increase among pregnant women, utilization of opiate substitution therapy has declined. The rapid and significant rising rates of HIV co-infection with syphilis and hepatitis C among women of childbearing age in SK underscores the necessity for research and targeted strategies to eliminate new infections, support better access to care, and reduce vertical transmission risk for infants.

Supporting Document

Table 1: HIV Maternal Outcomes January 1, 2018 – December 31, 2023			
	T1 (Jan 1/18 – Dec 31/19)	T2 (Jan 1/20 – Dec 31/21)	T3 (Jan 1/22 – Dec 31/23)
Number of women	n = 56	n = 63	n = 61
Mean age of the women	30 years	28 years	31 years
Mode of delivery (vaginal)	43/56 (77%)	44/63 (70%)	36/61 (59%)
On OAT	43/56 (76%)	40/63 (64%)	35/61 (57%)
On ARVs at conception	24/56 (43%)	29/63 (46%)	36/61 (59%)
On ARVs at delivery	45/56 (80%)	58/63 (92%)	55/61 (90%)
Intravenous drug use	31/56 (55%)	35/63 (56%)	36/61 (64%)
HCV co-infection	7/22 (32%)	12/24 (50%)	35/61 (57%)
Syphilis co-infection	0/56 (0%)	11/41 (27%)	16/61 (26%)

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #88

Self-reported anal cancer screening prior to release of new clinical guidelines: Results from the Ontario HIV Treatment Network (OHTN) Cohort Study

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Background: In 01/2024, the International Anal Neoplasia Society released new guidelines recommending anal precancer screening in high-risk populations, including men who have sex with men (MSM) and transgender women living with HIV starting at age 35, and all others living with HIV starting at age 45. We estimated the proportions undergoing anal screening in 2023 as a baseline for monitoring the future implementation of this guideline.

Methods: We analysed data from the Ontario HIV Treatment Network Cohort Study, a multi-site clinical HIV cohort. During interviews in 2023, respondents were asked about anal screening modalities in the past 12 months: (1) an anal Pap test (for precancer); and (2) a digital anal rectal exam (DARE, for early-stage cancer). We estimated the proportions reporting anal screening and examined correlates using multiple logistic regression.

Results: Among the 2,238 interviewed, 18% were aged 35-44 and 72% were aged 45 and older. Among the 1720 respondents who were assigned male sex at birth, 24 identified as transgender women or genderqueer, and 1692 as cisgender men. We observed statistically-significant ($p < 0.05$) differences in screening by guideline-defined cancer risk category and age (Table). Screening also varied by region but not by race, viral load suppression, CD4 cell count, tobacco smoking, or history of AIDS.

Conclusion: Limitations include voluntary participation and self-report. A minority reported screening. It was more often reported by MSM/transgender women and among older respondents, but least by cisgender women and heterosexual men. Ideally, post-guideline implementation will incorporate strategies to facilitate the scale-up of equitable screening.

Supporting Document

Table. Proportion (%) of participants reporting anal screening in the past 12 months, Ontario HIV Treatment Network (OHTN) Cohort Study, January to December 2023

	MSM and transgender women (n=1390)			Cisgender women (n=508)			Heterosexual men (n=283)		
	Pap	DARE	Either	Pap	DARE	Either	Pap	DARE	Either
Age (years)									
<35	20.1	9.8	21.0	3.4	0.0	3.4	0.0	0.0	0.0
35-44	24.3	13.6	28.5	2.3	1.5	2.3	5.1	2.6	5.3
45-54	25.5	19.2	29.9	7.1	3.2	7.1	2.8	1.4	4.2
55-64	26.0	16.8	31.1	2.5	3.3	5.0	5.1	7.1	9.2
65 and older	31.8	24.7	39.2	6.7	4.4	8.9	4.1	12.8	12.8

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #112

Diagnostic utility of serum RPR titre and peripheral CD4 cell count for asymptomatic neurosyphilis among people living with HIV: A systematic review and meta-analysis

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Background: Neurosyphilis (NS) is a severe complication of syphilis that may be more common among people living with HIV (PLWH). While a lumbar puncture (LP) is clearly indicated in people with syphilis and neurologic symptoms, criteria for performing an LP in neurologically asymptomatic PLWH and syphilis remain unclear. We evaluated the diagnostic accuracy of serum rapid plasma reagin (RPR) titre ($\geq 1:32$) and peripheral CD4 count (≤ 350 cells/mm³) for identifying asymptomatic neurosyphilis (ANS) in PLWH.

Methods: We searched Medline and EMBASE databases (1983–June 2024) for observational studies involving adults (aged ≥ 18 years) living with HIV and confirmed syphilis, reporting data on the relationship between serum RPR or peripheral CD4 count and the diagnosis of ANS. The definition of ANS was a positive cerebrospinal fluid (CSF) VDRL or CSF white blood cell (WBC) count > 10 cells/mm³, but was varied in sensitivity analyses. Diagnostic accuracy measures were pooled using bivariate random effects models.

Results: Of 4,758 abstracts screened, 67 underwent full-text article review, of which 15 (published between 1992-2022) met eligibility criteria. Studies came from North America (n=5), Europe (n=4), Asia (n=3), and South America (n=3), with a median sample size of 65 (IQR:30-110). Most studies were cross-sectional (n=9), and diagnostic reference standards varied across studies. Four studies focused on neurologically asymptomatic patients and reported a pooled NS prevalence of 26% (95%CI:15%-42%). Pooled sensitivity for serum RPR $\geq 1:32$ was 63% (95%CI=21%-92%), and specificity 56% (95%CI=16%-90%). Pooled sensitivity for CD4 count ≤ 350 cells/mm³ was 74% (95%CI:58%-85%), and specificity of 41% (95%CI:23%-63%). Having either RPR $\geq 1:32$ or CD4 ≤ 350 showed a pooled sensitivity of 89% (95%CI:28%-99%) and specificity of 36% (95%CI:8%-79%).

Conclusion: Serum RPR $\geq 1:32$ and CD4 count ≤ 350 have moderate sensitivity for ruling out ANS in asymptomatic PLWH with syphilis co-infection. These findings may guide clinicians in determining which PLWH with syphilis can safely forego an LP.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #145

Harnessing AI for Collective Action: A Preventive Intervention for Stigma and Suicidal Ideation in HIV Self-Management Across Canada

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Self-harm and suicidal ideation are major concerns for people with HIV (PWH), often stemming from stigma and mental health challenges. The AI-powered MARVIN chatbot supports HIV self-management across Canada by providing knowledge and assisting with medication adherence. To help MARVIN manage high-risk messages on stigma and mental health, we developed a preventive intervention module for extreme user intentions.

Following the CO-START framework (i.e., providing Context, Objective, Style, Tone, Audience, and Response format), we prompt-tuned ChatGPT to identify 3 types of message intent: self-harm, insult, and non-extreme (i.e., any other intent). To test its performance, we compiled three public hate speech databases from an online catalog (hatespeechdata.com) and combined them with MARVIN-user conversations and a synthetic dataset (N=1000 for each class). We computed precision, recall, and F1 Score for each class, as well as overall accuracy. After integrating ChatGPT into MARVIN, three PWH, two engineers, and a doctor, participated in a two-hour test by performing 14 conversational scenarios and completing a two-item questionnaire on conversation clarity and user satisfaction.

With one-shot prompting, MARVIN-ChatGPT attained 97.00% & 94.80% for recall, 99.59% & 93.86% for precision and 98.28% & 94.33% for F1 Score on self-harm and insult intent, respectively. The overall accuracy reached 95.57%. This hybrid model then successfully generated appropriate responses containing 1) emergency Canadian contact information for self-harm intents; 2) messages guiding users to use stigma-free expressions for insult messages; and 3) a response reviewed by a medical expert for non-extreme intents. All testers found the responses to be clear and concise and were satisfied with the overall experience. However, one participant PWH suggested including links to additional resources.

Testing this anti-stigma/suicidal ideation module within MARVIN demonstrated its ability to detect extreme intents and deliver concise responses, highlighting AI-driven chatbots' potential in fostering stigma-free self-management and mental health support across Canada.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #243

Implementation of Pharmacist Testing For HIV, Hepatitis C, and Syphilis: The APPROACH 2.0 Study

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Background: Pharmacists are conveniently positioned to offer accessible testing for sexually transmitted and bloodborne infections (STBBI). The APPROACH 2.0 study aimed to evaluate the implementation of human immunodeficiency virus (HIV), hepatitis C (HCV) and syphilis screening by pharmacists in Newfoundland and Labrador, Nova Scotia, and Alberta.

Methods: Pharmacists in 34 pharmacies across urban and rural communities offered point-of-care (HIV, HCV) and dried blood spot (HIV, HCV, syphilis) testing. Pharmacists collected blood samples, administered testing, and provided pre- and post-test counselling. Participants with reactive results were offered laboratory requisitions for confirmatory testing and linkage to care. Participant questionnaires collected demographic and risk behaviour data and testing experience feedback.

Results: From December 1, 2022, to April 3, 2024, 1,424 tests were performed for 399 participants. Participants had a median age of 33 years. Most lived in urban settings (88%) and 33% reported not having a primary care provider. Sexual intercourse without a condom (81%) and having multiple sexual partners (54%) were commonly reported risk factors.

Participants were tested for HIV (97%), HCV (87%), and syphilis (68%). Notably, 35%, 43%, and 62% were first-time testers for each infection, respectively. Twenty-five participants had reactive screening test results (1 HIV, 11 HCV, and 13 syphilis). Confirmatory lab-based test results available for 16 participants indicated 4 current HCV and 2 current syphilis infections.

Most participants felt comfortable being tested by a pharmacist (97%), STBBI screening should always be available in pharmacies (91%), found pharmacies accessible (95%) and did not experience stigma/discrimination (91%). Some participants stated they would not have been screened (15%) or were uncertain if they would have been tested elsewhere (32%) if pharmacist-led testing was unavailable.

Conclusions: STBBI screening by pharmacists was accessible, acceptable, and successful at reaching first-time testers and identifying new infections. These findings support the broader scale-up of pharmacist-led testing.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #246

Factors affecting liver fibrosis among women in the BCC3 and CARMA studies.

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Introduction: Ovarian function is critical to women's health given the protective effects of ovarian sex hormones. We previously reported that women living with HIV in British Columbia (BC) were more likely to experience prolonged amenorrhea, defined as ≥ 12 months without menses unrelated to pregnancy/lactation/contraception/surgery/menopause. Low ovarian hormone levels have been associated with accelerated liver fibrosis. Thus, abnormal ovarian function (early menopause onset or history of prolonged amenorrhea) may place women at risk for liver disease. We therefore examined the potential association between a history of abnormal ovarian function and liver disease, in women living with and without HIV.

Methods: We included all women ≥ 16 y participating in two BC cohorts, CARMA and BCC3, with available data to assess liver disease fibrosis-4 (FIB4) index. History of abnormal ovarian function was defined as either a history of prolonged amenorrhea (described above), premature ovarian insufficiency (biochemically confirmed menopause < 40 y), or early menopause (< 45 y). FIB-4 variable was modelled through multivariable linear regression analyses adjusted for covariates/confounders and segregated according to hepatitis C (HCV) seropositivity to allow inclusion of opioid use in the models, as opioids can induce amenorrhea.

Results: Participant characteristics and multivariable results are shown in Table 1. Increased FIB-4 was significantly associated with living with HIV but not with a history of abnormal ovarian function in both HCV seropositive/seronegative women.

Conclusions: In this analysis, history of abnormal ovarian function showed no association with liver fibrosis. However, living with HIV amplified liver fibrosis independently of older age, alcohol and opioid use.

Supporting Document

Table 1. Participant characteristics and unadjusted and adjusted estimates stratified by HCV serostatus.					
	Variables	Women with HIV n = 318	Women without HIV n = 396	unadjusted estimate [95% CI]	adjusted[#] estimate [95% CI]
HCV seropositive n = 175	FIB-4* (low, moderate, high) (%)	28.2, 48.7, 23.1	52.5, 37.5, 10.0	NA	NA
	HIV status, n (%)	125 (71.4)	50 (28.6)	0.37 [0.12 to 0.63]	0.38 [0.12 to 0.64]
	Age, median [IQR]	48.9 [41.4 to 57.4]	50.1 [41.8 to 58.9]	0.03 [0.02 to 0.04]	0.03 [0.02 to 0.04]
	Opioid use ever, n (%)	92 (76.0)	37 (77.1)	-0.15 [-0.29 to -0.01]	-0.13 [-0.40 to 0.14]
	Abnormal ovarian function, n (%)	36 (31.9)	9 (19.6)	-0.21 [-0.48 to 0.05]	0.05 [-0.22 to 0.32]
HCV seronegative n = 539	FIB-4* (low, moderate, high) (%)	54.4, 41.1, 4.4	63.7, 34.7, 1.5	NA	NA
	HIV status, n (%)	193 (35.8)	346 (64.2)	0.12 [0.02 to 0.23]	0.11 [0.01 to 0.21]
	Age, median [IQR]	47.4 [38.7 to 56.1]	46.6 [32.4 to 56.8]	0.02 [0.02 to 0.03]	0.02 [0.02 to 0.03]
	Opioid use ever, n (%)	25 (14.1)	55 (16.7)	0.02 [-0.07 to 0.10]	-0.06 [-0.18 to 0.06]
	Abnormal ovarian function, n (%)	14 (7.8)	26 (7.6)	-0.16 [-0.35 to 0.04]	-0.11 [-0.28 to 0.06]

*FIB-4 index calculated as; age times Aspartate aminotransferase (AST) level divided by platelet count x square root of Alanine aminotransferase (ALT). Values were categorized into low (<1.3), intermediate (1.3-2.67), and high (>2.67) fibrosis risk.
#Multivariable analyses were adjusted for age, ethnicity, body mass index, tobacco smoking ever, average alcohol consumption (≥1 drink/day), and opioid use ever.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #270

Restaging Syphilis of Unknown Duration to Early Latent Syphilis: A Novel Use of the *Treponema pallidum* Nucleic Acid Amplification Test

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Background: One-third of syphilis cases in British Columbia (BC), are classified as latent syphilis of unknown duration (LSUD), which are treated with longer treatment duration. *Treponema pallidum* (TP) polymerase chain reaction (PCR) is typically reserved for lesions, though can confirm early infection if reactive from mucocutaneous sites in asymptomatic individuals. This study examines the role of TP-PCR in restaging LSUD to early latent syphilis.

Methods: A retrospective cohort study was conducted on all BC's LSUD cases with TP-PCR results from 06/2022-05/2024, focusing on cases restaged to early latent. Demographic, clinical and laboratory data were analysed using descriptive statistics. Logistic regression was used to identify predictors associated with restaging. One key predictor is the enzyme immunoassay (EIA) index, a marker of infection stage (i.e. index >45, established infection; index ≤45, recent infection).

Results: Of 1282 LSUD cases, 179 (14.0%) had a TP-PCR performed; 48 (26.8%) were TP-PCR positive and restaged to early latent. Compared to non-restaged individuals (Table 1), restaged individuals were significantly more likely to have an RPR >1:32, and EIA index ≤45, both of which are consistent with early infection. All 29 (100%) restaged cases with 12-month follow-up serology demonstrated an appropriate treatment response (i.e. 4-fold decrease in RPR titre).

Conclusion: In this study, a quarter of LSUD cases were restaged to early latent syphilis due to a positive TP-PCR. These findings support using TP-PCR in LSUD cases, to more accurately stage syphilis. This approach could shorten treatment duration, prevent antibiotic overuse, and enable targeted public health management.

Supporting Document

Table 1. Patients that received TP-PCR Testing Stratified by whether they were restaged from LSUD to Early Latent Syphilis due to the positive TP-PCR result.

Characteristics	Not Restaged (n=131)	Restaged (n=48)	p-value
Gender, n (%)			
Female	52 (39.69)	23 (47.92)	0.574
Male	77 (58.78)	24 (50.00)	
MSM	43	14	
Transgender	2 (1.53)	1 (2.08)	
Age Group, n (%)*			
15-19 Years	3 (2.29)	0 (0.00)	0.0171
20-24 Years	6 (4.58)	5 (10.42)	
25-29 Years	34 (25.95)	7 (14.58)	
30-39 Years	50 (38.17)	30 (62.50)	
40-59 Years	36 (27.48)	6 (12.50)	
60+ Years	2 (1.53)	0 (0.00)	
EIA Index, n (%)*,†			
≤ 45.00	90 (68.70)	43 (91.49)	0.00205

> 45.00	41 (31.30)	4 (8.51)	
RPR Titre, n (%) ^{*,†}			
≤ 1:32	57 (43.51)	9 (17.02)	0.00188
> 1:32	68 (51.91)	38 (80.85)	
Nonreactive	6 (4.58)	0 (0.00)	
HIV Status, n (%)			
Positive	11 (8.40)	2 (4.17)	0.462
Negative	105 (80.15)	42 (87.50)	
Unknown	15 (11.45)	4 (8.33)	

*Results are statistically significant at $p < 0.05$, tested via χ^2 .

† One restaged patient did not complete any blood tests; therefore, the proportions presented in the table are adjusted based on a denominator of 47 instead of the total 48 restaged patients.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #290

Use of doxycycline pre-exposure prophylaxis did not result in compositional changes in the rectal microbiome of men who have sex with men and transgender women on HIV PrEP

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Background: Doxycycline pre-exposure prophylaxis (doxyPrEP) has shown potential in preventing bacterial sexually transmitted infections (STI) in gay, bisexual, and other men who have sex with men (GBM). However, its impact on the microbiome is unclear. This study assessed rectal microbiome changes over 48 weeks in participants on HIV PrEP enrolled in a doxyPrEP trial.

Methods: The Dual Daily HIV and STI PrEP (DuDHS) study is an open-label, randomized pilot trial comparing immediate versus deferred doxycycline (100 mg daily) in HIV-negative GBM and transgender women on tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) for HIV PrEP. Fifty-two participants with recent syphilis diagnoses were recruited in Vancouver, Canada. Participants received 48 weeks of TDF/FTC and were randomized to immediate (starting doxycycline at baseline) or deferred (starting at week 24) arms. Rectal swabs were collected at baseline, week 24, and week 48 for microbiome analysis via 16S rRNA sequencing. Microbiome changes were evaluated using Wilcoxon signed rank and Mann-Whitney U tests, with p-values adjusted for multiple comparisons.

Results: Among 311 operational taxonomic units (OTUs), the most prevalent taxa were *Fingoldia*, *Prevotella*, *Corynebacterium*, and *Streptococcus*. At baseline, no significant differences in alpha diversity (Shannon's H mean: immediate 2.58, deferred 2.60; $p=0.91$), beta diversity (Bray-Curtis) or taxa composition were observed between groups. A slight decrease in alpha diversity at the order, class, and phylum levels occurred at week 48 in the immediate arm (mean: 0.84 vs. 0.66 at Phylum, $p<0.05$), but not in the deferred arm. *Fusobacterium* abundance decreased slightly in both arms, though this did not pass multiple hypothesis testing. Beta diversity remained similar between groups at weeks 24 and 48 ($p>0.05$).

Conclusion: This study is the first to assess microbiome changes from doxyPrEP, showing minimal impact over 12 months. Further research is needed to explore doxycycline's effects on microbiome function and antimicrobial resistance.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Coinfection and comorbidity / Thème : Coinfections et comorbidités

Abstract #220

Performance of a Novel Syphilis Point-of-Care Test in a Community-Driven Test and Treat Program to Address HIV and Syphilis in Saskatchewan

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Background: Rates of HIV and syphilis in Saskatchewan are among the highest in Canada, with HIV rates at 19.4 per 100,000 people, more than three times the national rate, and rates of infectious syphilis at 186.6 per 100,000, over five times the national average. To help address this, a community-centered HIV and syphilis point-of-care test (POCT) study was implemented across 29 sites in February 2023, with opportunities for immediate treatment of newly diagnosed individuals.

Methods: The study offered a choice between three POCT options: HIV and syphilis combined; HIV alone; and syphilis alone. The MedMira Reveal® TP POCT was used for participants who selected syphilis alone upon consent. A key objective of this study was to evaluate the field performance of the Reveal® TP POCT when compared to standard serum-based testing for syphilis.

Results: From a total of 1759 participants as of November 2024, with overall seropositivity of 16.6% for syphilis and 3.4% for HIV, 348 completed Reveal® TP POCT and syphilis serology. Results are presented in the table below. For TP EIA and RPR reactives, the positive percent agreement between Reveal® TP and syphilis serology was 84.7% (39/46 excluding the 2 invalids) but dropped to 53.6% (15/28) when RPR was negative. Of the 271 participants who were non-reactive for syphilis serology, the negative percent agreement was 98.9% (264/267). **Conclusions:** The Reveal® TP test is a reliable and effective device for community-centered POCT programs taking syphilis testing out into communities most in need, providing opportunities for immediate treatment and connection to care.

Supporting Document

	EIA reactive			EIA non-reactive	
	RPR reactive	RPR non-reactive	RPR not done	RPR non-reactive	RPR not done
Reveal® TP Results	≥1:8	<1:8			
Positive	20	19	15		3
Negative	4	3	13	1	249
Invalid	1	1			4
Total	25	23	28	1	256

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #279

Bictegravir/emtricitabine/tenofovir alafenamide after virologic failure to cabotegravir/rilpivirine.

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Background: Virologic failure to cabotegravir/rilpivirine with genotypic resistance is rare (1-2%) in clinical trial and cohorts. There remains major interest in how best to manage this clinical situation. While a wide variety of therapeutic regimens have been used, often comprised of complex regimen including protease inhibitors, this has not been studied systematically.

Methods: We describe five patients with virologic failure to cabotegravir/rilpivirine with genotypic resistance who were treated with bictegravir/emtricitabine/tenofovir alafenamide (bictegravir/FTC/TAF).

Results: At our multidisciplinary HIV clinic where we follow over 2200 patients, bimonthly cabotegravir/rilpivirine has been prescribed to approximately 250 individuals. Five patients have experienced virologic failure with genotypic resistance. In the first patient, bictegravir/FTC/TAF was initiated prior to the availability of resistance testing. Despite the presence of mutations associated with integrase inhibitor resistance, this individual experienced virologic suppression. As a result, subsequent patients with confirmed cabotegravir/rilpivirine failure were similarly switched to bictegravir/FTC/TAF. The cohort (aged 24-50 years, three female) had no preexisting rilpivirine or integrase inhibitor resistance-associated mutations (RAMs). All but one adhered fully to cabotegravir/rilpivirine dosing schedules. At failure, all individuals exhibited both integrase and reverse transcriptase RAMs, with mutations in amino acid 148, with or without amino acid 138 in the integrase gene observed in four cases. After a median follow-up of 11 months (range: 6–18 months), all patients remained virologically suppressed on bictegravir/FTC/TAF.

Conclusion: Until the management of cabotegravir/rilpivirine failure can be systematically studied, clinical judgement will guide therapeutic decision. Bictegravir/FTC/TAF may offer a viable option for achieving virologic suppression in this situation.

Supporting Document

Patient	Clade	BMI kg/m ²	Treatment before CAB/RPV	Viral load (copies/ml) at CAB/RPV start	Viral load (copies/ml) at CAB/RPV failure	RAM at CAB/RPV failure		Follow-up on BIC/FTC/TAF	
						NNRTI	InSTI	Most recent viral load (copies/ml)	Duration of therapy (months)
1	C	37	RPV/FTC/TAF	<20	3120	101E	148R	<20	18
2	AG	30	DTG/ABC/3TC	<20	91300	138G, 230L	74I, 138E/K, 140A/G, 148K/Q/R, 230R/S	<20	15
3	C	25	BIC/FTC/TAF	<20	9340	181C, 221Y	138K, 148R	<20	11
4	A	31	DTG/RPV	32.5	1290	90I, 103N	138K, 148K	<20	6
5	D	29	DTG/ABC/3TC	<20	1280	98G, 101E, 181C, 190A	118R	<20	6

BMI: body mass index; CAB: cabotegravir; RPV: rilpivirine; RPV: rilpivirine; FTC: emtricitabine; TAF: tenofovir alafenamide; DTG: dolutegravir; ABC: abacavir; 3TC: lamivudine; BIC: bictegravir; FTC: emtricitabine; RAM: resistant associated mutations; NNRTI: non-nucleoside reverse transcriptase inhibitor; InSTI: integrase strand transfer inhibitor.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #73

Using Direct Observed Therapy (DOT) and Client Care Coordination to Improve HIV Outcomes in Hard-to-Reach Populations in Regina, Saskatchewan

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Background:

Saskatchewan performs poorly on the care cascade with 77% diagnosed and 65% virally suppressed due to systemic barriers such as poverty, housing instability, and stigma. Direct Observed Therapy (DOT) may improve HIV treatment engagement and retention involving community support workers transiting people living with HIV to clinical HIV services and observe their intake of antiretroviral therapy.

Methods:

In April 2023, AIDS Program South Saskatchewan Inc. (APSS) began a DOT program in Regina for people living with HIV who are treatment non-compliant. The HIV Client Care Coordinator collaborates with Clinical Infectious Disease, Public Health, and peer educators to address barriers (substance use and unstable housing). The HIV worker engages with hard-to-reach populations and takes them to a clinic/pharmacy for ART administration to reduce viral loads. Participants completed the short quality of life and quality of care questionnaires, and case narratives were compiled.

Results:

30 participants accessed DOT with 852 visits between April 2023-December 2024. Participants accessed the program with varying frequencies (daily, twice a week, weekly, or monthly) and moved between these categories as needs changed. 87.1% of participants were Indigenous, highlighting the program's reach within high risk/underserved groups in the region. Over half (56.5%) achieved Undetectable=Untransmittable (U=U) status. Case narratives highlighted impacts, including transitioning clients from unhoused to housed, helping a pregnant participant achieve U=U resulting in an HIV-negative baby.

Conclusions:

The DOT program has shown promising potential in meeting the needs of people living with HIV, especially among high-risk/underserved populations. The flexibility of the program, allowing participants to access services with varying frequencies, along with achieving U = U status in over half of the participants, underscores its effectiveness in enhancing health outcomes and mitigating HIV transmission.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #108

Virtual Learning with Practical Support: A Comprehensive Approach to Educating and Supporting Primary Care Providers to Prescribe ARVs in Saskatchewan

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Background: To recruit and educate primary care providers (PCPs) to prescribe antiretrovirals (ARVs), an HIV Continuing Medical Education (HIV CME) program in Saskatchewan was created that offered 8 hours of live virtual education delivered by local HIV specialists and opportunities for in-person HIV Clinical Preceptorships. Participants were offered support to become Designated ARV Prescribers under Saskatchewan's Drug Plan, ensuring patient access to cost-covered ARVs. New Designated ARV Prescribers were further assigned an Infectious Disease specialist who was available to provide ongoing mentorship. Between 2018 and 2022, 102 PCPs participated in the HIV CME program, with 32 opting to become Designated ARV Prescribers.

Method: An evaluation of the HIV CME program was funded by the University of Saskatchewan Office of the Vice-Dean of Research and conducted in 2024. Ten PCPs who participated in the HIV CME program and became Designated ARV Prescribers were interviewed to assess if the HIV CME program successfully enhanced their HIV clinical practices, including increasing their confidence to prescribe ARVs.

Findings: 100% of PCPs interviewed reported the HIV CME program increased their confidence to prescribe ARVs. Notably, 90% indicated they were actively providing care to patients living with HIV and prescribing ARVs. 70% identified that receiving mentorship from an experienced HIV treatment provider and opportunities to participate in a HIV Clinical Preceptorship were key strengths offered by the HIV CME program. These components were regarded as essential for increasing confidence, supporting professional networking, and improving clinical practice, including prescribing ARVs.

Conclusion: Incorporating opportunities for mentorship and HIV Clinical Preceptorships alongside didactic virtual presentations was shown to be essential in building PCPs' confidence to prescribe ARVs. This finding highlights the importance of integrating applied learning into the design of programs intended to recruit, educate, and support PCPs to confidently provide HIV care.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #116

Evaluation of a paper-based flagging system for increasing access to long-acting injectable antiretroviral therapy in a Toronto clinic

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Introduction: Long-acting injectable cabotegravir/rilpivirine (LAI-CAB/RPV) is an HIV treatment option offering adherence, privacy and psychological advantages, but patient awareness may be limited. We implemented a paper-based checklist to identify patients eligible for LAI-CAB/RPV in an academic hospital-based HIV clinic.

Methods: Between 01/09/2023-31/07/2024, trained staff reviewed the charts of a subset of adults using antiretroviral therapy, and flagged those eligible for LAI-CAB/RPV using a checklist on brightly coloured paper. Eligibility was defined as HIV RNA < 20 copies/mL, HIV clade unrelated to A1/A6, and absence of: hepatitis B infection, RPV or INSTI mutations, and contraindicated medications. During clinic visits, a physician and/or pharmacist performed clinical review, discussed eligibility with patients, and documented patient decisions. We quantified the outcomes of this quality improvement initiative and conducted qualitative interviews with physicians and pharmacists to explore its impact on clinical care.

Results: Of 220 charts, 16 (7%) were already on LAI-CAB/RPV, 137 (62%) had available checklists, and 67 (31%) had no checklist available (Figure). Sixteen (12%) reviewed charts were ineligible. Of 121 remaining charts, 66 (55%) had documented discussions, of which 4 (6%) were initiated on LAI-CAB/RPV. Two patients with no checklist also initiated LAI-CAB/RPV. Staff interviews emphasized the opportunistic nature of patient screening, and the importance of addressing patient needs, raising awareness of newer treatment options, and ensuring equitable access. Challenges include clinical workloads and low prioritization of eligibility assessments.

Conclusion: Despite a systematic flagging system, the frequency of LAI-CAB/RPV discussions and drug uptake were modest. Ongoing efforts to engage with patients about newer HIV treatment options are needed.

Supporting Document

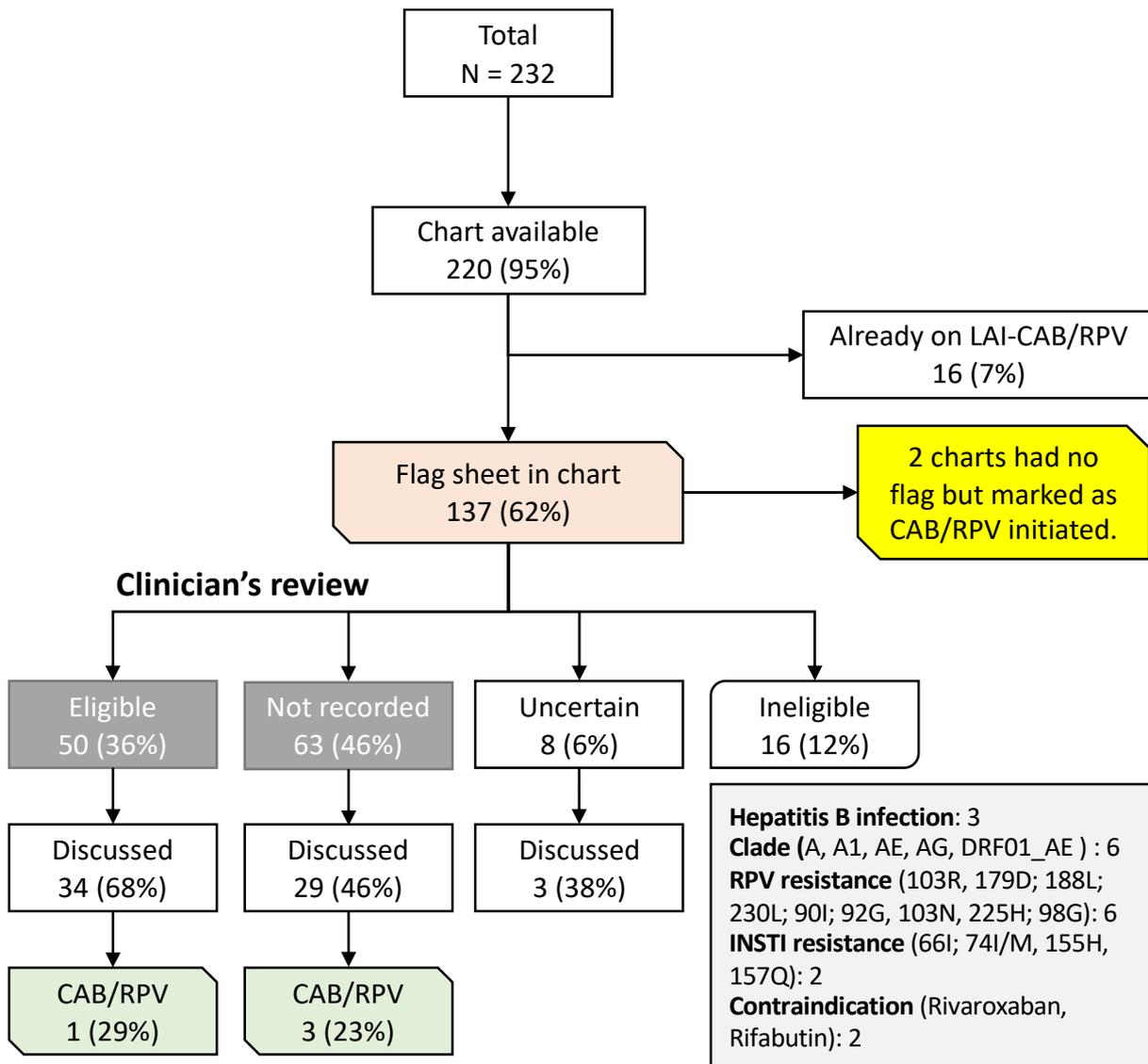


Figure. Sequential outcomes of the flagging intervention.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #164

Performance of HIV Risk Tools for Identifying Pre-exposure Prophylaxis Candidates: A Systematic Review and Meta-analysis

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Background: To support scaling up HIV pre-exposure prophylaxis (PrEP), we conducted a systematic review and meta-analysis of HIV risk tools in predicting HIV infection.

Methods: We searched MEDLINE, Embase, and CINAHL for observational studies (01/01/1998 to 13/05/2024) assessing the diagnostic performance of HIV risk tools. Area under the curve (pAUC) values were pooled using inverse-variance methods, with sensitivity and specificity summarized at common cutoffs.

Results: Of 3,704 publications, 27 met our criteria. Twelve studies on men who have sex with men (MSM) assessed nine tools, with four extensively validated in predominantly U.S. populations. SexPro exhibited the highest performance (pAUC:0.75), followed by HIRI-MSM (pAUC: 0.69), Menza (pAUC:0.63), and SDET (pAUC:0.66), showing moderate predictive ability. For cisgender women, twelve African studies evaluated six tools, with VOICE being the only repeatedly validated tool (pAUC:0.65 for adults;0.62 for adolescents and youths). There were no tools for cisgender women outside Africa. Among other populations, DHRS demonstrated good discrimination for U.S. adults (pAUC:0.80), ARCH-IDU for people who use drugs in the U.S. (AUC:0.72), HIV Prevalence Risk Score for African populations (AUC: 0.70) and Kahle for African serodiscordant couples (pAUC:0.73). Sensitivity and specificity varied by cutoffs. We identified six domains among tool items: sexual activities, substance use, clinical factors, demographics, reproductive health, and other factors.

Conclusion: Validated tools are useful to identify HIV risk in some populations, but new tools are needed for equitable PrEP access to PrEP, especially for cisgender women outside Africa. Public health programs and clinicians should incorporate local data to improve tool effectiveness.

Supporting Document

Table. Summary performance of HIV risk tools by study populations

Tool Name	Number Of items	Cutoff	Sensitivity ^a	Specificity ^a	Pooled AUC (95% CI) ^b
MSM					
Beymer	11	≥5	75%	50%	NR
CDRSS ^c	6	≥2	81%	76%	0.85 (NR)
HIRI-MSM	7	≥10	82% (76% to 85%)	44% (37% to 51%)	0.69 (0.66 to 0.73)
HIV Risk Assessment Tools ^d	8	≥0.916	78%	75%	0.83 (NR)
Menza	4	≥1	79% (65% to 87%)	41% (32% to 41%)	0.63 (0.57 to 0.70)
SDET	4	≥1	77% (75% to 79%)	48% (48% to 49%)	0.66 (0.58 to 0.74)
Seattle PrEP Score	4	≥2	54% (50% to 58%)	69% (69% to 69%)	0.65 (0.56 to 0.74)
SexPro	11	≥16	78% (73% to 86%)	56% (39% to 62%)	0.75 (0.70 to 0.81)
Wahome	5	≥1	98%	17%	0.76 (0.71 to 0.80)
Cis-gender women					
VOICE (Adult)	7	≥3	98% (91% to 99%)	15% (8% to 30%)	0.65 (0.60 to 0.69)
VOICE (Adult)	-	≥5	93% (83% to 95%)	23% (6% to 46%)	-
VOICE (AGYW)	-	≥3	65% (50% to 79%)	35% (18% to 52%)	0.62 (0.57 to 0.67)
VOICE (AGYW)	-	≥5	85% (43% to 89%)	32% (19% to 64%)	-
Peebles	7	≥5	64% (56% to 71%)	57% (50% to 64%)	0.65 (0.62 to 0.69)
Moyo (AGYW) ^d	13	≥2.43	71%	60%	0.76 (NR)
Pintye (Pregnant women)	7	≥8	79%	84%	0.80 (0.70 to 0.90)
Ramraj (Pregnant women) ^d	7	≥31	73% (66% to 80%)	57% (51% to 64%)	0.71 (0.70 to 0.72)
Willcox (Female sex workers)	3	≥1	53%	76%	0.67 (0.52 to 0.82)
General adult					
DHRS ^d	8	-	NR	NR	0.80 (0.70 to 0.90)
Heterosexual HIV serodiscordant couples					
Kahle	6	≥5	73%	67%	0.73 (0.71 to 0.76)
People who inject drug					
ARCH-IDU	7	≥46	86%	42%	0.72 (NR)
Mixed population (Africa)					
HIV Prevalence Risk Score	7s	≥6	70%	63%	0.70 (0.66-0.74)

^a Sensitivity and specificity values are summarized into median values and interquartile ranges (raw values were shown for tools with a single study). Meta-analysis was not performed because many studies did not report raw data nor 95% CI values to derive standard errors for pooling.

^b AUC and 95% CI values were pooled using generic inverse variance methods (*metagen* function in **{meta}** R package). Standard errors were derived from 95% CIs.

^c Symptom-based HIV risk screening tool

^d Included 4 studies with cross-sectional design (Haukoos 2012, Moyo 2023, Ramraj 2022, Zheng 2020). HIV, human immunodeficiency virus; AUC, area under the curve; CI, confidence interval; NR, not reported; HIRI-MSM, HIV Incidence Risk Index for MSM; SDET, San Diego Early Test; PrEP, pre-exposure prophylaxis; CDRSS, cohort-derived risk screening score; HIV, human immunodeficiency virus; VOICE, Vaginal and Oral Interventions to Control the Epidemic; DHRS, Denver HIV Risk Score; ARCH-IDU, Assessing the Risk of Contracting HIV in injection drug users;

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #240

Engagement With HIV CBOs Directly Linked to Improved HIV Outcomes and Satisfaction With Social Support for ART Among Women Living With HIV in a Canadian Setting

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Background: Amidst shifts to HIV management as a chronic condition and cuts to HIV community programming in Canada, there is little epidemiological data evaluating HIV community-based organizations (CBOs) role in facilitating access to HIV and health care services. This study examined the association between: (1) HIV CBO service use and (2) HIV CBO community participation with health and health services access among women living with HIV.

Methods: Data were drawn from the Sexual Health and HIV/AIDS: Women's Longitudinal Needs Assessment (SHAWNA) Project, a longitudinal community-based study with women living with HIV in Metro Vancouver (September/2014-February/2025). Bivariate and multivariable logistic regression with generalized estimating equations were used to examine associations between HIV CBO service use ('used the services of HIV CBOs') and HIV CBO community participation ('volunteered/worked/participated in HIV CBOs'), both measured in the last six months, with multiple outcomes reflecting health and health services access. Adjusted odds ratios (aOR) and 95% confidence intervals were reported. Missing data from covariates was addressed using multiple imputation.

Results: The study sample for the first and second outcome included 269 participants (1425 observations, 2019-2023) and 270 participants (1438 observations, 2019-2023), respectively. In multivariable analysis, HIV CBO service use was associated with higher odds of being on antiretroviral therapy (ART) (aOR:1.83[1.17-2.85]) and being able to access health services when needed (aOR:2.07[1.32-3.26]). With a sample of 216 participants (835 observations, 2020-2023) for the third outcome, HIV CBO community participation was associated with higher odds of being satisfied with social support to take ART (aOR:1.62[1.08-2.44])

Discussion: Findings underscore the critically important role of HIV CBOs in supporting health and health services access among women. Increasing HIV CBO funding for operational costs and tailored programming that supports health and health services access (i.e. peer navigation, community collectivization, referrals to resources) among women living with HIV is urgently recommended.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Treatment, Prevention and Improving outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #265

HIV Pre-Exposure Prophylaxis (HIV-PrEP) and Doxycycline PrEP/Post-Exposure Prophylaxis (doxy-PrEP/PEP) Among Two-Spirit People, Gay, Bisexual, and Queer Men, and Non-Binary People in Canada: Sex Now 2024

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Introduction: HIV-PrEP and doxy-PrEP/PEP are important prevention interventions for HIV and bacterial sexually transmitted infections. We sought to determine knowledge, use and interest in HIV-PrEP and doxy-PrEP/PEP, and how stigma/discrimination impacted these.

Methods: Our community-based cross-sectional survey recruited in all provinces in 19 cities at 43 events (e.g., Two-Spirit powwows, Pride festivals) between June-September 2024. Eligibility criteria included all Two-Spirit people, gay/bisexual/queer men (inclusive of trans men), and nonbinary people (herein 2S/GBTQ+). Participants were aged 15+, lived in Canada, and self-completed our questionnaire in English, French or Spanish. Data analyses determined prevalence of HIV-PrEP and doxy-PrEP/PEP indicators, including cross-tabulations with past-year avoidance of health due to stigma/discrimination.

Results: Of 4,881 eligible participants, the majority identified as gay (52%) and men (62%), 47% were aged <30, 28% identified as trans, and 36% identified as non-white. 11% were Indigenous, of whom 64% were Two-Spirit. 4% self-reported as living with HIV. Before our survey, 20% of participants did not know about HIV-PrEP. By HIV-PrEP status, 17% were current users, 7% former users, and 75% naïve/never used. Of those not currently using HIV-PrEP, 24% were interested and 38% were unsure. HIV-PrEP use was associated with avoiding healthcare services due to stigma/discrimination, which was reported by 10% of current users, 16% of former users, and 27% of PrEP-naïve participants. Before our survey, 54% of participant did not know about doxy-PrEP/PEP. Doxy-PrEP/PEP was used by 11% of participants; among non-users, 30% were interested and 33% were unsure. Doxy-PrEP/PEP knowledge was less common (35%) among those who avoided healthcare services due to stigma/discrimination compared with those who did not (47%).

Discussion: Among our sample of 2S/GBTQ+, 17% currently used HIV-PrEP and 11% had used doxy-PrEP/PEP. A meaningful proportion of 2S/GBTQ+ were interested in using HIV-PrEP and doxy-PrEP/PEP. Stigma/discrimination in healthcare shaped HIV-PrEP and doxy-PrEP/PEP among 2S/GBTQ+people.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Aging with HIV / Thème : Vieillesse avec le VIH

Abstract #329

Factors associated with poor sleep quality among older adults living with HIV

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Poor sleep is associated with negative health outcomes including decline in physical performance, reduced cognitive function and increased mortality risk. We set out to examine sleep quality among older adults living with HIV and identify factors associated with poor sleep.

We performed a cross-sectional analysis of the Correlates of Healthy Aging in Geriatric HIV (CHANGE HIV) study baseline data, a Canadian cohort of people living with HIV age 65 and older. The Pittsburgh Sleep Quality Index (PSQI) was used, with scores of >5 indicating poor sleep quality. Sleep quality was assessed according to demographic (age, sex, race), HIV-specific (duration of infection, nadir and current CD4 count) and clinical factors (number of comorbidities, depression diagnosis, cognitive function [Mini-Mental State Examination]), and by self-assessed wellbeing (Stanford Health Assessment Questionnaire scored 0-100 with 0 representing best sense of wellbeing) and health-related quality of life (HR-QoL) (Questionnaire on Life Satisfaction scored 0-100 with 100 representing optimal HR-QoL) using χ^2 and Wilcoxon rank-sum tests.

The analysis included 233 participants (91% male) with a median [IQR] age of 71 [69,74] years. Half of participants (52%) reported poor sleep quality. Sleep quality did not differ according to age, sex, race or any HIV-specific factors examined. Participants reporting poor sleep had more comorbidities (median 3 vs. 2, $p < 0.001$) and higher prevalence of depression (26% vs. 13%, $p = 0.013$) than those with good sleep quality, but cognitive function scores did not differ between groups. Those reporting poor sleep had worse self-assessed wellbeing (median score 25 vs. 5, $p < 0.001$) and poorer HR-QoL (median score 72 vs. 81, $p < 0.001$) than those reporting good sleep.

Poor sleep quality is common among older adults living with HIV and is associated with comorbidity and depression. Improving sleep quality in this population may contribute to a better sense of wellbeing and enhanced quality of life.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Aging with HIV / Thème : Vieillissement avec le VIH

Abstract #114

Dual Trajectories of Disability and Physical Activity in Adults Aging with HIV: Insights from a Population-Based Longitudinal Study in Ontario, Canada

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Objectives: Disability and physical activity are dynamic, interconnected processes that evolve over the life course. This study aimed to examine the interrelationships between disability and physical activity trajectories among adults aging with HIV.

Methods: We analyzed longitudinal data from adults enrolled in the Ontario HIV Treatment Network Cohort Study (OCS) who had between one to four annual disability and physical activity assessments from 2020–2023. Disability was measured using the short-form World Health Organization Disability Assessment Schedule (WHODAS 2.0; range=0–48, higher scores indicating greater disability severity). Physical activity was measured as the number of days engaged 30 or more minutes of moderate or vigorous physical activity in the last week. We performed group-based dual-trajectory modeling to estimate disability and physical activity trajectories simultaneously. We examined the linkage between trajectories using conditional and joint probabilities.

Results: In 2020, 76% of 1,709 participants were men and 59% were White; the mean age was 52.2 years (standard deviation: ±12.1). We identified four disability trajectories— no disability (36.2%), low disability (39.3%), medium disability (18.0%), and high disability (6.6%) – and four physical activity trajectories— barely active (17.2%), decreasing activity (16.3%), increasing activity (21.2%), and highly active (45.3%). We observed within- and between-person variability across all trajectories. Sixty-three percent of participants in the no disability trajectory were in the highly active trajectory, whereas 64.5% of the high disability trajectory were in the barely active or decreasing physical activity trajectories. The most frequent combinations were no disability plus highly active (22.1%) and low disability plus highly active (17.1%).

Conclusion: Disability and physical activity were each characterized by four distinct trajectories over four years among adults aging with HIV. Our results highlight the intertwined nature between disability and physical activity over time. Further work is needed to identify common factors or mechanisms underlying these trajectories.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Aging with HIV / Thème : Vieillissement avec le VIH

Abstract #49

Differential Expression of Plasma Proteomics among Black and non-Black People Living with HIV: Results of the Correlates of Healthy Aging in Geriatric HIV (CHANGE HIV) Cohort Study

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Background: HIV infection is associated with chronic immune activation resulting in the development of chronic inflammatory diseases, a.k.a. non-communicable diseases (NCDs). NCDs such as heart disease, diabetes, and hypertension disproportionately affect Black populations compared to non-Black populations. We thus investigated the plasma proteomic levels in the two populations.

Methods: Using a proteomic plasma profiling approach comprising 92 inflammation-related molecules, we initially examined protein levels in HIV-1-negative (PLWoH, n=12) and HIV-1-positive individuals (PLWH, n=20). Subsequently, levels of proteins were compared between age/sex-matched HIV-1-positive Black (n=10) and non-Black (n=10) patients. Significantly expressed proteomes were analyzed using Enrichr, for Gene Ontology (GO), Kyoto Encyclopedia Genes and Genomes (KEGG), Reactomes and STRING protein-protein interactions.

Results: Assessment of proteomics expression levels in PLWH compared to PLWoH, or Black PLWH compared to non-Black PLWH revealed distinct clustering patterns. Whereas the expressions of CXCL11, CCL20, CXCL1, CXCL10, SLAMP1, CSF1, PDL1, OPG, ADA, CD8A, IL18R1, MMP10, and CD6 were significantly elevated, the expression of 4E-BP1 and TRANCE was reduced considerably in PLWH compared to PLWoH. Interestingly, we observed differential expression of protein levels when PLWH were stratified by race. Whereas CXCL11, CXCL5, DNER, TRAIL, TRANCE, and SCF expression levels were significantly increased, the protein levels of OSM, CXCL9, TNFSF14, MCP-1, TGF- α , and HGF were significantly decreased in Black PLWH compared to non-Black PLWH. GO enrichment and protein-protein interaction analysis revealed a positive regulation of inflammatory responses, and significant enrichment of the chemokine-, cytokine-, and innate-signaling pathways.

Conclusions: These findings highlight the importance of considering racial differences in proteomic markers when assessing disease risk. Understanding these distinctions underscores the importance of personalized medicine for developing targeted prevention and treatment strategies for chronic inflammation conditions among PLWH.

Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Aging with HIV / Thème : Vieillissement avec le VIH

Abstract #134

Age-Related Chronic Disease-Free Life Expectancy Among Males and Females Living with HIV in British Columbia, Canada

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Background

Life expectancy (LE) among people living with HIV (PLWH) in British Columbia (BC) has increased over time, but remains lower among females with an increasing sex-gap. We assessed sex-differences in age-related chronic disease-free LE among PLWH in BC.

Methods

We used linked administrative data on virtually all known PLWH in BC (1996-2020) to calculate LE at ages 20, 40, and 55 using life tables stratified by sex and calendar period (1996-2001, 2002-2011, 2012-2020). Mid-period prevalence of cardiovascular, chronic kidney, liver, chronic obstructive pulmonary, and Alzheimer's disease, and of diabetes mellitus, osteoarthritis, osteoporosis, and cancer was assessed, using a 5-year look-back window, published case-finding definitions and the cancer registry, to calculate chronic disease-free LE.

Results

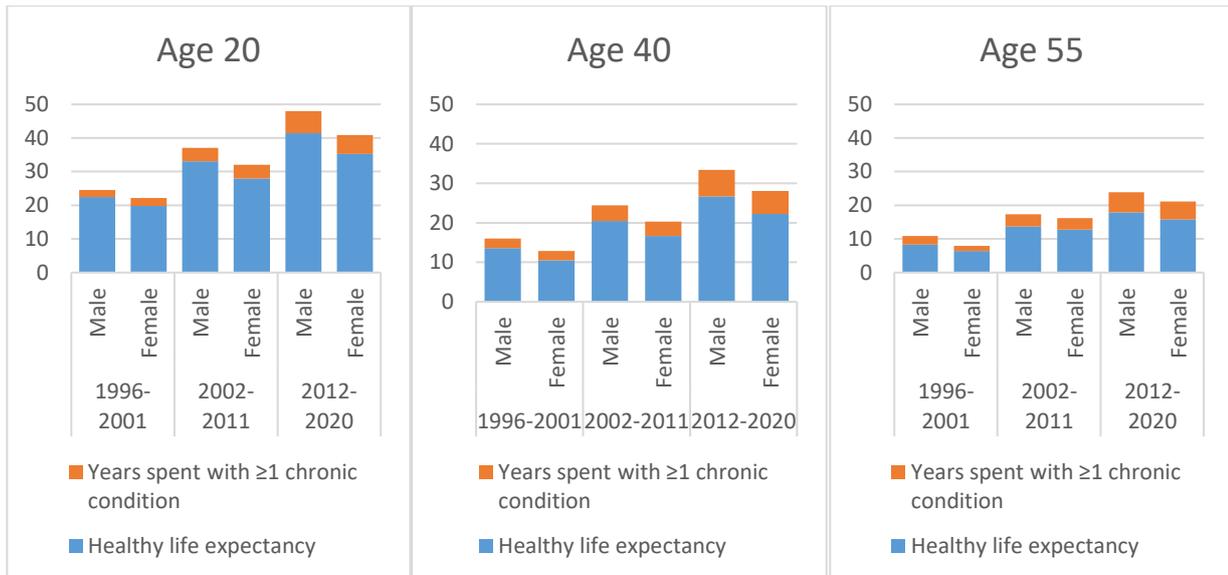
Among 2,511 females and 11,624 males with HIV, chronic disease-free LE increased between time-periods 1996-2001 and 2012-2020 at age 20, 40, and 55, but remained lower among females (Figure 1). However, years spent with ≥ 1 chronic condition also increased over time among both males and females: among males aged 20 from 2.06 (95% CI: 1.88-2.24) in 1996-2001 to 6.57 (6.20-6.94) in 2012-2020 and aged 55 from 2.58 (2.12-3.05) to 6.01 (5.56-6.45); among females aged 20 from 2.32 (1.91-2.73) to 5.63 (4.90-6.36) and aged 55 from 1.53 (0.44-2.60) to 5.26 (4.11-6.41).

Conclusion

Our preliminary findings show that while age-related chronic disease-free LE increased over time among PLWH in BC, so did time spent with ≥ 1 chronic condition. Whereas chronic disease-free LE was consistently lower among females, time spent with chronic disease was similar for both sexes.

Supporting Document

Figure 1: Life expectancy, distinguishing chronic disease-free life expectancy and years spent with ≥ 1 chronic condition, among females and males with HIV in British Columbia at age 20, 40, and 55 in 1996-2001, 2002-2011, and 2012-2020.



Clinical Sciences Oral Abstract Session / Sciences cliniques présentation orale d'abrévés

Theme: Aging with HIV / Thème : Vieillissement avec le VIH

Abstract #284

Identity, Aging, and HIV: Exploring the Complex Narratives of Continuing Care Needs in Southern Alberta

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Background: Advancements in antiretroviral therapies have extended the life expectancy of persons living with HIV (PLWH), creating a new paradigm of aging with the virus. As this population enters later life, many encounters unique challenges in maintaining independence and may need additional support services. Our study explores the beliefs, attitudes and knowledge of older PLWH regarding the spectrum of continuing care options ranging from home care to long-term care facility living in Alberta.

Design: Using a purposive sampling approach, we conducted semi-structured interviews with PLWH aged ≥50 years between January to August 2024. Participants were invited from a sample of older adults who participated in a confidential online survey on continuing care and expressed interest in being a part of the interview. Participants were invited to ensure a diverse representation of backgrounds and perspectives.

Setting: The Southern Alberta Clinic (SAC) in Calgary, Alberta, Canada

Participants: A cohort of PLWH ≥50 years, receiving comprehensive HIV-care at the Southern Alberta Clinic (SAC).

Results: Thematic analysis of interviews with 25 participants, representing a diverse spectrum of gender, race, age in Southern Alberta, unveiled five crucial themes: 1) Fear of continuous HIV-stigma across continuing care settings; 2) Financial burdens regarding continuing care; 3) Concerns about diminishing autonomy; 4) Complexities of HIV-status disclosure 5) Lack of education for patients on continuing care supports.

Discussion/ Conclusion: These findings illuminate lived experiences of aging, HIV, and continuing care perceptions. Strategies are needed to assist older persons living with HIV in navigating care supports while also preserving independence. Tools and interventions should prioritize education, HIV-stigma reduction, and the development of inclusive aging care frameworks that honor the multifaceted identities for those with lived experiences.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #113

Five-Year Trajectories of Disability and the Associated Factors Among Adults Aging with HIV in the Ontario HIV Treatment Network Cohort Study

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Objectives: To investigate trajectories of disability and associated contextual factors among adults aging with HIV.

Methods: We analyzed longitudinal data from adults living with HIV enrolled in the Ontario HIV Treatment Network Cohort Study (OCS) who had between one to five annual self-reported disability assessments from 2019–2023. Disability was measured using summary scores from the short-form World Health Organization Disability Assessment Schedule (WHODAS 2.0; range 0 to 48, with higher scores indicating greater disability). We assessed intrinsic (age, gender, race, education, household income, number of comorbidities, smoking, alcohol consumption) and extrinsic (stigma, social support) contextual factors at baseline. We used growth mixture modeling to identify subgroups with similar patterns of disability over time, while accounting for individual variations in these trajectories. Multinomial logistic regression was applied to examine associations between contextual factors and disability trajectories.

Results: In 2019, the mean age of 1,896 OCS participants was 51.8 (standard deviation±12.1) and 77% were men. Three disability trajectories were identified: low (n=1,112; 58.7%), moderate (n=442; 23.3%), and high-increasing disability (n=342; 18.0%). Variability in disability within and between participants was observed in the moderate and high-increasing trajectory groups. Factors associated with the high-increasing disability trajectory were: identifying as women (b=0.10, 95% CI:0.04, 0.14), lower household income (b=0.08, 95% CI:0.03, 0.13), comorbidities (b=0.05, 95% CI:0.04, 0.06), and HIV stigma (b=0.05, 95% CI:0.03, 0.07). Conversely, older participants (b=0.04, 95% CI:0.01, 0.06), identifying as Black or African (b=0.09, 95% CI:0.03, 0.15), and reporting greater social support (b=0.08, 95% CI:0.05, 0.10) were more likely to follow the low disability trajectory.

Conclusion: Disability experiences among OCS participants followed three distinct trajectories over a 5-year period. Results highlight the heterogeneous nature of disability over time, and underscore the potential role of modifiable factors, such as HIV stigma and social support, to reduce disability among adults aging with HIV.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #33

GDF-15 as a Biomarker for Unhealthy Aging and Cognitive Decline in Older Adults Living with HIV

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Background: GDF-15 is one of the most upregulated proteins during aging. In the general population, elevated GDF-15 levels have been associated with many cognitive and neurodegenerative disorders. GDF-15 levels are shown to be elevated in people living with HIV, however the relationship between GDF-15 and cognitive function in people living with HIV, especially older adults, is very poorly studied.

Methods: Data from 64 participants in the Correlates of Healthy Aging in Geriatric HIV (CHANGE HIV) study were analyzed to examine associations between GDF-15, cognitive function—assessed by the Mini-Mental State Examination (MMSE)—and the Rotterdam Healthy Aging Score (HAS). Serum GDF-15 levels were measured by ELISA provided by participants at their baseline visit. The HAS and MMSE scores were obtained using standardized questionnaires completed at the same visit. Relationships between GDF-15 and healthy aging metrics were analyzed using linear regression and Spearman tests.

Results: Participants included 63 males and 1 female, with a mean age of 74 (IQR 71-76). At entry into the cohort, the participants had been living with HIV for an average of 31 years, with a mean CD4 count of 497 cells/mm³, and a mean GDF-15 level of 2470 pg/ml (range:991-7135). Median HAS was 12 (range:3-14) and median MMSE was 29 (range:17-30), where low scores indicate less healthy aging and poor cognitive function, respectively. Elevated GDF-15 levels were correlated with lower HAS ($p < 0.001$) and MMSE scores ($p = 0.011$), indicating poorer aging and cognitive function.

Discussion: These results suggest GDF-15 as a potential biomarker for unhealthy aging in older adults living with HIV. While the correlation between GDF-15 and MMSE was statistically significant, its clinical relevance is unclear due to generally high MMSE scores in this cohort. Further investigation is needed to elucidate the relationship between GDF-15 and cognitive function in this population.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #34

Exploring the Correlation of Pro-inflammatory Markers with Healthy Aging in Older Adults with HIV

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Background: The median age of Canadians living with HIV is expected to exceed 65 years within the next decade. Elevated inflammatory cytokine levels observed in people living with HIV have been linked to comorbidities, frailty, cognitive decline, and mortality, yet their relationship with healthy aging in older adults living with HIV remains understudied. Identification of inflammatory markers of poor health could provide outcomes for interventional studies to improve healthy aging in older adults living with HIV.

Methods: We analyzed data from 91 participants in the Correlates of Healthy Aging in Geriatric HIV (CHANGE HIV) study to examine relationships between the Rotterdam Healthy Aging Score (HAS) and inflammatory markers C-reactive protein (CRP), interleukin-6 (IL-6), and D-dimer. HAS and serum levels of the inflammatory markers (pg/ml, using ELISA) were measured at cohort entry. Associations were assessed using linear regression, Spearman's correlation, and Wilcoxon tests.

Results: The participants included 83 males and 8 females, with a mean age of 75 (IQR 72-77). At entry into the cohort, the participants had a mean CD4 count of 567 cells/mm³ and a median HAS of 12 (range 3-14), where low scores indicate unhealthy aging. Median inflammatory marker levels were CRP: 2342009.0, IL-6: 54524.8, and D-dimer: 335763. No clear correlations between HAS and CRP, IL-6, or D-dimer were observed ($p > 0.05$). Additionally, no clear correlations were observed between HAS subcategories (mental health, quality of life, social support, cognitive function, physical function, pain, and chronic disease) and these markers ($p > 0.05$).

Discussion: These findings suggest that immune activation, as indicated by CRP, IL-6, and D-dimer, may not play a central role in unhealthy aging among older adults with HIV, and at this point cannot serve as markers for intervention. Other factors, including social determinants, may be more significant contributors to unhealthy aging and will be explored in this cohort.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #260

A Cross-sectional Analysis of Antiretroviral Dosing in Chronic Kidney Disease Among People Living with HIV in British Columbia

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¹St. Paul's Hospital Pharmacy Department, Vancouver, Canada, ²Vancouver General Hospital Pharmacy Department, Vancouver, Canada, ³British Columbia Centre for Excellence in HIV/AIDS, Vancouver, Canada

Background:

As people living with HIV (PLWH) age, the prevalence of age-related comorbidities such as chronic kidney disease (CKD) is expected to increase. We sought to estimate the prevalence of CKD in PLWH enrolled in the British Columbia Centre for Excellence in HIV/AIDS Drug Treatment Program (DTP) and characterize antiretroviral (ARV) dosing in this context.

Methods:

We conducted a cross-sectional analysis of PLWH in the DTP, using the Seek and Treat for Optimal Prevention of HIV/AIDS database. PLWH ≥ 19 years with an active ARV prescription as of index date 01-Mar-2020 were included. CKD cases were identified by lab linkage (≥ 2 eGFR values < 60 mL/min ≥ 90 days apart) or CKD case-finding algorithm applied to healthcare records within 1 year prior to index date; dialysis status was identified by case-finding algorithm. Renal ARV dosing was evaluated using Canadian monograph recommendations. Data were summarized descriptively.

Results:

Of 7,436 clients, 352 (4.7%) had CKD. Of the 222 with lab linkage, 139 (62.6%) had eGFR 50-60 mL/min, 72 (32.4%) eGFR 30-49 mL/min, 11 (5.0%) eGFR < 30 mL/min; 5 (2.3%) were on dialysis. Compared to PLWH on ARVs overall, characteristics of PLWH with CKD differed (see Table). Most ($n=208$, 94.0%) were prescribed ≥ 1 ARV with renal dosing implications (lamivudine, emtricitabine, tenofovir); none received higher-than-monograph-recommended-renal-doses of tenofovir-DF. Higher-than-monograph-recommended-renal-doses of ARVs were prescribed in 63/222 (28.4%); lamivudine was the ARV most commonly prescribed at higher-than-monograph-recommended-renal-doses.

Conclusion:

The estimated CKD prevalence in PLWH on ARVs in BC appears to be low, and the majority are receiving ARV regimens appropriate for their renal function.

Supporting Document

Table:

Client Demographic and Clinical Characteristics		
Characteristic	All PLWH on ARVs (N=7,436)	PLWH with CKD (N=352)
Age, median years (Q1-Q3)	53.8 (44.3-60.6)	63.3 (55.7-69.7)
Time since HIV diagnosis, median years (Q1-Q3)	14.6 (7.2-22.0)	19.5 (14.0-24.0)
Male sex at birth, n (%)	6,191 (83.3)	303 (86.1)
Ethnicity, n (%)		
White	3,898 (52.4)	203 (57.7)
Indigenous	693 (9.3)	34 (9.7)
Asian	680 (9.1)	30 (8.5)
Black	339 (4.6)	13 (3.7)
Other	612 (8.2)	27 (7.6)
Unknown	1,214 (16.3)	45 (12.8)
HBV co-infection, n (%)	743 (10.0)	62 (17.6)
HCV co-infection, n (%)	2,114 (28.4)	123 (34.9)
History of AIDS-defining illness, n (%)	1,426 (19.2)	111 (31.5)
CD4 nadir <200 cells/mm ³ , n (%)	3,802 (51.1)	254 (72.2)
Latest viral load, n (%)		
< 40 copies/mL	6,500 (87.4)	320 (90.9)
40-999 copies/mL	666 (9.0)	25 (7.1)
≥ 1000 copies/mL	210 (2.8)	7 (2.0)
Unknown	60 (0.8)	0
Daily pill burden, n (%)		
1	3,685 (49.6)	124 (35.2)
2	1,219 (16.4)	76 (21.6)
3+	2,532 (34.0)	152 (43.2)
Dosing frequency, n (%)		
Once a day	6,783 (91.2)	292 (83.0)
Twice a day	650-655 (8.7-8.8)	60 (17.0)
Other	<5 (<0.1)	0

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Abstract #216

Once-Weekly Islatravir Plus Lenacapavir in Virologically Suppressed PWH: Week 48 Safety, Efficacy, and Metabolic Changes

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Background: Islatravir (ISL), an NRTTI and lenacapavir (LEN), a capsid inhibitor, have potent anti-HIV-1 activity with pharmacokinetic profiles supporting once-weekly oral dosing. In the current trial (NCT05052996), weekly oral ISL+LEN maintained a high rate of virologic suppression at Week24. Here, we report W48 results.

Materials and Methods: In this Phase 2, randomised, open-label, active-controlled study, virologically suppressed adults on bicittegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) were randomised 1:1 to receive weekly oral ISL 2 mg + LEN 300 mg or to continue daily B/F/TAF. Virologic outcomes, safety, lymphocyte counts, weight, body mass index (BMI), and adherence (by pill count) were assessed.

Results: Overall, 104 participants (52/group) were randomised and dosed. Median age was 40 years (range 26–76) and 19 (18.3%) were assigned female at birth. At W48, 49 (94.2%) participants assigned to ISL+LEN and 48 (92.3%) assigned to B/F/TAF had HIV-1 RNA <50 copies/mL. AEs occurring in ≥10% of the ISL+LEN group were upper respiratory tract infection (13.5%), COVID-19 (11.5%), and diarrhoea (11.5%). There were no significant differences between ISL+LEN and B/F/TAF groups in mean change from baseline in CD4+ T-cells (–12 vs –29/μL; P=0.88) or lymphocytes (–0.07 vs –0.03x10³/μL; P=0.23). Mean adherence through W48 was 99.2% for ISL+LEN and 98.1% for B/F/TAF.

Conclusions: Weekly oral ISL+LEN maintained a high rate of virologic suppression at W48. ISL+LEN was well tolerated without significant changes in CD4+ T cell count, lymphocyte count, or weight. ISL+LEN has the potential to become the first weekly oral complete regimen for the treatment of HIV-1 infection.

Supporting Document

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Table: Week 48 Virologic Outcome Data by FDA Snapshot Algorithm

n (%)	ISL+LEN (n=52)	B/F/TAF (n=52)
HIV-1 RNA <50 copies/mL	49 (94.2)	48 (92.3)
ISL+LEN vs B/F/TAF Difference in percentage (95% CI)	1.9 (-9.3 to 13.6)	
HIV-1 RNA ≥50 copies/mL	0	0
No virologic data in Week 48 window	3 (5.8)	4 (7.7)
Discontinued study drug due to unrelated AE	2 (3.8) [†]	0
Discontinued study drug due to other reasons	1 (1.9) [*]	3 (5.8) [*]
Missing data during window but on study drug	0	1 (1.9)

*Last available on-treatment HIV-1 RNA <50 copies/mL.

[†]AEs leading to study discontinuation included large intestine perforation and renal colic (n=1), and hepatitis B (n=1), both previously reported.

AE, adverse event; B/F/TAF, bictegravir/emtricitabine/tenofovir alafenamide; FDA, Food and Drug Administration; ISL, islatravir; LEN, lenacapavir.

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Abstract #348

Canadian Physicians' Perceptions and Experiences with Cabotegravir and Rilpivirine Long-Acting Antiretroviral Therapy: Full Analysis Results from a Cross-Sectional Survey

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Background: Cabotegravir and rilpivirine long-acting (CAB+RPV LA) is the only long-acting regimen for virologically suppressed people with HIV, offering a reduced dosing schedule (monthly or every 2 months) that may improve adherence and ease HIV status disclosure concerns. This study describes the real-world experience of Canadian physicians prescribing CAB+RPV LA, focusing on its acceptability, convenience, and perceived barriers.

Methods: Physicians treating ≥ 50 people with HIV and routinely prescribing CAB+RPV LA completed an online survey between September 2023 and February 2024. The study assessed physician and practice characteristics, perceptions and experiences with CAB+RPV LA, and barriers to its implementation.

Results: Thirty-four physicians (76.5% cisgender men, 50% primary care practitioners, 88.2% trained in infectious disease and/or HIV medicine, 82.3% with >10 years of HIV treatment experience, and 94.1% with 1-4 years of CAB+RPV LA prescribing experience) were surveyed. More than three quarters (82.4%) had very positive views on implementing CAB+RPV LA. Sixty-eight percent found it somewhat to extremely easy to integrate CAB+RPV LA administration into their workflow, and 82.4% reported optimal implementation within 6 months or less. Ninety-one percent considered CAB+RPV LA support programs suitable as alternate administration sites, and 85.3% found primary care practices to be suitable alternate administration sites. Twenty-nine percent had moderate concerns about injection site reactions, while none were extremely concerned, and 8.8% were extremely concerned about oral bridging. Reduced pill burden (88.2%), patient convenience (94.1%), demonstrated efficacy in clinical trials (88.2%), and patient preference (97.1%) were valued as important factors in prescribing decisions for CAB+RPV LA.

Conclusion: Understanding physician experiences with CAB+RPV LA is crucial for optimizing long-acting HIV treatments and enhancing patient care. This real-world data from a small sample of Canadian physicians indicates a positive overall opinion, successful integration within 6 months or less, and the benefits of CAB+RPV LA.

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Abstract #79

Real-world effectiveness in treatment-experienced (TE) people with HIV (PWH) switching to bicitgravir/emtricitabine/tenofovir alafenamide (B/F/TAF) with distinct patterns of self-reported adherence

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Introduction: Adherence to antiretroviral therapy (ART) is important for maintaining virologic suppression in PWH. BICSTaR, a multi-country, observational study, evaluated the effectiveness, safety, and patient-reported outcomes of B/F/TAF in treatment-naïve and TE PWH. This analysis examines self-reported adherence through 24 months (24M) in TE participants switching to B/F/TAF.

Methods: Self-reported adherence at baseline, 6M, 12M, and 24M was measured using visual analogue scale (VAS) questionnaires (% ART doses taken in last 30 days) and number of missed doses in the last 4 and 30 days. Group-based trajectory modelling identified adherence patterns, and logistic regression assessed associations between baseline characteristics and adherence trajectories. Effectiveness (HIV-1 RNA <50 copies/mL) at 24M was analyzed by adherence trajectory.

Results: The analysis included 1496 TE participants. At baseline and 24M, median (IQR) VAS adherence scores were 100% (97-100%) and median (IQR) doses missed over the last 4 and 30 days were 0 (0-0) and 0 (0-1), respectively. The model identified five adherence groups (Figure). Most participants had stable 'near-perfect' to moderately high adherence (Groups 1-3). In two smaller groups, adherence was initially high but then declined (Group 4) or was initially low but increased over time (Group 5). All groups showed high effectiveness with B/F/TAF at 24M (96% overall [missing=excluded]). Specific baseline characteristics (i.e., age, race, CD4 count, virologic suppression at baseline) were found to be associated with particular adherence groups (Table).

Conclusions: High effectiveness (>90%) and no treatment-emergent resistance were observed following switch to B/F/TAF, regardless of adherence trajectory at 24M.

Supporting Document

Table: Baseline Clinical and Demographic Characteristics by Adherence Group

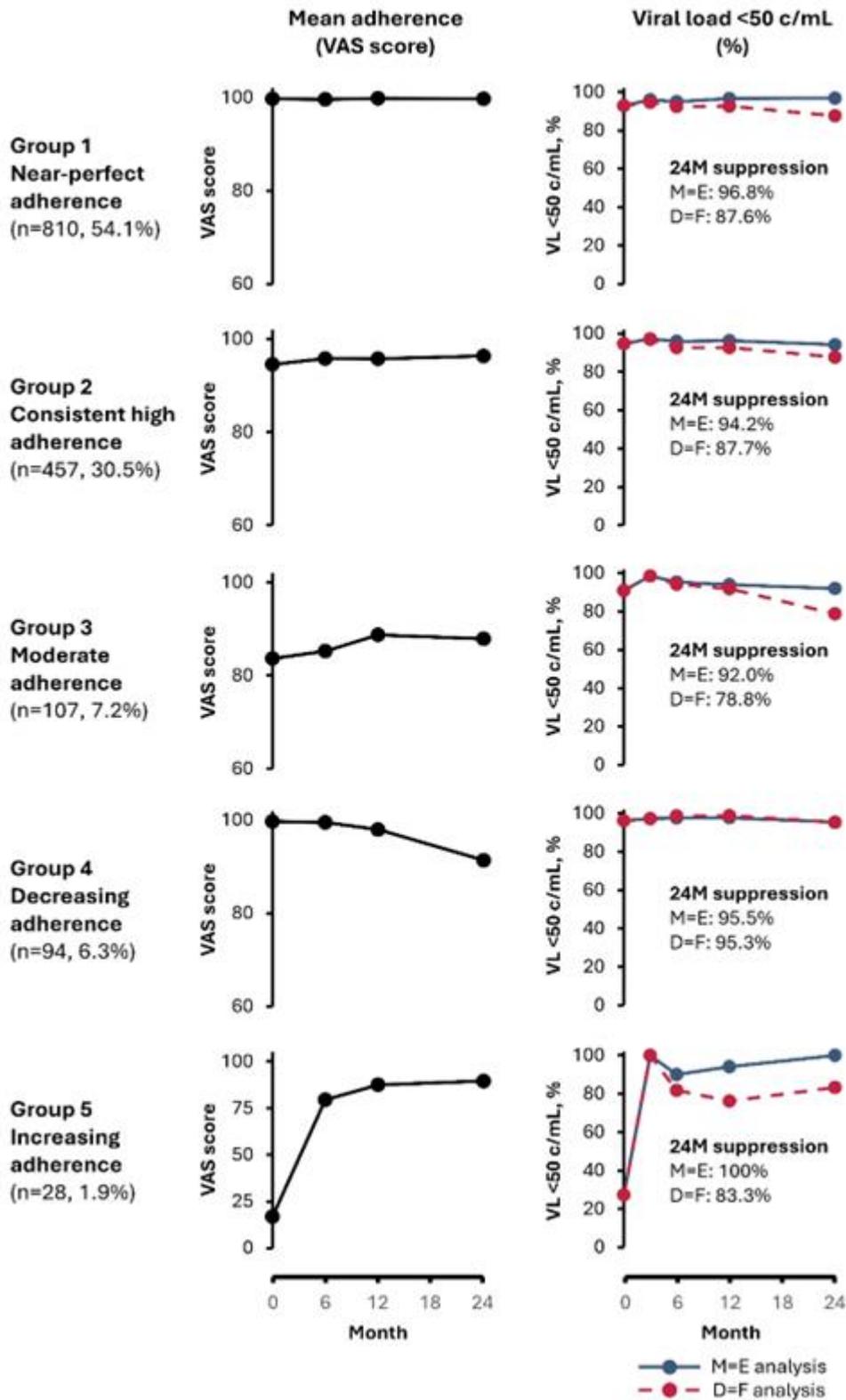
	Group 1: Near-perfect adherence (n=810, 54.1%)	Group 2: Consistent high adherence (n=457, 30.5%)	Group 3: Moderate adherence (n=107, 7.2%)	Group 4: Decreasing adherence (n=94, 6.3%)	Group 5: Increasing adherence (n=28, 1.9%)
Male sex, n (%)	677 (83.6)	387 (84.7)	88 (82.2)	82 (87.2)	23 (82.1)
Black race, n (%)	79 (9.8)	52 (11.4)	13 (12.1)	7 (7.4)	7 (25.0) ^a
Age at B/F/TAF initiation, years, median (IQR)	49 (40-56)	47 (37-54) ^a	45 (35-53) ^a	44.5 (35-55) ^a	45.5 (38-51.5)
Baseline CD4/CD8 ratio, median (IQR)	0.8 (0.6-1.2)	0.9 (0.6-1.3)	0.8 (0.6-1.3)	0.9 (0.7-1.3)	0.5 (0.3-0.7) ^a
Baseline CD4 count, cells/ μ L, median (IQR)	669.0 (420.0-874.0)	659.0 (492.0-902.0)	664.5 (453.5-835.0)	680.0 (520.0-834.0)	442.0 (309.6-946.0)
HIV-1 RNA viral load <50 copies/mL at baseline, n (%)	652 (92.9)	375 (94.7)	80 (90.9)	76 (96.2)	6 (27.3) ^a
History of or ongoing neuropsychiatric disorder, n (%)	189 (23.3)	131 (28.7) ^a	28 (26.2)	21 (22.3)	6 (21.4)
Baseline MCS score, ^b median (IQR)	51.1 (42.5-56.4)	47.7 (38.7-54.3) ^a	46.3 (38.0-52.3) ^a	47.6 (40.3-52.9)	44.9 (38.8-55.0)
Baseline HIV-SI overall bothersome count, median (IQR)	3.0 (1.0-6.0)	4.0 (1.0-7.0) ^a	5.0 (2.0-8.0) ^a	4.0 (1.5-7.0) ^a	3.5 (1.0-10.5) ^a

Data in participants with data available at baseline.

^a $P < 0.05$; statistically significant associations with adherence group compared with reference group (Group 1) in univariate and multivariate multinomial regression models; ^bMCS score is standardised to a mean of 50 (range: 1-100), scores >50 and <50 represent better-than-average and poorer-than-average function, respectively.

B/F/TAF, bicitgravir/emtricitabine/tenofovir alafenamide; HIV-SI, HIV Symptom Index; IQR, interquartile range; MCS, mental component summary.

Figure: Self-Reported Adherence Measured Using the VAS Adherence Score and Effectiveness Over Time, by Group



The best-fit model was selected using the Bayesian information criterion.
 c, copies; D=F, discontinuation=failure; M, Month; M=E, missing=excluded;
 VAS, visual analogue scale; VL, viral load.

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Abstract #46

Switch to DOR/ISL (100/0.25 mg) QD from BIC/FTC/TAF: a Blinded Phase 3 Study in Adults with HIV-1

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Background: Doravirine (DOR), an NNRTI, and islatravir (ISL), an investigational nucleoside reverse transcriptase translocation inhibitor, have complementary mechanisms of action and resistance profiles. MK-8591A-052 is an ongoing phase 3 study evaluating the efficacy and safety of switching from bicitgravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF) to DOR/ISL (100/0.25 mg), a once-daily single-tablet regimen. Declines in CD4 T-cell and lymphocyte counts were seen with higher ISL doses.

Methods: In this double-blind, non-inferiority study (NCT05630755), adults with HIV-1, virologic suppression for ≥ 3 months on BIC/FTC/TAF, and no history of treatment failure or known resistance to DOR were randomized (2:1) to switch to DOR/ISL (100/0.25 mg) or continue BIC/FTC/TAF. Primary efficacy endpoint was % of participants with HIV-1 RNA ≥ 50 c/mL at week 48 (FDA snapshot; non-inferiority margin 4%). Discontinuation was required for confirmed decline in total lymphocytes ($\geq 30\%$ and to $< 1.0 \times 10^9/L$) or in CD4 T-cell count ($\geq 30\%$ and to < 350 cells/mm³ from baseline ≥ 350 or to < 200 from baseline ≤ 349).

Results: Week 48 efficacy and safety results will be presented.

Conclusions: DOR/ISL was demonstrated to be non-inferior to BIC/FTC/TAF, and the safety profiles were generally comparable between DOR/ISL and BIC/FTC/TAF.

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Abstract #268

Real-World Experience of Two-Drug Regimen Dolutegravir /Lamivudine for the Treatment of HIV-1 among Vulnerable Patients Living with HIV in Canada: A Chart Review Study

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Background: Vulnerable persons living with HIV (PWH), including those who use drugs, are on social assistance, and seniors (≥65 years) with diminished autonomy, face unique adherence challenges to antiretroviral therapies (ARTs), potentially leading to incomplete virologic suppression, poorer health outcomes and higher HIV transmission rates. Simpler, safe and effective single-tablet regimens may be particularly beneficial for these individuals. We evaluated clinical outcomes among vulnerable PWH who switched to single-tablet, 2-drug dolutegravir/lamivudine (DTG/3TC).

Methods: A chart review study was conducted among PWH (aged ≥18 years) from 10 clinics in Canada who switched to DTG/3TC between 09/09/2019 and 31/05/2023, with ≥1 pre-defined vulnerability criteria: recent drug use, opioid agonist therapy use, history of homelessness, receiving social assistance, Indigenous identity, or aged ≥65 years with diminished autonomy ('vulnerable senior'). Data were collected for demographic and clinical characteristics at baseline (≤12-months pre-switch), and for viral load, CD4+ cell counts, and treatment discontinuation at 12 (±2) months following DTG/3TC initiation.

Results: We identified 108 PWH (mean [SD] age: 52.0±11.5 years; male: 78.7%; drug use: 49.1%; vulnerable senior: 9.3%; social assistance: 63.9%; homelessness: 17.6%; Indigenous: 4.6%). At baseline, 93.5% (n=101/108) were virally-suppressed <50 cps/mL (96.3% <200 cps/mL, n=104/108) with median (IQR) CD4+ cell count of 660 (487-840) cells/mm³ (n=108). Primary reasons for switching to DTG/3TC were ART simplification (57.4%) and side effects from previous regimen (19.4%). Viral load and CD4+ cell counts were available at 12-months for 55 (50.9%) and 37 (34.3%) PWH, respectively. Among those with viral load tests, 94.5% (n=52/55) were virally-suppressed <50 cps/mL (98.2% <200 cps/mL, n=54/55), with median (IQR) CD4+ cell count of 540 (436-804) cells/mm³ (n=37). Six of the 9 (9/108; 8.3%) discontinuations reported were due to lifestyle/convenience factors.

Conclusions: Study results demonstrate the real-world effectiveness of DTG/3TC among vulnerable treatment-experienced PWH, with sustained viral suppression observed at 12 months.

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Abstract #47

Switch to DOR/ISL (100/0.25 mg) QD from Oral ART: an Open-Label Phase 3 Study in Adults with HIV-1

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Background: Doravirine (DOR), a NNRTI, and islatravir (ISL), an investigational nucleoside reverse transcriptase translocation inhibitor, have complementary mechanisms of action and resistance profiles. MK-8591A-051 is a phase 3 study evaluating the efficacy and safety of switching from oral ART to DOR/ISL (100/0.25 mg), a once-daily single-tablet regimen. Declines in CD4 and total lymphocyte counts were seen with higher ISL doses.

Methods: In this open-label, non-inferiority study (NCT05631093), adults with HIV-1 RNA <50 c/mL for ≥3 months on oral 2- or 3-drug ART, with no history of treatment failure or known virologic resistance to DOR, were randomized 2:1 to switch to DOR/ISL (100/0.25 mg) or continue baseline ART (bART), stratified by bART regimen. The primary efficacy endpoint was % of participants with HIV-1 RNA ≥50 c/mL at week 48 (FDA Snapshot; non-inferiority margin 4%). Discontinuation was required for confirmed decline in total lymphocytes (≥30% and to <1.0x10⁹/L) or CD4 count (≥30% and to <350 cells/mm³ from baseline ≥350 or to <200 from baseline ≤349).

Results: Week 48 efficacy and safety results will be presented.

Conclusions: DOR/ISL was demonstrated to be non-inferior to bART at Week 48, and the safety profiles were generally comparable between DOR/ISL and bART.

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Abstract #261

Real-world Experience of DTG+3TC Regimen: Results From the French Dat'AIDS Cohort (2015-2022)

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Background: Phase 3 clinical studies have shown high efficacy and tolerability of DTG+3TC in both naive and maintenance strategies. Few real-world data for DTG+3TC efficacy and tolerance are available.

Methods: The Dat'AIDS cohort includes 33 French HIV centers. Adults with HIV starting DTG+3TC (separate or fixed combination from 01/03/2020) as either first-line in ART-naive people (naive group) or maintenance therapy in ART-experienced suppressed people (MT group) were retrospectively included in the study between 01/01/2015 and 31/12/2022. Main objectives were to evaluate virological failure (VF; 2 consecutive viral loads [VLs] >50 c/mL or 1 VL >200 c/mL) and reasons for treatment interruptions.

Results: Among 88,619 people followed, 252 (3.5%) naive people initiated and 6770 (96.5%) people in MT switched to DTG+3TC. On treatment, 96.1% and 98.6% of the naive and MT groups, respectively, were virologically suppressed at data cutoff. Ninety-eight (1.4%) people stopped DTG+3TC with VL >50 c/mL but only 23 (0.3%) with confirmed VF. After a median follow-up of 1.4 years (IQR: 0.8-2.1), 964 (13.7%) people discontinued DTG+3TC, mostly for adverse events (naive, 7.9%; MT, 5.2%), with neuropsychological disorders in 4.4% and 2% of the naive and MT groups, respectively. Median weight gain was +3.0 kg (IQR: 0.0-5.2) in the naive group and +1.0 kg (IQR: -1.0 to 3.0) in MT. At VF, 26 genotypes were available, and among these, 4 harbored resistance-associated mutations (naive, n=1; MT, n=3); M184V on reverse transcriptase was observed in all cases, associated with N155H on integrase (n=1 in the naive group; VL 5162 c/mL, 11.2 months after DTG+3TC initiation).

Conclusions: Real-world DTG+3TC use in France confirms results of clinical studies in naive and virologically controlled populations. The combination was mainly prescribed in ART-experienced people. Virological failures were infrequent with rare emerging resistance mutations, confirming the robustness of DTG+3TC.

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Abstract #222

Viral Blips in the Doravirine Phase 3 Clinical Trials DRIVE-FORWARD and DRIVE-AHEAD

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Background:

We examined associations between transient viremia ('blips'), baseline characteristics, and virologic failure (VF) in two phase 3 studies of doravirine (DOR), a non-nucleoside reverse transcriptase inhibitor for HIV-1 treatment.

Materials and Methods:

Post-hoc analysis of blips (HIV-1 RNA ≥ 50 copies/mL immediately preceded and followed by < 50 copies/mL) in DRIVE-FORWARD (MK-1439-018) and DRIVE-AHEAD (MK-1439A-021). Cox proportional hazard models were used to analyze relationships between baseline characteristics (age, history of AIDS, HIV-1 RNA, CD4 count, race, sex, and study), blips, and VF.

Results:

In the double-blind phase, blips occurred in 11.1-11.9% of the DOR groups and 12.1-15.4% of the Comparator groups, and most participants with blips had only one episode (table). Baseline HIV-1 RNA $\leq 100,000$ copies/mL was associated with a lower hazard ratio (HR) for blips, 0.41 (95% CI: 0.29, 0.58). VF was more common in participants with blips (13.6%, 23/169) vs those without blips (6.1%, 71/1169), and blips were associated with an increased HR for VF, 3.79 (2.32, 6.18). Treatment regimen did not appear to impact risk for blips or VF after blip. Only 6 participants had VF after blip in the extension phase.

Conclusions:

In DRIVE-FORWARD and DRIVE-AHEAD, the DOR and Comparator groups had similar rates of viral blips; in both groups, blips were more common in participants with baseline HIV-1 RNA $> 100,000$ copies/mL and were associated with increased risk for subsequent VF. Blips were less common after ≥ 2 years on DOR or switching to DOR.

Supporting Document

Abstract Authors

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	DRIVE-FORWARD (1439-018)		DRIVE-AHEAD (1439A-021)	
	DOR + 2NRTIs n (%)	DRV/r + 2NRTIs n (%)	DOR/3TC/TDF n (%)	EFV/FTC/TDF n (%)
Double-Blind Phase (Day 1 to Week 96)				
Participants in population	342	338	336	322
Total # of Blips	42	56	54	46
Participants with Blips	38/342 (11.1)	52/338 (15.4)	40/336 (11.9)	39/322 (12.1)
with 1 Blip	35 (92.1)	48 (92.3)	28 (70.0)	35 (89.7)
with 2 Blips	2 (5.3)	4 (7.7)	10 (25.0)	3 (7.7)
with 3 or more Blips	1 (2.6)	0 (0.0)	2 (5.0)	1 (2.6)
Months to first blip, median (IQR)*	11.2 (5.4, 16.6)	8.5 (5.5, 16.7)	13.9 (6.2, 18.3)	11.1 (8.3, 16.6)
Virologic failure after blip	8/342 (2.3)	7/338 (2.1)	5/336 (1.5)	3/322 (0.9)
Open-Label Extension (Week 100-192)	Continued DOR+2NRTIs	Switched to DOR+2NRTIs	Continued DOR/3TC/TDF	Switched to DOR/3TC/TDF
Participants in population	253	225	286	265
Total # of Blips	14	22	20	24
Participants with Blips	14/253 (5.5)	17/225 (7.6)	19/286 (6.6)	21/265 (7.9)
with 1 Blip	14 (100.0)	13 (76.5)	18 (94.7)	18 (85.7)
with 2 Blips	0 (0.0)	3 (17.6)	1 (5.3)	3 (14.3)
with 3 Blips	0 (0.0)	1 (5.9)	0 (0.0)	0 (0.0)
Months to first blip, median (IQR)*	8.4 (1.0, 15.7)	8.5 (1.0, 15.6)	12.0 (4.7, 15.9)	11.9 (4.6, 15.5)
Virologic failure after blip	1/253 (0.4)	1/225 (0.4)	1/286 (0.3)	3/265 (1.1)
* Time to first blip was calculated from start of treatment. The denominator when calculating percentages is the number of Participants with Blips, unless otherwise specified. DOR, doravirine; NRTI, nucleoside reverse transcriptase inhibitor; DRV/r, darunavir with ritonavir; 3TC, lamivudine; TDF, tenofovir disoproxil fumarate; EFV, efavirenz; FTC, emtricitabine; IQR, interquartile range.				

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Abstract #80

Four-year outcomes from the BICSTaR study: Observational analysis of bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in treatment-naïve (TN) and treatment-experienced (TE) people with HIV in Canada, France and Germany

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Background: BICSTaR, a multi-country, prospective, observational study, evaluated the effectiveness and safety of B/F/TAF. After 2 years in the main study, eligible participants from Canada, France and Germany could enter a 3-year extension phase.

Methods: Data from June-2018 to Sept-2023 were analyzed, including HIV-1 RNA <50 copies/mL (missing=excluded [M=E]/discontinuation=failure [D=F]), safety, and patient-reported outcomes (PROs; SF-36 and HIV-SI).

Results: Of 800 participants (178 from Canada), 465 (58%) reconsented for the extension phase (TN 70 [15%], TE 395 [85%]) (Table). At 4 years, viral load remained undetectable (HIV-1 RNA <50 copies/mL) in 98% and 97% (M=E) of TN and TE participants, respectively (Figure). Significant increases in CD4 cell count and CD4/CD8 ratio from baseline were observed in both groups. No treatment-emergent resistance to B/F/TAF was reported. Discontinuation of B/F/TAF due to drug-related adverse events occurred in 7% overall, with weight gain as the most commonly reported reason (3%). Median change in body weight at 4 years was +4.4 kg (P=0.019) and +1.6 kg (P<0.001) for TN and TE participants, respectively. At 4 years, HIV-SI scores improved in TN participants (median change [Q1, Q3]: -3 [-6, 1]; P=0.053) and remained stable in TE participants (0 [-2, 2]; P=0.798). SF-36 mental component summary scores showed improvement in TN but no change in TE participants (median change: +3.3, P=0.030, and +0.7, P=0.225, respectively). SF-36 physical component summary scores remained stable in both groups.

Conclusions: After 4 years, B/F/TAF demonstrated high effectiveness and tolerability with some improvements in PROs in TN participants.

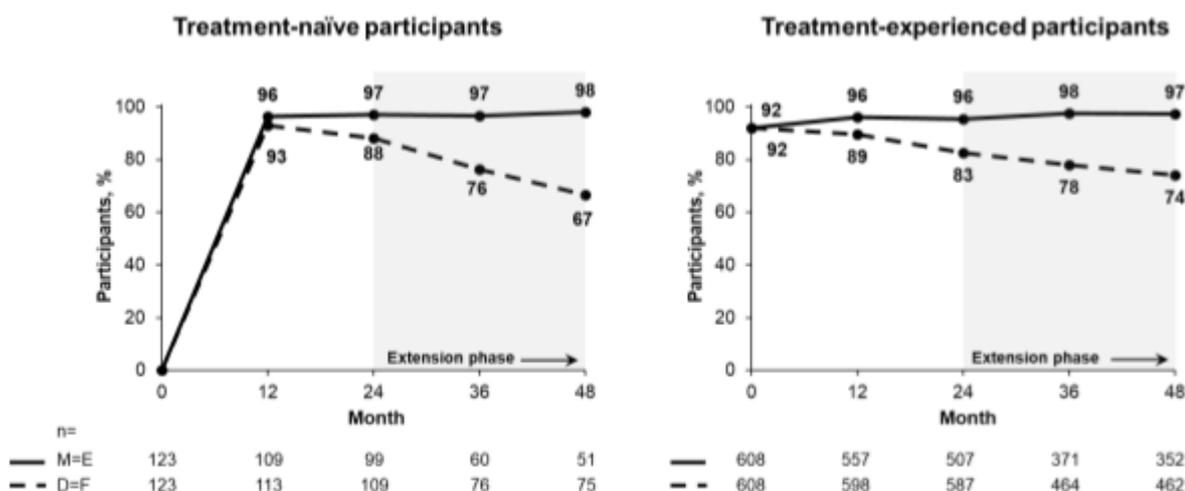
Supporting Document

Table. Participant characteristics at baseline

	TN (n=125)	TE (n=675)
Age, years	40 (31, 51)	49 (39, 56)
≥50 years	34 (27)	326 (48)
Male sex	112 (90)	585 (87)
Weight, kg*	70.0 (65.0, 79.8) [n=29]	77.0 (66.5, 86.5) [n=269]
BMI, kg/m2*	23.0 (21.6, 25.2) [n=29]	24.9 (22.3, 27.7) [n=269]
Any medical history or comorbidity	76 (61)	552 (82)
Concomitant medication	59 (50) [n=119]	420 (64) [n=659]
HIV-1 RNA, log10 copies/mL	4.83 (4.02, 5.36) [n=123]	1.28 (1.28, 1.28) [n=608]
CD4 count, cells/μL*	436 (240, 598) [n=45]	650 (455, 884) [n=274]
CD4/CD8 ratio*	0.36 (0.19, 0.58) [n=44]	0.89 (0.60, 1.24) [n=243]
SF-36: MCS score	45.3 (35.3, 52.7) [n=115]	49.8 (38.8, 56.2) [n=592]
SF-36: PCS score	53.4 (48.2, 58.4) [n=115]	55.7 (49.8, 59.0) [n=592]
HIV-SI overall bothersome count*	6.5 (2.0, 9.0) [n=44]	4.0 (1.0, 7.0) [n=292]

Data shown as n (%) or median (Q1, Q3). *Participants with values at baseline and 48 months
 HIV-SI, HIV Symptom Index; MCS, mental component summary; PCS, physical component summary; Q, quartile;
 SF-36, 36-Item Short Form Health Survey

Figure. Proportion of participants achieving HIV-1 RNA <50 copies/mL over 4 years (M=E population and D=F analyses)



n=number of participants with available viral load data. D=F, discontinuation=failure (whereby discontinuation of B/F/TAF is imputed as HIV RNA ≥50 copies/mL); M=E, missing data=excluded

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Abstract #72

Effectiveness of Aerobic Exercise among Adults Living with HIV: An Updated Systematic Review and Meta-Analysis using the Cochrane Collaboration Protocol

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OBJECTIVES: To examine the effectiveness of aerobic exercise on immunological, virological, cardiorespiratory, strength, weight, body composition, flexibility, and quality of life outcomes in adults living with HIV.

METHODS: We conducted an update of a systematic review using the Cochrane Collaboration protocol. We searched databases up to January 2021. We included randomized controlled trials comparing aerobic exercise with no exercise or another intervention performed at least 3 times per week for at least 4 weeks among adults living with HIV. Two reviewers independently determined study eligibility. Data were extracted from studies that met inclusion criteria using standardized forms. We assessed risk of bias using Cochrane risk of bias assessment. Meta-analyses were conducted using random-effects models with Review Manager (RevMan) computer software.

RESULTS: Forty-four studies met inclusion criteria (24 from previous review; 20 from this update). There were 1,799 participants at study completion; the majority were women (55%), and taking antiretroviral therapy (39/44 studies). Exercise interventions included aerobic exercise alone (19 studies) or a combination of aerobic and resistive exercise (25 studies), ranging from 5 to 52 weeks. One-hundred fourteen (114) meta-analyses were performed (90 of which were new or updated for this review). Main results indicated statistically significant improvements in selected outcomes of cardiorespiratory (maximum oxygen consumption, exercise time), strength (chest press, leg press, knee flexion), body composition (lean body mass, percent body fat), flexibility (sit and reach test), and quality of life (SF-36 questionnaire, Beck Depression Inventory) among exercisers compared with non-exercisers. No significant differences in change in CD4 count and viral load were found.

CONCLUSIONS: Performing aerobic exercise or a combination of aerobic and resistive exercise at least three times per week for at least 5 weeks is safe and can lead to improvements in cardiorespiratory fitness, strength, body composition, flexibility, and quality of life for adults living with HIV.

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Abstract #248

Interim Results From the REGAL Cohort: A RETrospective Real-world Study of the Effectiveness and Tolerability of the Antiretroviral Treatment ReGimens DTG/3TC CompAred to BIC/FTC/TAF in Older Persons Living With HIV

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Background: As the population with HIV aged ≥ 50 years increases, age-related comorbidities and polypharmacy must be considered. Traditionally, antiretroviral therapy (ART) included three drugs. Two-drug regimens decrease polypharmacy and may reduce drug-drug interactions with non-ART medications. Real-world data comparing the two drug regimen dolutegravir/lamivudine (DTG/3TC) and three-drug regimen bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF) are limited in people aged ≥ 50 years.

Methods: To compare real-world outcomes after switching to DTG/3TC versus BIC/FTC/TAF, we are conducting a retrospective chart review ($n=7$ countries) of ART-experienced, virologically suppressed people aged ≥ 50 years at DTG/3TC or BIC/FTC/TAF initiation with ≥ 24 weeks of follow-up. Demographics, clinical characteristics, and effectiveness were abstracted for up to 48 weeks after DTG/3TC or BIC/FTC/TAF initiation and summarized descriptively. Index was defined as DTG/3TC or BIC/FTC/TAF initiation date.

Results: At interim analysis ($N=152$), 88 people were on DTG/3TC and 64 were on BIC/FTC/TAF. Mean (SD) age was 59.4 (6.83) years for DTG/3TC and 60.0 (5.07) years for BIC/FTC/TAF; 92.0% on DTG/3TC were assigned male at birth and 78.1% on BIC/FTC/TAF. Mean (SD) time from HIV diagnosis to index was 18.0 (8.60) and 18.9 (9.29) years for DTG/3TC and BIC/FTC/TAF, respectively. At index, $\sim 85\%$ of people per treatment group had >1 comorbidity (≥ 3 comorbidities: DTG/3TC, 39.1%; BIC/FTC/TAF, 57.8%). Non-ART comedications were reported in $>85\%$ of people per group; 33.3% on DTG/3TC and 40.6% on BIC/FTC/TAF had ≥ 3 comedications. At index date, mean CD4⁺ cell count was 722.3 and 697.4 cells/mm³ among people on DTG/3TC and BIC/FTC/TAF, respectively. Before index, 3 (6%) people on DTG/3TC and 8 (20%) on BIC/FTC/TAF had prior virologic failure. No virologic failure occurred at 24 or 48 weeks. By 48 weeks, 1 person per group switched treatment.

Conclusions: In a population of virologically suppressed people aged ≥ 50 years with age-related comorbidities and comedications, both DTG/3TC and BIC/FTC/TAF were effective.

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Abstract #213

Physical Performance is Impaired in Persons Living with HIV and Negatively Impacted by Concurrent Peripheral Neuropathy

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Purpose: Compare physical performance of persons living with HIV (PLHIV) to normative values and explore the impact of peripheral neuropathy (PN) on physical performance.

Materials and Methods: PLHIV on antiretroviral therapy were enrolled. The 4-Meter Walk Test (4mWT), 5 Times Sit-to-Stand Test (5XSTS), 6-minute Walk Test (6MWT), and Isometric Mid-thigh Pull Test (IMTP) measured gait speed, walking endurance, lower limb strength, and whole-body strength. Z-scores were used to compare the performance of PLHIV to age and sex-matched normative data. Average z-scores were compared to the expected score of 0 using a one-sample t-test. We compared performance between participants with and without PN using independent t-tests and Cohen's d effect sizes.

Results: 70 PLHIV participated (age 56.2 ± 12.1 years; 35 with PN; 25 women). On average, PLH walked 1.00 m/s (95% CI: 0.94, 1.06 m/s), which was 0.63 z-score below normative data (p<0.0005). PLH walked 352 meters (95% CI: 331, 372 meters) on average, which was 3.17 z-scores less than expected (p<0.0005). PLH performed the 5XSTS in 12.1 seconds (95% CI: 10.5, 13.7 seconds; 1.04 z-scores worse than expected, p<0.0005). PLHIV produced an average of 10.5 N/kg of bodyweight with IMTP, which was 4.1 N/kg less than expected (mean z-score = -1.02; p<0.0005). Comparing those with and without PN, there was a significant difference in gait speed (0.14 m/sec faster in those without PN; p=0.015, d=0.60), walking endurance (60 meters further in those without PN; p=0.003, d=0.75), and 5XSTS (4.2 seconds faster in those without PN; p=0.007, d=0.67). There was a moderate effect size for IMTP (0.86 z-score lower in those with PN, p=0.001; d=0.8) suggesting that whole-body strength in PLHIV with PN may be impaired compared to those without PN.

Conclusions: PLHIV have impairments in physical performance compared to normative data. PN has a compounding negative impact on physical performance.

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Abstract #100

The Longest Described Case of Asymptomatic Relapse of Mycobacterium Avium Complex Infection After Seven Years of Latency in a Virologically Suppressed Patient With HIV-1 Infection.

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Mycobacterium avium complex (MAC) is a serious opportunistic infection in HIV patients and is an AIDS defining illness. The incidence of MAC infection in HIV patients depends on CD4 cell counts, with incidence being highest with CD4 T lymphocyte (CD4) cell counts <50 cells/mm³. The reported incidence of relapsing MAC disease in HIV-infected patients receiving HAART after successful treatment of MAC infection and discontinuation of secondary prophylaxis is uncommon. Relapses are observed in patients with immunological discordance/ reduced T cell repertoire post HAART, and rarely as post MAC IRIS related relapse. Prior Gastrointestinal (GI) MAC infection is identified as a risk factor for non-responders in context of MAC IRIS infections.

We report the longest relapse case of biopsy proven MAC infection presenting with asymptomatic progressive retroperitoneal adenopathy and conglomerate necrotic mass involving the left psoas muscle in a 51-yr old PLWHIV who was virologically suppressed with a CD4 cell count of 460 cells/mm³. She presented eight years after successful treatment of MAC IRIS infection with esophageal ulceration. The current clinical presentation was less compatible with a late MAC IRIS relapsing infection given the absence of fevers and stable CD4 counts. We recommend the consideration of relapsing MAC infection in patients with a suppressed HIV viral load and appropriate CD4 T cell recovery presenting with progressive adenopathy and notably in patients with prior GI associated MAC disease.

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Abstract #15

Anal Cytology Among Trans Women: Implications for Cancer Screening From The Montreal-Toronto Trans Study

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Background: HPV-related anal cancer disproportionately affects people living with HIV and trans women/transfeminine persons. Consequently, the 2023 International Anal Neoplasia Society (IANS)'s consensus guidelines for anal cancer screening recommend screening initiation at age 35 years for trans women with HIV and 45 for trans women without HIV, though trans-specific Canadian guidelines are absent. We examined the prevalence of and factors associated with anal cytology uptake among trans women in Montreal and Toronto, Canada.

Methods: This study utilized retrospective chart review data collected from the charts of 1035 trans women/transfeminine persons accessing care at six HIV/primary care clinics in Toronto and Montreal, Canada, 2018-2019. The outcome measure included history of anal cytology (yes/no), and hypothesized associated sociodemographic (e.g., age), clinical (e.g., HIV status), and social/structural factors (e.g., income source). Data were analyzed utilizing bivariable and multivariable logistic regression analyses.

Results: Few patients (n=16/1035, 1.5%) had ever received anal cytology (n=6/71, 8.4% of trans women with HIV). In multivariable analyses adjusting for age, those with HIV, those having ever had an STI diagnosis, and those not taking feminizing hormone therapy all had higher odds of anal cytology (adjusted Odds Ratio (aOR): 9.70, 95% confidence interval (CI): 2.85, 33.01, p<0.001; aOR: 4.95, 95% CI: 1.29, 17.62, p=0.014; and, aOR: 5.20, 1.89, 14.32, p=0.001, respectively).

Conclusions/Implications: The associations between HIV status and prior STI diagnosis and anal cytology suggest trans women/transfeminine persons are being screened at higher rates aligned with existing international guidelines. However, we found a low prevalence of ever having received anal cytology among trans women overall, including trans women with HIV. More research is needed to determine if this has changed since publishing of the IANS guidelines and/or to explore barriers to anal cytology provision among trans women (e.g., resource limitations).

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Abstract #147

Assessing Human Papillomavirus Self-Sampling Attitudes in Women and Persons with a Cervix Living with HIV in Canada

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Objectives: To determine the thoughts, attitudes, and perceptions of HPV self-sampling as a method of screening for cervical cancer for women and people with a cervix living with HIV (WLWH) and to investigate associations between self-sampling attitudes and demographic/clinical characteristics.

Methods: A randomized trial assessing HPV vaccine dosing has a planned enrollment of 450 WLWH aged 18-45 recruited from 11 Canadian sites. Participants were given a brief description of HPV self-sampling and instructions on how to perform the test. Participants completed a questionnaire assessing their perceptions of the acceptability and comfort of HPV self-sampling before using the self-sampling methodology. Participant clinical and demographic characteristics (e.g., age, ethnicity, HIV viral load, and CD4+ T-cell count) were collected. Questionnaire responses were based on a 5-point Likert scale (strongly agree to strongly disagree) and dichotomized to "agree" and "disagree" for each statement. Participants' clinical and demographic characteristics were included in bivariate analysis. Chi-square and Fisher's exact tests assessed relationships between questionnaire results and clinical characteristics.

Results: Of the 77 completed survey responses, the median CD4+ T cell count was 769 cells/mm³ (IQR 522-908). Participants' median age was 40 (IQR 36-43). 80.5% of participants felt confident that they would be able to collect their samples correctly, and 81.8% did not think they would experience any difficulties with self-collection. Most participants (73.7%) preferred to self-collect their sample instead of provider-collected sampling. Given the opportunity, 88% of participants agreed they would likely use self-collection methods for future cervical cancer screening. Many participants were concerned about receiving a positive HPV result (64.9%), passing HPV on to their partner(s) (71.4%), and disclosing their HPV status to friends or family (53.2%).

Conclusions: HPV self-sampling appears to be a favoured screening method for this population; however, many participants expressed concern about the implications of receiving a positive HPV test result.

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Abstract #48

Non-pharmaceutical Interventions for Management of Chronic Pain in Persons Living with HIV: A Scoping Review

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Background: Chronic pain is common in persons living with HIV (PLHIV). While pharmaceuticals are often used in pain management, their efficacy in this population is uncertain, highlighting the need for alternatives. Our aim was to map existing literature on non-pharmaceutical interventions for managing chronic pain in PLHIV to inform clinical practice, identify gaps in knowledge, and prioritize research questions.

Methods: We conducted a scoping review using the JBI framework. We conducted searches for articles published in English from 1984 to June 2024 from six databases, grey literature, and a hand search of citations by expert authors and in key journals. Articles were included if they described or investigated non-pharmaceutical intervention(s) for management of chronic pain in PLHIV. Citations were screened and data extraction was performed by two blinded reviewers, with discrepancies resolved by a third reviewer. Data on interventions, outcomes, and study design characteristics were extracted. Results are presented using descriptive statistics and figures.

Results: Of the 156 articles included, 53 were clinical trials exploring mind-body therapies (n=17), behavioral approaches (n=17), patient education (n=9), exercise (n=6), and other interventions (n=21). Of the clinical trials that were randomized controlled trials (RCTs), favorable results for reduction in pain were reported with exercise (n=4), patient education (n=4), and cannabis (n=2). RCTs using behavioral approaches (n=4) reported mixed results. Other interventions investigated in single or pilot RCTs included massage, ice massage, yoga, vibration, art therapy, palliative care, capsaicin, lower extremity night splints, acupuncture, acupuncture with moxibustion, and Reiki with music. Other outcomes in clinical trials included quality of life, mental health, and physical function.

Conclusions: A range of non-pharmaceutical interventions for chronic pain in PLHIV has been described, and results of clinical trials continue to emerge. Systematic reviews of RCTs should be conducted on the effectiveness of exercise, patient education, cannabis, and behavioral approaches.

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Abstract #94

Identifying factors associated with significant weight gain in treatment-experienced people switching to a second generation INSTI (WEIGH-IN EXPERIENCED)

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Background: Risk factors for significant weight gain attributable to antiretroviral therapy (ART) are inconsistently reported. We assessed factors for significant weight increases in treatment-experienced people switching to a second-generation integrase inhibitor (2G-INSTI).

Methods: Single-centre, retrospective database analysis of adults switching to a dolutegravir or bictegravir-based regimen between 1-Jul-2008 and 30-Sep-2022. The primary outcome measure was weight change one year post-switch. Participant-level weight change overtime (or slope) was calculated using linear regression. Logistic regression was used to estimate the association between regimen and significant ($\geq 10\%$) weight gain.

Results: 314 patients (76% male, 55% white, median age 53 years, weight 77.3 kg, body mass index 25.5 kg/m², 14 years HIV, mean ART duration 8.1 years, 2.8 prior ARV regimens) were on 1st generation INSTI (22%)/NNRTI (35%)/PI (32%)/multi-class (11%) with 57% TDF/10% TAF for mean 6.2 years (CD4 561, 91% with HIV RNA < 50 copies/ml) before switching to a 2G-INSTI (81%) or 2G-INSTI+ PI/NNRTI/other (19%); 24% were switched to 2G INSTI plus TAF. Mean weight increase on pre-switch ART was 0.8 kg/1.2%/year (standard deviation, SD 3.0 kg/4.5%), with 37%/12%/51% experiencing increasing/decreasing/stable weight respectively. At one year post-switch, the mean weight increase was 1.9 kg/2.8% (SD 5.8 kg/7.8%, respectively), with 54%/27%/19% experiencing increasing/decreasing/stable weight respectively; 12% had significant ($\geq 10\%$) weight gain (mean 12.7 kg). In unadjusted models, age, CD4, BMI, viral load were associated with significant weight gain, while pre-switch ART was not. In adjusted models, age and CD4 remained associated with $\geq 10\%$ weight gain at 1 year (odds ratio 0.95 per year of age [95% CI 0.92-0.99, p = 0.008] and 0.998 per unit of CD4 [95% CI 0.996-0.999, p=0.03]).

Conclusions: In our experienced cohort, greater weight gain occurred in the first year on 2G-INSTI compared to pre-switch ART. Demographic factors but not pre-switch ART regimen were associated with weight gain.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #266

Treatment-Emergent Integrase Strand Transfer Inhibitor (INSTI) Resistance-Associated Mutations Among People With HIV-1 Treated With Dolutegravir (DTG) + Lamivudine (3TC) With Pre-existing M184V/I From Real-world and Interventional Studies

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Background: DTG + 3TC has a high barrier to resistance and is recommended as first-line and maintenance therapy for HIV-1. We report INSTI mutation incidence in populations using DTG + 3TC, including those with pre-existing M184V/I, from real-world evidence (RWE) and interventional studies.

Methods: We conducted a systematic literature review, searching Ovid MEDLINE®, Embase®, PubMed, Cochrane databases, and congresses for RWE and interventional studies reporting DTG + 3TC use (January 2013-March 2024). All publications with ≥10 people using DTG + 3TC (all studies) and all publications with ≥10 people using DTG + 3TC that evaluated baseline M184V/I, even if 0 people with baseline M184V/I were reported (studies evaluating baseline M184V/I), were included. To avoid double-counting from studies with multiple publications or study population overlap, unique populations were collectively represented by a “lead” publication with most recent data and/or highest N.

Results: We identified 300 publications (n=249 RWE, n=51 interventional) reporting DTG + 3TC use (108 discrete cohorts and trials, 47,350 unique people after accounting for population overlap). Of those, 30 lead studies (N=10,383) reported ≥10 people and evaluated baseline M184V/I. Overall prevalence of baseline M184V/I was 5% (512/10,383) among studies evaluating baseline M184V/I and 0.9% (406/47,350) among all studies. Prevalence of M184V/I in interventional studies was 20% (219/1096) and 8% (221/2914) among studies evaluating baseline M184V/I and among all studies, respectively (several interventional studies focused on M184V/I, overestimating prevalence). Treatment-emergent INSTI resistance was reported in 6/47,350 (0.01%) people across all studies and 2/10,383 (0.02%) among studies evaluating baseline M184V/I. No treatment-emergent INSTI resistance cases had known baseline M184V/I.

Conclusions: No cases of treatment-emergent INSTI resistance development were identified among people with HIV-1 who had M184V/I before DTG + 3TC therapy (0/512). Results indicate that using DTG + 3TC when M184V/I is present may not increase risk of INSTI mutation development.

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Abstract #227

Reduction in estimated glomerular filtration rate (eGFR) observed with doravirine (DOR) is caused by inhibition of organic cation transporter 2 (OCT2)

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Background: In three Phase 3 studies of DOR involving treatment-naïve adults with HIV-1, declines in creatinine-based eGFR of ~10mL/min/1.73 m² were observed shortly after DOR initiation. This occurred regardless of concomitant tenofovir use and remained stable for up to 3.5 years [1,2]. We investigated in vitro if DOR interferes with renal transporters, OCT2 and multidrug and toxin extrusion protein (MATE1), which are responsible for creatinine transport.

Materials and Methods: In vitro assays were conducted using OCT2- and MATE1-transfected cells with [¹⁴C]-creatinine and metformin to assess DOR's inhibitory effects. The FDA drug interaction risk assessment criteria were applied.

Results: Creatinine uptake ratios in OCT2- and MATE1-transfected cells were elevated (8- fold and 5-fold respectively). DOR inhibited OCT2-mediated creatinine uptake (Figure 1A) with an IC₅₀ of 6.9 μM, suggesting a mechanism for the observed eGFR decline. The IC₅₀ for metformin increased to 67 μM, indicating substrate-dependent inhibition, as DOR does not affect metformin pharmacokinetics [3]. The effect of DOR on MATE1 (Figure 1B) was less pronounced, resulting in ~48% inhibition at 100 μM.

Conclusions: DOR selectively inhibits OCT2-mediated creatinine transport at clinically relevant concentrations, leading to reduced creatine-based eGFR. Importantly, this does not indicate impaired renal function, consistent with clinical data showing improved cystatin-C eGFR in treatment-naïve patients receiving DOR/islatravir [2]. These renal transporter interactions may be reversible with drug cessation, similar to effects seen with other medications, including antiretrovirals [4].

Supporting Document

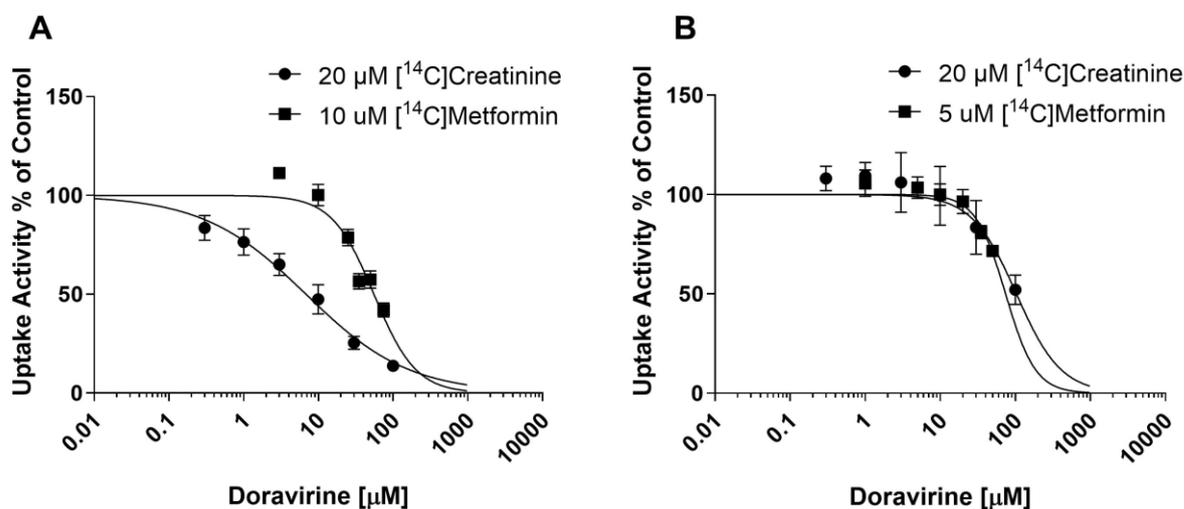


Figure 1. The inhibitory effect of doravirine on OCT2 (A) and MATE1 (B) mediated uptake of creatinine and metformin.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #202

Uptake of Three COVID-19 Vaccine Doses among people living with HIV who completed a 2-dose primary series: Findings from the Ontario HIV Treatment Network (OHTN) Cohort Study

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Background: Since September 2021, people living with HIV who are moderately to severely immunocompromised have been recommended to receive a third dose of COVID-19 vaccine, with biannual booster doses recommended since fall 2022. We examined the uptake of ≥ 3 doses of COVID-19 vaccine among people living with HIV who completed a 2-dose primary series in Ontario.

Methods: We analyzed data from the OHTN Cohort Study, a longitudinal cohort of people receiving HIV care in Ontario. Self-reported COVID-19 vaccination was assessed through annual questionnaires (2021-2023). Clinical data were obtained from medical charts and linkage with Public Health Ontario Laboratories database. We used a modified Poisson regression to calculate prevalence ratios and 95% confidence intervals for receipt of ≥ 3 doses compared with 2 doses.

Results: A total of 2,443 out of 2,746 (89.0%) participants had received a 2-dose primary series (median age: 55 years; 80% men; 61% White; 62% born in Canada). Of the 2,443 2-dose recipients, 1,904 (77.9%) had received ≥ 3 doses. In unadjusted analysis, uptake of ≥ 3 doses increased linearly with age from 46.6% among participants aged <30 years to $>85\%$ among participants aged ≥ 60 years. In multivariable analyses, older age, higher education, diabetes, and being a former smoker were associated with higher uptake; whereas uptake was lower among women, heterosexual men and participants who identified as Black, received care in Eastern or Southwestern Ontario, or used recreational drugs, excluding cannabis and alcohol. Clinical HIV covariates were not significantly associated with uptake.

Discussion: Certain HIV priority populations, such as women and people who identify as Black or use recreational drugs, may experience greater barriers to receiving additional doses of COVID-19 vaccines. Given the ongoing burden of COVID-19 in Ontario and circulation of new variants, a targeted approach may help to improve uptake of updated COVID-19 vaccines in these groups.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #231

Durability of COVID-19 vaccine immunogenicity in people living with HIV (CIHR Canadian HIV Trials Network 328)

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Background: In a Canadian multi-centre prospective, observational cohort of PWH receiving ≥ 2 COVID-19 vaccinations, we examined longitudinal kinetics of COVID-19 vaccine-induced antibodies to assess durability of immunogenicity.

Methods: Data for the current analysis were collected between August 2021-April 2022. Levels of IgG targeting SARS-CoV-2 Spike (S), receptor-binding domain (RBD) and nucleocapsid (N) proteins were measured using an automated high-throughput chemiluminescent ELISA. Vaccine-induced immunity was distinguished by co-positivity with S and RBD proteins, and infection-induced immunity by co-positivity with the S and N protein (signal-to-cutoff ratio ≥ 1.0). For longitudinal evaluation, IgG S and RBD levels were examined 1 month post 1st dose, 3 months post 2nd dose, 1 and 6 months post 3rd dose, and 1 month post 4th dose. The analysis included participants who remained naïve to natural COVID-19 infection and had data available at all 5 sampling time points.

Results: Eighteen participants (all male) were included in the analysis. At study enrolment median (IQR) age was 65 (45, 69) years, CD4 count was 690 (510, 905) cells/mm³, and 16 (89%) had suppressed viral loads on antiretroviral therapy. Median levels of both IgG S and RBD remained detectable at all time points, peaking 1 month post 3rd dose (median (IQR): 3.90 (3.63, 4.45) log₁₀BAU/mL and 4.03 (3.77, 4.33) log₁₀BAU/mL, respectively), declining by 6 months post 3rd dose (to 3.36 (3.04, 3.50) log₁₀BAU/mL and 3.42 (3.05, 3.52), respectively), and then rising again 1 month post 4th dose (to 4.03 (3.76, 4.45) log₁₀BAU/mL and 4.00 (3.76, 4.28) log₁₀BAU/mL respectively).

Conclusion: Following COVID-19 vaccination, PWH displayed peak IgG S and RBD antibodies 1 month after their 3rd vaccine dose. Levels declined 6 months after the 3rd dose but then rose again 1 month after the 4th dose. Findings confirm the importance of timely COVID-19 vaccine booster dosing for PWH.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #111

Detectable HIV viral load in the Canadian Coinfection Cohort (CCC) before, during and after the COVID-19 pandemic

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Background

The COVID-19 pandemic disrupted healthcare and may have disproportionately affected vulnerable people, such as those living with HIV and hepatitis C. We investigate whether detectable HIV RNA became more common over this period in CCC participants.

Methods

We selected all participants enrolled before March 2018 with at least one follow up visit after March 2018 and six months or more after starting antiretroviral therapy. Participants were classified as: men reporting sex with men (gbMSM); Indigenous; injecting drugs at their last visit prior to March 2018 (active PWID); or in none of these groups ('Other'). We modelled the probability of a detectable viral load from March 2018 to March 2024 using a generalised additive model, with covariate adjustment for age. The model included a random intercept allowing for repeated observations from the same individuals.

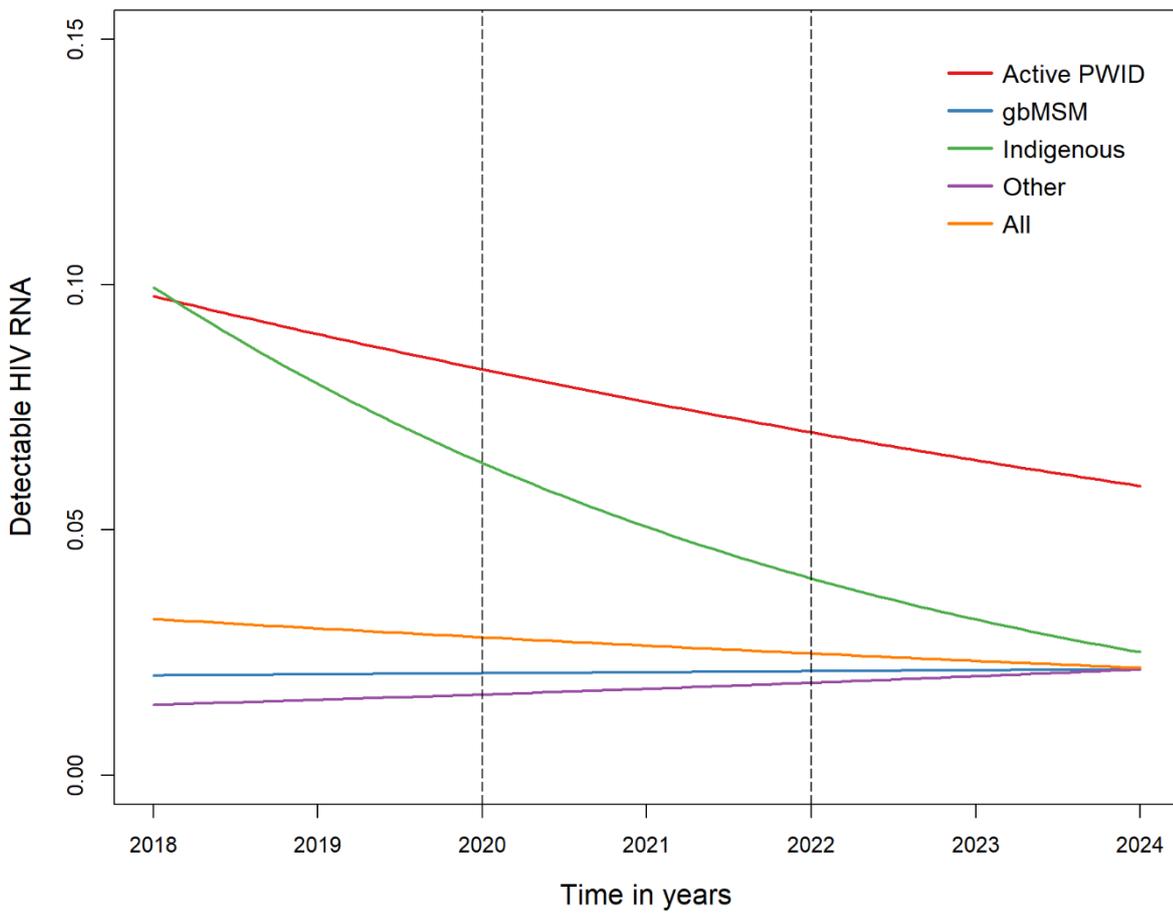
Results

Among 928 selected participants, the median duration of HIV infection was 18 years, the median age was 52; 31% were female. The probability of detectable HIV RNA (>50 copies/mL) declined among most participants, particularly among Indigenous peoples and active PWID, but increased slightly among those at low risk (Figure). Both the probability of transmissible HIV RNA (>1000 copies/mL) and the probability of reported poor adherence to antiretrovirals also declined over the same period.

Conclusion

Despite the pandemic, the probability of a detectable HIV viral load steadily decreased over time for most in the CCC, particularly those at greatest risk of poor adherence. This suggests engagement in care has been maintained even in vulnerable populations.

Supporting Document



Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #11

Socio-economical determinants of virtual care use among people with HIV Ontario: A cross-sectional study

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Background: People living with HIV face several socio-economic factors that impact their HIV-related health outcomes. While virtual care may help reduce barriers to timely HIV care, the socio-demographic factors influencing virtual visit uptake among this group remain unexplored.

Objectives: We assessed the association between the social-economical factors and virtual care use among people living with HIV in a clinical cohort in Ontario, Canada.

Methods: We used 2022 data from the Ontario HIV Treatment Network Cohort Study (OCS) when virtual care was first introduced. OCS is a multi-site cohort including patients from 10 HIV clinics, with data collected from medical charts, interviews, and record linkage with the provincial public health lab for viral load tests. The three care modes—virtual, in-person, and a combination of both—were analyzed using three-category multinomial logistic regression to identify predictors of the patient's use of virtual care mode.

Results: A total of 1,930 participants were included, out of which 19% received virtual care, 45.6% received in-person care, and 34.3% received care through both virtual and in-person modalities. The median age of the participants was 55 years (IQR: 45-62], and 78% of the sample were men who have sex with men (MSM). Residence in the Southwestern and Eastern region of Ontario, as compared to the Toronto region, was associated with virtual care use. Females and men who do not have sex with men (non-MSM) compared to MSM, people with a high school degree as compared to university degree, and HIV diagnosis within the last 10 years as compared to > 10 years of diagnosis used in-person care as compared to virtual care.

Conclusion: During the pandemic, virtual care was introduced to enhance healthcare access. Its uptake is linked to various socio-economic factors and health-related factors. However, further research is needed outside of the COVID-19 context.

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Abstract #349

Investigation of the effectiveness of a once-a-day B/F/TAF treatment regimen in combination with a multidisciplinary model of care at improving HIV viral suppression.

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Providing healthcare to vulnerable inner-city populations, characterized by unstable housing and high rates of infections, requires innovative care models to address their complex medical and social needs. Traditional healthcare systems have proven inadequate for this population, particularly when it comes to ensuring consistent antiretroviral therapy (ART) adherence, as well as ensuring that individuals are prescribed an HIV medication which effectively suppresses their infection. The Vancouver Infectious Diseases Centre (VIDC) has developed a multidisciplinary care model centered on addressing social, psychological, and addiction-related needs in addition to medical care.

This study aims to evaluate the effectiveness of this multidisciplinary care model in achieving virologic suppression in HIV-infected individuals using B/F/TAF, a once-daily ART regimen with a high barrier to resistance. This is a single-arm, prospective, observational study. All participants enrolled in the study have previous indication of non-adherence to their HIV medication, and/or a detectable viral load in the past year. The primary endpoint is virologic suppression (HIV plasma viral load < 200 copies/mL) at 24 weeks.

To date, a total of 50 individuals meeting the preliminary study criteria have been identified (either non-adherent to their medication or have had a detectable viral load in the past year). 35 of these individuals have been screened and meet all inclusion criteria, and 29 have had their baseline visit completed. At baseline, 4/29 individuals (14%) were viremic. To date, 12 individuals have completed their week 12 visit and 2/12 (17%) are viremic and 11 individuals have completed their week 24 visit and 3/11 (27%) are viremic.

Many individuals living in Vancouver's inner-city have an unsuppressed HIV viral load, and/or are nonadherent to their medication. Prescribing B/F/TAF in combination with a multidisciplinary care model may help to achieve increased rates of HIV suppression among this vulnerable population.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #81

Global survey to evaluate engagement in care and treatment experiences of people with HIV (PWH)

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Introduction: Understanding experiences of people with HIV (PWH) is vital to enhance engagement in care to achieve long-term treatment success. A 45-minute, cross-sectional, online survey was co-developed by investigators and community advocates from 11 countries and translated into local languages. Survey questions assessed the experiences of PWH across the care cascade.

Methods: Participants (≥18 years old with a self-reported HIV diagnosis) were recruited through patient databases, consumer panels, advocacy groups, and physician referrals. Preliminary analyses (n=347) reported here includes participants who completed the survey in English across Canada, the U.S., South Africa, and the U.K.

Results: Of 338 participants who initiated antiretroviral therapy (ART), similar proportions began treatment within 7 days (n=102/338, 30%), 8-30 days (n=105/338, 31%), and >30 days from diagnosis (n=131/338, 39%) (Table). Reasons for starting treatment >30 days included: physician recommendation based on CD4 count (n=45/131, 34%), fear of potential side effects (n=42/131, 32%), and time needed to accept diagnosis (n=37/131, 28%). Most participants did not report adherence challenges with oral (n=265/315, 84%) or injectable (n=11/13, 85%) ART. The same top 3 reasons were identified as most important factors for remaining on and switching treatment: achieving/maintaining undetectable viral load, reducing side effects, and long-term safety/effectiveness; however, these reasons differed in order of importance (Figure). The overall median 10-item HIV Treatment Satisfaction Questionnaire score was 54/60 (n=328), and highest for bictegravir/emtricitabine/tenofovir alafenamide (57/60, n=51) amongst those on daily oral ART.

Conclusions: Results showed 39% of participants delayed starting HIV treatment, highlighting opportunities to improve rapid initiation.

Supporting Document

Table 1. Participant Demographics and Treatment Characteristics

Demographic/characteristic	Participants (N=347)
Gender, n (%)	
Male	202 (58)
Female	139 (40)
Other gender category	3 (0.9)
Nonbinary or gender nonconforming	2 (0.6)
Prefer not to answer	1 (0.3)
Age, mean (SD), y	43.0 (13)
Country, n (%)	
United States	154 (44)
South Africa	109 (31)
United Kingdom	58 (17)
Canada	26 (7.5)
Participant subpopulation, n (%)	
MSM	143 (41)

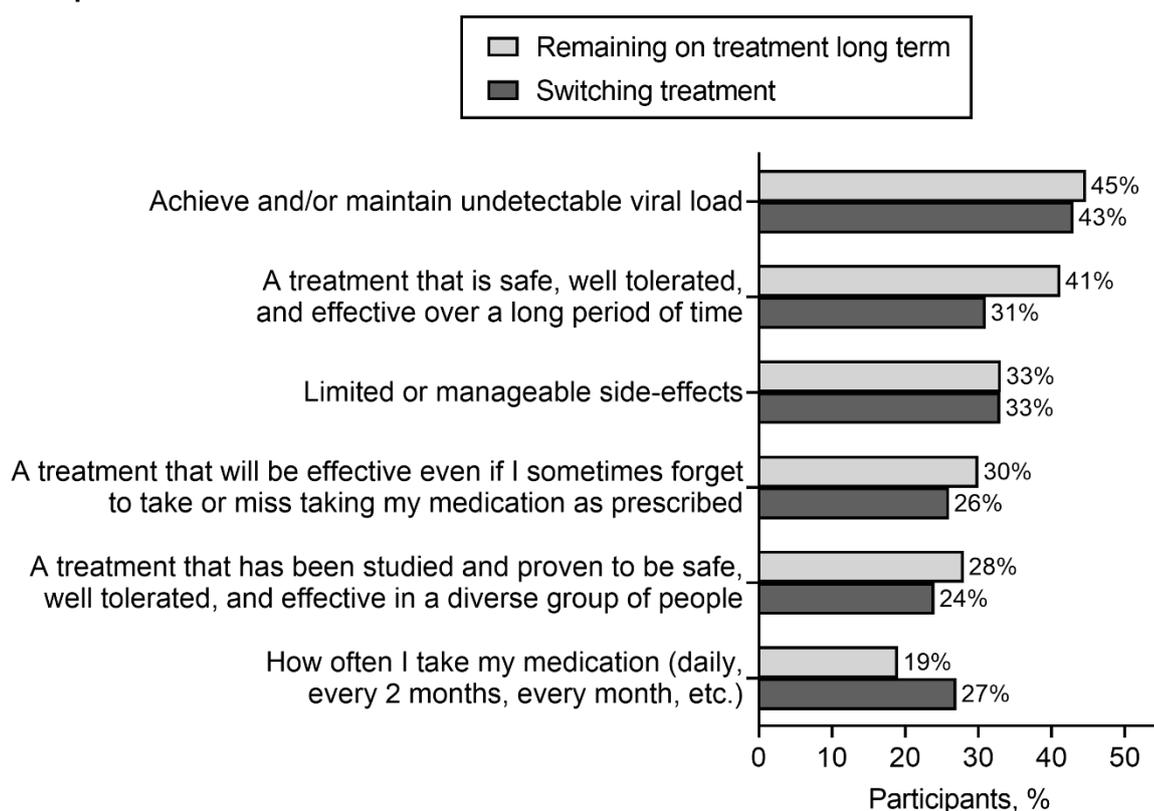
Cis women	136 (39)
Older people with HIV (≥50 y)	111 (32)
People who use drugs	89 (26)
People with HIV diagnosed since the COVID-19 pandemic	72 (21)
Un/underinsured	72 (21)
BIPOC MSM	53 (15)
Migrants	24 (6.9)
Trans or nonbinary people	10 (2.9)
Young adult people with HIV (18-24 y)	9 (2.6)
Time since initiation of ART, mean (SD) [median], y*	12.5 (9.6) [9.0]
Currently treated, n (%)	328 (95)
Treated with 1 oral daily pill, n (%)**	248 (76)

ART, antiretroviral therapy; BIPOC, Black, Indigenous, and other people of colour; MSM, men who have sex with men; SD, standard deviation.

*N=338.

**N=328.

Figure 1. Participants were asked to rank their top 3 treatment features, among 13 possible responses, that would be most important in remaining on HIV treatment over the long term and their top 3 reasons that would be most important in switching HIV treatment. Treatment features selected by >25% of participants are shown.



Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #10

Association between virtual visits and health outcomes in people living with HIV: A cross-sectional study

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Background: Virtual care has been integrated as a modality of care in Ontario, yet its effectiveness for people living with HIV remains largely unexplored.

Objectives: We aimed to determine the association of visit modality (virtual, in-person, or both) on adherence to antiretroviral therapy (ART), viral load, and quality of life (QOL) in people living with HIV in Ontario, Canada.

Methods: We conducted a cross-sectional study using data from the 2022 Ontario HIV Treatment Network Cohort Study (OCS), collected during the COVID-19 pandemic when virtual visits were first introduced. Participants were grouped into three categories based on the mode of care: virtual, in-person, or a combination of both. Data were collected through self-reported questionnaires and medical records, with viral load data linked to Public Health Ontario Laboratories (PHOL). Regression was used to examine the factors associated with optimal ART adherence, viral load suppression, and quality of life (mental and physical).

Results: In 2022, 1930 participants accessed HIV care in the OCS. Among them, 19.0% received virtual care, 45.6% received in-person care, and 34.3% received care through virtual and in-person modalities. The median age of the participants was 55 years (IQR: 45-62). In the multivariable logistic regression model, virtual care was associated with an increased likelihood of optimal adherence to antiretroviral therapy (Adjusted Odds Ratio (AOR) 1.30, 95% confidence interval (CI): 1.00-1.70) and an increased likelihood of achieving viral load suppression (AOR 1.67, 95% CI:1.03-2.63). Moreover, combined virtual and in-person care is associated with an improved mental quality of life compared to in-person care (Adjusted Mean difference (MD) - 0.96, 95% CI 0.05,1.87).

Conclusion: Virtual care is positively associated with adherence to antiretroviral therapy (ART) and viral suppression within this context. However, future research is necessary to establish causality and to assess the long-term effects of virtual care.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #264

The FIND+ Study (CTN 046): Preliminary Results on the Fertility Desires and Intentions of Youth living with HIV Since Childhood

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Background: Supporting youth with HIV since childhood has shifted to wellness, highlighting fertility as a relevant issue. Research shows HIV may modify, but not eliminate, the desire for children. Understanding these desires among youth remains limited, and at least one relevant study has indicated reduced fertility potential in male and female participants. The first objective of this study aims to explore their fertility desires and intentions.

Methods: We are conducting a cross-sectional study with a target enrollment of 100 participants, recruiting from two clinics (BC and ON) and nationally through word-of-mouth; participants will complete a 162-item self-administered survey on REDcap. We also aims to validate the modified version of "The HIV Pregnancy Planning Questionnaire" (Loutfy et al.) being used. We present descriptive results from participants to date.

Results: Twenty-six (18 cis-women/8 cis-men) participants have completed the survey. Twenty-one indicated they acquired HIV perinatally, three were unsure, and two did not respond. Participants aged 16 to 40 (mean = 28.1) were born in Canada (46%), as well as sub-Saharan Africa, the Caribbean, and Europe. 92% (24) thought about becoming a parent; 88% (23) desired parenting in the future. 15/26 (58%) agreed that treatment improvements impacted their fertility desires, while 9/26 (39%) disagreed or were neutral respectively. Most participants (22/26; 85%) intended to parent in the future; with plans to have between one and three children. 12/26 (46%) worried their child would be born with HIV.

Conclusion: Fertility desires and parenting intentions among youth living with HIV since childhood are higher than those reported in studies of women and men with HIV. The second objective of the FIND+ study will assess biological fertility potential to explore what reproductive health supports may be needed in the future. This work has implications for care and policy, enhancing reproductive health outcomes and informing family planning.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #156

Association Between Reservoir Size and Markers of Cardiovascular Inflammation in Perinatally Infected Children Living with HIV

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Background: There are limited data on long-term cardiovascular disease risk among perinatally infected children living with HIV (CHIV). Our objective was to assess the association between HIV reservoir size and biomarkers of cardiovascular inflammation among Canadian CHIV.

Methods: Sub-study of the « Early Pediatric Initiation, Canada Child Cure Cohort Study » (EPIC4, 2014-2019). In CHIV with sustained viral suppression (SVS) in whom the inducible HIV-1 reservoir in CD4+ T cells was previously measured (prostratin stimulation assay), serum levels of CRP, IL-1 β , IL-6, IL-18, VEGF-1, TNF- α and IFN- γ were measured using the Luminex 200TM XMAP multiplex assay. Multiple linear regression was used to assess potential associations. To avoid overadjustment, factors predictive of reservoir size (age at treatment initiation, duration of SVS) were not included in the models.

Results: Out of 225 EPIC4 participants, 121 had measures of inducible HIV-1 RNA (iRNA) at baseline. Median age was 13 years (range=6 months-23 years), age at CART initiation was 1.6 years (IQR=4 months – 4.7 years), and duration of SVS was 5.6 years (IQR=2.1–8.3). Median number of copies of iRNA produced by 106 CD4+ T cells was 5.8 (IQR=1.1-57.5). Age at cART initiation, duration of cART and proportion of life with SVS were all predictors of iRNA levels ($p=0.004$, $p=0.02$, and $p=0.01$, respectively). There was a significant association between levels of iRNA and serum levels of CRP ($p=0.009$), IL-6 ($p=0.04$), IL-1 β ($p=0.002$), and IL-18 ($p=0.014$), though no association with IFN- γ , VEGF-1 or TNF- α were observed. These association all remained significant after adjusting for age and CMV serostatus.

Conclusions: Reservoir size as measured by iRNA was strongly associated with markers of cardiovascular inflammation in CHIV. These data reinforce the need for early SVS in children to mitigate long-term comorbidities, and the potential use of these biomarkers as proxy measures of long-term disease risk.

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Abstract #157

Exploring Canadian Youth Perceptions of HIV Cure and the Use Injectable Therapies

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Background: For youth living with HIV (YHIV), the need for life-long daily antiretroviral therapy (ART) can be a significant psychological burden. The objective of this study was to understand the perspectives of Canadian YHIV on the prospects of cure, and the role of injectable therapies as means to cure.

Methods: Mixed methods sub-study of the national "Early Pediatric Initiation of Combination Antiretroviral Therapy Canada Child Cure Cohort (EPIC4) (2014-2019)." At the two largest recruitment sites, participants were asked at last visit to complete a semi-structured questionnaire about their study experience and understanding of HIV cure; for children below age 14, this was done by a guardian. Responses pertaining to the theme of cure are presented here.

Results: 42 participants completed the questionnaire (27 youth/15 guardians.) Ages of youth ranged 6-22 years, and median age at ART initiation was 2.7 years (IQR 0.21-5 years). While 91% were virally suppressed at entry into cohort, 12% interrupted ART during the study. Overall, 61% of participants believed a cure would be found in their lifetime. Among those who believed in the possibility, common themes included "only for some because of cost", "only if I take my medications well" and "if God wills it". When asked to define HIV cure, the majority of (71%) of participants responded having a negative HIV test and undetectable VL, while never again needing medication for HIV. When asked if they would consider an injectable treatment given every 3 months a "cure" for HIV, 13% responded yes, 63% no, and 24% replied no but with great enthusiasm for taking such a treatment.

Conclusions: The definition of HIV cure and its applicability for YHIV should be considered in the cure research agenda. Regular injectable treatments, while not considered cure, were considered favorably in over a third of participants.

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Abstract #210

Uninfected but still at risk – Working Memory and Academic Achievement in Children who are HIV-Exposed Uninfected

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Objective:

To evaluate associations between working memory, academic performance and household income in school-aged children HIV and antiretroviral-exposed, uninfected (CHEU) compared to children HIV-unexposed uninfected (CHUU).

Methods:

Children were assessed through the Kids Imaging and Neurocognitive Development study at the Hospital for Sick Children and Children's Hospital of Eastern Ontario. Working memory and Full Scale IQ (FSIQ) were measured using the Wechsler Intelligence Scale for Children. Academic performance, measured by math, spelling, and word reading, were assessed with the Wechsler Individual Achievement Test. Socioeconomic status, measured by household income, was considered. Linear regression models were used to assess group differences and associations between sex, age, cognitive measures, and income.

Results:

Sixty-three CHEU (mean age 8.79 years) and 42 CHUU (mean age 8.88 years) were included. 17.5% of CHEU and 4.7% of CHUU were provided diagnoses of neurodevelopmental disorders, primarily learning disabilities. CHEU had significantly lower working memory scores than CHUU ($p = 0.043$) yet academic scores did not differ. Older CHEU had poorer math scores than younger CHEU ($p < 0.01$). Male CHEU performed worse in word reading and spelling than male CHUU ($p = 0.038$ and $p = 0.015$, respectively). In both groups, working memory and FSIQ were strongly correlated to academic performance ($p < 0.01$). Higher income was associated with higher math scores in both groups ($p = 0.025$), while income was associated with literacy skills only in CHUU ($p < 0.01$).

Conclusion:

CHEU demonstrated lower working memory scores, suggestive of neurodevelopmental differences associated with HIV and/or antiretroviral therapy exposure. Though academic performance was similar between groups, CHEU were more likely to perform more poorly in math at older ages and meet criteria for learning disabilities. Male CHEU also performed more poorly in literacy skills, demonstrating a sex-related vulnerability. In CHEU and those with lower incomes, academic development may benefit from working memory interventions and academic enrichment in early childhood.

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Abstract #351

Intelligence and Language Outcomes in School-Aged Children who are HIV-Exposed, Uninfected: The Role of Sex, Perinatal Risk Factors, and Socioeconomic Status

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Background: Children who are HIV-exposed uninfected (CHEU) are at increased risk for neurodevelopmental impairments. Most studies report on neurodevelopmental outcomes in the first two years of life, with limited data available for school-aged CHEU. We examined the intellectual and language outcomes in school-aged CHEU compared to children who are HIV-unexposed uninfected (CHUU).

Methods: CHEU and CHUU aged 6–10 years were recruited at The Hospital for Sick Children and Children's Hospital of Eastern Ontario in Ontario, Canada. Intellectual and language abilities were measured using the WISC-V and CELF-5. Generalized linear models investigated associations of HEU-status with each neurodevelopmental outcome. An interaction term with sex was included to assess sex-specific effects. Gestational age, being small for gestational age (SGA), and household income were investigated as covariates.

Results: 65 CHEU (35 female, median age 9.00 years) and 42 CHUU (18 female, 8.96 years) were included. HEU-status was associated with significantly lower working memory and expressive language scores. In males, HEU-status was associated with lower scores on working memory, processing speed, overall intelligence, core, and expressive language abilities. No significant differences were observed in females by HEU-status. Household income was associated with all measures of intelligence and language. Lower working memory scores persisted in male CHEU after adjusting for covariates.

Conclusion: Male CHEU and those with lower household income were the most vulnerable to cognitive and language deficits. Working memory deficits in CHEU indicate a specific cognitive vulnerability due to HEU exposure status. Our findings highlight the need for early interventions, including ensuring financial security and close neuropsychological follow-up.

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Abstract #132

Transition of adolescents living with HIV from pediatric to adult care: A survey of current practices and perceptions among HIV care providers in Canada

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Growing numbers of adolescents with perinatal HIV are surviving childhood and transitioning to adult care. Differences between pediatric and adult care and psychosocial concerns can lead to decreased retention in care and loss to follow up. This study assessed current practices and barriers to provision of optimal transitional care for providers caring for adolescents with HIV.

Methods

A survey targeting Canadian pediatric and adult HIV healthcare providers was developed and distributed via regional and national HIV care organizations; responses were collected October to December 2024.

Results

Forty survey responses, including 24 from adult HIV healthcare providers, were analyzed. Most providers practiced in Ontario (42%), worked in tertiary care centres (68%) and provided HIV care for >10 years (53%). Only 35% reported satisfaction with how patients were transitioned. One participant reported formal training in transition care. Lack of time, low health literacy of patients, and systemic differences between pediatric and adult care were reported as the top 3 barriers to providing optimal transitional care. Only 28% thought 17-18y was the right age for transition; most (67%) thought an age range up to 25y was best. Half (50%) felt they had sufficient resources and skill to adequately address transition needs.

Conclusions

Challenges persist in ensuring a seamless transition from pediatric to adult care. Systemic barriers such as lack of time and resources can hinder access to quality care. By implementing evidence-based strategies and addressing these challenges, healthcare providers can aid adolescents with HIV in achieving optimal health outcomes throughout their lifespan.

Supporting Document

Demographics	Number of Respondents (%) N= 40
Type of Provider	
Pediatric HIV Health Care Provider	16 (40%)
Adult HIV Health Care Provider	24 (60%)
Time Providing HIV Care	
<10 years	19 (48%)
10-20 years	9 (23%)
>20 years	12 (30%)
Province	
Alberta	5 (13%)
British Columbia	6 (16%)
Manitoba	1 (2.6%)
Nova Scotia	2 (5.3%)
Ontario	16 (42%)
Quebec	5 (13%)
Saskatchewan	3 (7.9%)
Missing/NA	2
Position	
Medical Director*	6 (16.7%)
Nurse Coordinator	1 (2.8%)
Nurse Practitioner	1 (2.8%)
Pharmacist	15 (42%)
Physician	12 (33%)
Other	1 (2.8%)

Missing	4
Location of Practice	
Tertiary Care Centres (Adult and Pediatric)	25 (67.5%)
Community based clinic	7 (19%)
Community based hospital	4 (11%)
Community based hospital, clinic and health centre	1 (2.7%)
Missing	3
Formal Training in Transition Care	
Yes	1 (2.6%)
No	38 (97.4%)
Missing	1

Table 1: Demographic Characteristics of the HIV care providers surveyed. *Of note respondents who selected medical director as their position included both physicians and nurse practitioners.

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Abstract #176

Sexually transmitted infections in a cohort of cis and transgender female sex workers in Argentina.

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Female sex workers (FSW) are at high risk of acquiring sexually transmitted infections (STIs). Gender-specific vulnerability, discrimination and marginalization often limit access to health services. We aimed to compare the baseline prevalence of STIs in a cohort of cisgender (CGW) and transgender (TGW) FSW.

Materials and Methods

“MAS por Nosotras” is an ongoing prospective cohort aimed to evaluate the sexual and reproductive health of FSW, in Buenos Aires, Argentina. Each visit includes collection of medical and psychosocial information, including STI testing [HIV, HBV, HCV, syphilis serologies and HPV, Neisseria gonorrhoeae (NG) and Chlamydia trachomatis (CT) PCR]. Data from the baseline visit is presented.

Results

Between June 2023-March 2024, 200 FSW (99 TGW and 101 CGW) were enrolled, Median age was: TGW 29 [IQR 24-39], CGW 36 [IQR 30-47], (p<0.001). In the month prior to enrollment, 44.8% of TGW and 22.8% of CGW had >20 sexual partners (p=0.001), and 57.6% of TGW and 52.5% of CGW reported having at least one condomless anal and/or vaginal intercourse (p=.05). 16.2% of TGW and 3.1% of CGW were on HIV-PrEP, (p=.0001). Baseline STI's prevalence is displayed in Table 1.

Five new HIV diagnoses (4 TGW, 1 CGW) were detected at baseline. NG sites were: anal (4.8%), cervical (2.1%), urethral (1.1%), and oropharyngeal (0.5%); and CT sites were: anal (3%), and cervical (1%).

Conclusions

TGW had a higher overall STI prevalence. Use of Prep was limited and condomless sex frequent. Our results reinforce the need of expanding and tailoring prevention strategies with a gender-focused perspective.

Supporting Document

STI	All participants (N=200)	TGW (N=99)	CGW (N=101)	p
Any	53.5%	72.7%	34.7%	<0.001
HIV	18.5%	34.3%	3%	<0.001
HBV (HBsAg +)	1%	2.2%	0%	0.2
Untreated syphilis	13%	22.2%	4%	<0.001
HPV (PCR)	Anal: 79.3% (119/150*)	88.9% (72/81*)	68.1% (47/69*)	0.002
	Cervical: 41.3%	N/A	41.3%	-
NG (PCR)	4.5%	7.1%	2%	0.1
CT (PCR)	3%	3%	3%	>0.9

*Data from participants who agreed to have the test performed.

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Abstract #235

A Qualitative study on implementation preparation for the Women-Centred HIV Care Pocketbook using a community-based version of the Consolidated Framework for Implementation Research

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Systemic inequities create barriers to person-centred healthcare for cis/trans women, Two-Spirit, and gender-diverse individuals. Building on the evidence-based, community-informed Women-Centred HIV Care (WCHC) Model, the WCHC-Pocketbook was developed as a communication tool to address these disparities by empowering women with HIV to self-advocate and improve patient-provider communication. This study aimed to obtain feedback on a WCHC-Pocketbook prototype.

A community-based, descriptive qualitative study was conducted to explore factors relevant to the implementation of the WCHC-Pocketbook. Semi-structured interviews were conducted (January to July 2024) with 38 participants (18 women with HIV, 10 clinicians, and 10 community-based providers) purposefully sampled for diversity through CBOs, clinics, and social media. Interviews were audio-recorded and supplemented by a demographic survey. Rapid qualitative analysis – organized by the Consolidated Framework for Implementation Research (CFIR) – was conducted.

Priorities emerged across all CFIR domains (inner setting, outer setting, individual characteristics, intervention, implementation process). Findings for the Implementation Domain were: (a) the WCHC-Pocketbook is relevant and acceptable but requires revisions (e.g. incorporating information on aging, infant feeding, and newcomer priorities); (b) women emphasized collaborative use, rather than placing the responsibility on women. For the Outer Setting, participants believed the WCHC-Pocketbook could enhance connections across agencies. Providers and women expressed a willingness to integrate the WCHC-Pocketbook into practices/care (Inner Setting Domain). However, findings across Inner Setting, Individual Characteristics, and Implementation Process Domains raised considerations for implementation: (a) limited time for use during clinical appointments; (b) individual focus precludes fostering community connections; and (c) potential organizational buy-in barriers.

The WCHC-Pocketbook is supported by women with HIV, healthcare, and CBO-service providers. This study demonstrated interest in the WCHC-Pocketbook as a communication tool with potential to improve health self-advocacy, engagement, and care for women with HIV in Canada. This pre-implementation study identified considerations that will inform next steps for the WCHC-Pocketbook.

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Abstract #316

Clinical Outcomes of Infants Born to Women Living with HIV in Saskatchewan – A Retrospective Study

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Background

Saskatchewan (SK) continues to record the highest HIV incidence rates in Canada. Epidemiological shifts have seen a significant increase in HIV among women of childbearing years, representing 62% of new diagnoses in SK. A corresponding surge in syphilis co-infections among this patient population has placed increased risks and rates of congenital syphilis and vertical transmission among infants born to women living with HIV (WLWH). This study reports demographic and clinical outcomes for infants born to WLWH in central and northern SK.

Methods

Data was retrieved from the CPARG database and clinical electronic medical records from January 1, 2018, to December 31, 2023. 180 live infants born to 184 WLWH receiving care at the Jim Pattison Children’s Hospital (JPCH) in Saskatoon, SK. JPCH provides care to all infants born to WLWH in Saskatoon, central, and northern regions, representing 68% of all cases in SK. Three time periods were analyzed and compared: T1=Jan.1, 2018–Dec. 31, 2019; T2=Jan.1, 2020–Dec. 31, 2021; T3=Jan.1, 2022–Dec. 31, 2023.

Findings

Table 1: Infants Outcomes Born to WLWH January 1, 2018 – December 31, 2023 (attached)

Conclusions

As WLWH continue to have children, some having two or more pregnancies during the time period, they also continue to face factors which limit their engagement in clinical care for themselves and their infants, as well as risks of co-infections and vertical transmission. Despite high rates of reported ARV adherence at the time of delivery, seven infants were born HIV+ in SK between 2020-2023. Maternal engagement in care is correlated with low infant birth weights and vertical transmission, suggesting the importance of establishing best practices for engagement, specifically practices and approaches that are responsive and respectful to Indigenous populations and ways of being.

Supporting Document

Table 1: Infants Outcomes Born to WLWH January 1, 2018 – December 31, 2023			
	T1 (Jan 1/18 – Dec 31/19)	T2 (Jan 1/20 – Dec 31/21)	T3 (Jan 1/22 – Dec 31/23)
Number of live births	n = 56	n = 63	n = 61
HIV vertical transmission	n = 0	n = 2	n = 5
Received timely testing (2 tests by 6 mths)	53/56 (95%)	53/63 (84%)	41/61 (67%)
Born to women of Indigenous ancestry	50/56 (89%)	56/63 (89%)	57/61 (93%)
Born pre-term (<36 weeks)	9/56 (19%)	9/63 (14%)	4/61 (7%)
Birth weight <2500 grams	13/56 (23%)	19/63 (30%)	12/61 (20%)
Mother on ARVs at conception	24/56 (43%)	29/63 (46%)	36/61 (59%)
Mother on ARVs at delivery	45/56 (80%)	58/63 (92%)	55/61 (90%)
Mother on opiate replacement therapy (OAT)	43/56 (76%)	40/63 (64%)	35/61 (57%)

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Abstract #128

Delivery of the Women-Centred HIV Care Model in Canadian HIV clinics: An environmental scan

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Background: Women represent approximately 25% of Canadians living with HIV, with unique social and biological factors influencing health. The Women-Centred HIV Care (WCHC) Model was designed to address these care needs, but its provision remains unclear. This environmental scan assesses the delivery of the WCHC Model in Canadian HIV clinics.

Methods: HIV clinics identified from online HIV resources and word-of-mouth were invited to complete a survey about clinic services. Clinics received scores out of 10 in the six domains and five sub-domains of WCHC, using a predetermined scoring system based on their delivery of relevant services. On-site services typically scored higher than off-site referrals. Providing at least 50% of domain services indicated satisfactory domain delivery. Descriptive statistics summarized the results.

Results: Of 59 eligible clinics, 35 participated, representing all regions except Alberta, Northwest Territories, and Nunavut. Clinics across Canada scored high in HIV care and sexual health care, but low in the peer support/leadership/capacity-building domain. In remaining domains, scores varied between provinces, indicating different provincial strengths (Table 1). Mental health and addiction services were infrequently offered on-site. Most clinics (74%; 26/35) provided at least 50% of services in 4-6 domains, and 20% (7/35) achieved this in all 6 domains.

Conclusion: WCHC Model delivery varies between regions and domains. Canada-wide strengths include HIV and sexual health care, while gaps persist in peer support/leadership/capacity-building opportunities, and on-site mental health and addiction care. Our findings inform future service and training priorities enhancing care for women living with HIV.

Supporting Document

Table 1. Median (interquartile range) scores for domains and sub-domains of the women-centred HIV care model in clinics across Canada (max score of 10) (n=35 clinics).

Domain	All regions (n=35)	BC/YT (n=8)	SK (n=4)	MB (n=3)	ON (n=12)	QC (n=4)	Atlantic (n=4)
Trauma- and violence-aware care (TVAC)	7.5 (1.3–10.0) ^a	10.0 (5.0–10.0) ^k	10.0 (8.8–10.0) ^r	10.0 (10.0–10.0) ^t	5.0 (0.0–10.0) ^x	5.0 (3.8–6.3)	0.0 (0.0–2.5) ^{ah}
Person-centred care	6.7 (5.0–10.0) ^b	5.8 (3.3–10.0)	10.0 (7.2–10.0)	10.0 (10.0–10.0)	6.7 (5.0–10.0) ^y	6.7 (2.5–10.0)	6.7 (5.0–8.8)
HIV care	9.3 (8.7–9.9) ^c	9.6 (8.6–9.9) ^l	9.6 (8.6–9.9)	9.1 (8.8–9.4)	9.4 (9.1–9.9) ^z	9.1 (8.2–9.8)	8.9 (8.4–9.2)

Women's health care	7.5 (6.3–8.8) ^d	7.9 (7.0–8.5) ^m	8.1 (7.2–9.0)	6.7 (6.0–7.3) ^u	7.1 (6.0–9.6) ^{aa}	7.9 (7.7–8.0)	5.2 (3.8–6.3) ^{ai}
Sexual health care	9.0 (7.0–10.0) ^e	8.9 (6.9–10.0) ⁿ	8.5 (8.0–9.3)	10.0 (9.5–10.0) ^v	9.0 (6.8–9.3) ^{ab}	8.5 (8.0–9.3)	5.5 (4.8–6.3)
Reproductive/ pregnancy care	6.3 (5.0–7.5) ^f	5.0 (3.8–6.3) ^o	6.9 (5.9–8.1)	5.0 (5.0–5.6)	7.5 (5.6–8.8) ^{ac}	6.9 (5.9–8.1)	2.5 (0.0–5.3)
Midlife care	8.3 (5.4–10.0) ^g	10.0 (9.6–10.0) ^p	8.3 (7.5–8.8)	0.0 (0.0–4.2) ^w	8.3 (5.0–10.0) ^{ad}	8.3 (6.7–8.8)	6.7 (5.8–7.5) ^{aj}
Mental health and addiction care	6.7 (5.0–8.3) ^h	5.0 (3.3–8.3)	6.7 (6.7–7.5)	8.3 (7.5–8.3)	6.7 (5.8–7.5) ^{ae}	8.3 (5.8–10.0)	5.8 (5.0–6.7)
Mental health care	7.5 (5.0–9.4) ⁱ	5.0 (2.5–8.1)	6.3 (5.0–8.1)	7.5 (7.5–7.5)	7.5 (5.0–8.8) ^{af}	10.0 (8.1–10.0)	6.3 (5.0–7.5)
Addiction care	5.0 (5.0–10.0)	5.0 (3.8–10.0)	10.0 (8.8–10.0)	10.0 (7.5–10.0)	5.0 (5.0–5.0)	7.5 (3.8–10.0)	5.0 (5.0–5.0)
Peer support, leadership, and capacity building	2.1 (0.0–5.0) ^j	1.3 (0.0–6.6) ^q	0.0 (0.0–0.8) ^s	3.8 (1.9–4.4)	3.8 (1.9–6.6) ^{ag}	1.3 (0.0–2.8)	0.0 (0.0–0.3)

Missing: ^an=1 ^dn=2 ^fn=2 ^gn=1 ^hn=1 ⁱn=1 ^jn=1 ^mn=1 ^on=1 ^sn=1 ^{aa}n=1 ^{ac}n=1 ^{ad}n=1 ^{ae}n=1 ^{af}n=1 ^{ah}n=1

Adapted score calculation due to missing data or responding "don't know": ^an=6 ^bn=1 ^cn=5 ^dn=6 ^en=6 ^gn=4 ^kn=2
^ln=2 ^mn=2 ⁿn=3 ^pn=1 ^qn=1 ^rn=1 ^sn=1 ^tn=2 ^un=1 ^vn=1 ^wn=1 ^xn=1 ^yn=1 ^zn=2 ^{aa}n=2 ^{ab}n=2 ^{ad}n=1 ^{ai}n=1 ^{aj}n=1

Abbreviations: BC = British Columbia; YT = Yukon Territories; SK = Saskatchewan; MB = Manitoba; ON = Ontario; QB = Quebec.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #65

Correlates of PrEP Willingness to inform PrEP Candidacy among People Who Inject Drugs: Results from a Canadian Urban Cohort

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Despite high HIV incidence estimates relative to other key populations in Canada, research on HIV preexposure prophylaxis (PrEP) has consistently overlooked people who inject drugs (PWID). As a result, PrEP is underused in this population and PWID rarely claim candidacy to this prevention method. While studies show willingness to use PrEP among PWID, what drives this interest is unclear.

Secondary analyses of data collected between 2016 and 2022 in HEPCO, a community-based open cohort of PWID. Bivariate analyses were conducted to examine associations between willingness to use PrEP and variables selected from a candidacy conceptual model: health services use, competing health needs, substance and sexual risk behaviors, and calculated ARCH-IDU (HIV risk validated score). Multivariate logistic regression models were elaborated to examine the association between PrEP willingness and high ARCH-IDU (>45), adjusting for (i) sex and (ii) contextual factors (e.g. housing status).

Of 466 individuals (82.4% males, Med = 42 years), 47.8% (221) were willing to use PrEP. Most had competing health needs, including psychological distress in 53.4% (249). Willingness to use PrEP was not associated with healthcare utilization, measured by medical and ER visits. Among HIV risk factors, cocaine injection was associated with willingness to use PrEP ($X^2=4.596$, p -value=0.032). A high ARCH-IDU score was also associated with this outcome ($X^2=4.678$, p -value=0.031). In the multivariate model, high ARCH-IDU predicted increased likelihood of PrEP willingness, but fell short of statistical significance (1.42, CI 95%=0.97;2.07).

Almost half of PWID were willing to use PrEP. Absence of association between healthcare utilization and PrEP willingness could reflect missed opportunities for PrEP counselling. Of all individual HIV risk factors examined, only cocaine injection was correlated with willingness. A validated tool like ARCH-IDU, could be useful in clinical settings to initiate PrEP discussion, as it might capture unmeasured factors associated with willingness to use PrEP.

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Abstract #226

W-PREV: Adapting the Women-Centred HIV Care Model for Women's HIV/STBBI Prevention

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Background: Women face significant sexual and reproductive health (SRH)-related challenges, which are often overlooked, hindering their access to care. We aim to reorient and improve SRH care for women by prioritizing their lived/living experiences and collaborate with stakeholders to develop a women-centred, holistic HIV/STBBI prevention program.

Methods: To adapt the Women-Centred HIV Care (WCHC) Model to W-PREV, a model for women's HIV/STBBI prevention, we conducted a rapid scoping review to identify successful SRH programs for women and held stakeholder consultations to assess prevention needs. We used Arksey and O'Malley's method for the scoping review, with three team members screening articles. Consultations, both in-person and virtual, involved diverse participants and were recorded with consent, followed by rapid analysis.

Results: Rapid Scoping Review - We identified 107 relevant articles from the past 15 years, reviewing 25. Three themes emerged: (1) normalizing non-judgmental sexual health care reduces women's fear of discussing sexual health with providers; (2) providing SRH information and personal care items in non-clinical settings can connect key populations to resources; (3) engaging key influencers in SRH discussions can reduce community stigma. Stakeholder Consultations - We held 42 consultations with diverse individuals (women, clinicians, service providers, public health officials, community leaders) in Ontario and Saskatchewan between August and October 2024. Key findings included: (1) structural challenges like housing insecurity and lack of mental health care significantly impact SRH; (2) community connection is vital for women and healing; (3) education in community-spaces can facilitate SRH discussions; (4) SRH concerns are interconnected with HIV/STBBI risk; (5) sustainability is crucial.

Conclusions: These insights emphasize the need for a multi-level approach in developing W-PREV. The formative activities for W-PREV highlighted the importance of integrated HIV/STBBI prevention care that addresses women's structural, social, and clinical needs, recognizing competing priorities and promoting holistic prevention strategies.

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Abstract #282

nPEP to PrEP Cascade Improvement

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Individuals accessing non-occupational PEP (nPEP) for sexual exposure often have clear indications for ongoing HIV prevention with PrEP. Previous research has examined uptake of PrEP in the period after a course of nPEP(1). We reviewed three years of data to measure the impact of same-day nPEP with same-site PrEP initiation among gay, bisexual, and other men who have sex with men (gbMSM) in Ontario utilizing a nurse-led model of care, and characterize the steps of the nPEP to PrEP cascade.

Materials and Methods:

Individuals at HQ clinic not on PrEP were included. nPEP eligibility and identification were determined using a risk assessment tool. Participants underwent HIV testing at baseline and were scheduled a one-month appointment. Primary endpoint was the proportion of eligible nPEP users who began PrEP after completing treatment. To assess differences in our PrEP conversion rate, we established a performance threshold for the current study. We defined our performance criterion using the 99th percentile CI based on the PrEP conversion rate from L'Actuel clinic in Montreal (1).

Results:

Since July 2022, 1090 individuals requested nPEP. 49 more individuals were assessed for nPEP during the visit. Of those assessed (1139), 205 were found ineligible for nPEP and 7 were positive for HIV at initial screening. 850 individuals were started on nPEP (n=850) and 545 (64%) returned for a one-month follow-up. Of those, 366 individuals converted from nPEP to PrEP. Overall, 459 started within 24 months of initiation. Based on data from L'Actuel, a conversion rate of 33.5% (31%,36%) was achieved. Our point estimate is 54% (49.5%,58.4%) conversion rate, which is statistically significantly higher.

Conclusions:

The model of care of same-site nPEP and PrEP initiation in our nurse-led clinic significantly streamlines the nPEP to PrEP cascade.

References:

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Abstract #75

“We have the tools”: Health System Stakeholders’ Perspectives on Implementation of Injectable Cabotegravir as HIV-PrEP among Two-Spirit, Gay, Bisexual, Queer, and other Men who have Sex with Men in Canada

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Background: Long-acting injectable cabotegravir (CAB-LA) was recently approved as HIV pre-exposure prophylaxis (PrEP) in Canada. To maximize the benefit of CAB-LA PrEP within key populations, including Two-Spirit, gay, bisexual, queer, and other men who have sex with men (2SGBQM), we must understand existing challenges with oral PrEP, adapt PrEP delivery to reduce structural inequities, and proactively address anticipated challenges of CAB-LA PrEP implementation.

Methods: Nine focus groups and ten semi-structured interviews with health system stakeholders (N=37) involved in PrEP provision across Canada were conducted to explore readiness to implement CAB-LA PrEP, resources required for delivery, and potential approaches to maximize access for 2SGBQM. Data were analyzed using reflexive thematic analysis.

Results: Participants emphasized that CAB-LA PrEP could address PrEP inequities for some 2SGBQM who face challenges with oral PrEP access and adherence, including people who travel frequently, experience homelessness, or have limited privacy. Implementation of CAB-LA PrEP in rural communities via pharmacies and among people experiencing homelessness via mobile delivery were highlighted as novel approaches to challenge inequities. Some participants had experience administering long-acting HIV treatment and reported readiness to implement CAB-LA PrEP, while others raised logistical barriers to implementation, including staffing and space requirements for administration and follow-up, discrepancies between STBBI testing and CAB-LA PrEP dosing frequencies, and providers' inexperience administering gluteal injections. Participants highlighted structural barriers to implementation, including drug cost and provider reimbursement challenges, scope of practice limitations which restrict who can administer injections, and resistance from government stakeholders to adapt and expand PrEP delivery.

Conclusion: CAB-LA PrEP implementation requires learning from existing oral PrEP inequities while adapting PrEP delivery models to meet community needs and address feasibility constraints. Clear guidelines and decision-making tools, innovative approaches to delivery, and additional space and staffing resources are essential for ensuring CAB-LA PrEP works for providers and patients.

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Abstract #30

Improving HIV PEP Access in Emergency Medicine Departments in Saskatoon, Saskatchewan: A Continuing Medical Education (CME) Pilot Project

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Background: Missed opportunities to prescribe HIV post-exposure prophylaxis (PEP) within the required 72 hours by physicians in emergency departments (ED) can occur due to restricted access to antiretroviral medications and lack of knowledge on the use of PEP for HIV prevention.

Description: In April 2023, 1-year CME pilot project was launched in partnership with the Saskatoon ER Sexual Assault Response Team (SART), Saskatoon Infectious Disease Division, and University of Saskatchewan Division of CME. Project goals were to: 1) increase patient access to HIV PEP, 2) reduce ID Specialist consultations for HIV PEP, 3) increase capacity of ED physicians to independently prescribe HIV PEP, and 4) enroll ED physicians as Designated ARV Prescribers to ensure patient HIV PEP cost coverage under Saskatchewan Drug Plan (required until April 2024).

Methods: A live presentation on HIV PEP was delivered by an ID Specialist. The education highlighted when HIV PEP should be prescribed and encouraged consultations with ID as needed. The slide deck was distributed for additional self-review, and instructions on how to become a Designated ARV Prescriber were provided to Saskatoon ED and SART physicians. Enrolment as a Designated ARV Prescriber and learner satisfaction with the pilot project were tracked.

Results: Between April 1, 2023, and April 1, 2024, 32 ED physicians in Saskatoon were enrolled as Designated ARV Prescribers. Additional EDs in Saskatchewan expressed interest in receiving the education.

Conclusion: Strong interest in HIV PEP education led to expanding the pilot project beyond Saskatoon. A provincial HIV PEP education group was created and an online HIV PEP CME course for Saskatchewan ED healthcare providers is being developed, complementing new changes to HIV PEP kits and provincial guidelines. A retrospective chart review of HIV PEP prescribing practices within Saskatoon EDs will be pursued to assess the impact of the HIV PEP pilot project.

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Abstract #308

Incidence of Reduced Renal Function and Associated Characteristics Amongst British Columbia's HIV Pre-Exposure Prophylaxis (PrEP) Program Participants on Emtricitabine-Tenofovir DF (FTC-TDF)

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HIV PrEP with FTC-TDF has been publicly funded in British Columbia since 2018. We quantified the extent of reduced renal function and determined associated characteristics in PrEP program participants.

Methods:

Participants with ≥1 FTC-TDF prescription(s) dispensed between 1-Jan-2018 and 31-Dec-2023, with ≥1 follow up eGFR ≥7 days after first dispense were included (study follow-up to 30-Jun-2024). Baseline participant and clinical characteristics are described and stratified by those with and without decreased renal function (≥2 consecutive follow-up eGFR <60mL/min, ≥30-days apart). Between group comparisons were made using Fisher's exact and Wilcoxon's rank sum tests. Multivariate analysis was performed to determine adjusted hazard ratios (aHR), identifying key characteristics associated with time to reduced renal function.

Results:

Overall, 10,078 participants were included, with median (Q1-Q3) follow-up of 1.9 (0.7-3.9) years. Median eGFR testing rate was 3.4 (2.1-4.5) per person year (PY). 146 (1.4%) had reduced renal function (rate: 6.2 per 1000 PY). Baseline characteristics varied between groups (Table). Several variables were associated with time to reduced renal function: age at enrolment ≥50 years (aHR 5.34[95% CI, 3.65, 7.82] p=0.001)(Reference: <50), baseline eGFR <60mL/min, (aHR 190[95% CI, 73, 490]p<0.001), baseline eGFR 60-89mL/min (aHR 27[95% CI, 12, 58] p<0.001)(Reference: ≥90), and higher proportion of days covered by PrEP medication (PDC)(aHR 1.01[95% CI, 1, 1.01] p=0.014).

Conclusions:

Reduced renal function was infrequent with FTC-TDF PrEP. Participants aged ≥50, those with lower baseline eGFR, and those with higher PDC were disproportionately affected. Quarterly renal testing may be reconsidered for those at low risk of renal impairment.

Supporting Document

Table: Participant characteristics: bivariate results			
Variable	eGFR below 60mL/min at least twice consecutively (≥30 days apart)		
	Yes (N=146)	No (N=9932)	P-value
Age at first approval (years) (%)			<0.001
<30	5 (3)	3867 (39)	
30-39	11 (8)	3539 (36)	
40-49	22 (15)	1291 (13)	
≥50	108 (74)	1235 (12)	
Gender identity at first approval*, n (%)			0.59
Cis-Man	141(97)	9587 (97)	
Cis-Woman	<5 (<5)	69 (1)	
Trans-Woman	<5 (<5)	150 (2)	
Trans-Man	0 (0)	45 (0)	

Other	0 (0)	68 (1)	
Participants' residence at first approval*, n (%)			0.018
Vancouver	76 (52)	5401 (54)	
Greater Vancouver	27 (18)	2483 (25)	
Outside of Greater Vancouver	42 (29)	1965 (20)	
eGFR Result at baseline (mL/min), n (%)			<0.001
<60	13 (9)	19 (0)	
60-89	126 (86)	2231 (22)	
≥90	7 (5)	7682 (77)	
PDC, Median (Q1-Q3)^a			0.743
	84.4 (61.7-95.5)	81.4 (50.6-97.4)	

**Individuals of unknown status excluded from table and analysis*

^aPDC Calculation: Estimated maximum proportion of days covered by PrEP medication. Total number of pills dispensed from first dispense to the end of follow-up divided by the client follow-up time in days x 100.

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Abstract #288

Gaps and Solutions for Educating and Engaging Providers in Delivering HIV PrEP to Cisgender Women: A Scoping Review

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Background: There is an underutilization of HIV pre-exposure prophylaxis (PrEP) among Canadian women. We conducted a scoping review to identify provider-level educational needs, curricula, or interventions for prescribing PrEP to women.

Methods: We searched 4 databases (PubMed, CINAHL Plus, SCOPUS, Web of Science) (2012 – 03SEPT2024), using MESH terms related to HIV PrEP, women, education, teaching, and curricula. We excluded: grey literature, dissertations, non-English articles, clinical-only studies, or articles on training only Infectious Diseases providers. We performed data extraction guided by the Arksey & O'Malley scoping review framework.

Results: We included 32 articles (identified 2888 articles, removed 1296 duplicates, excluded 1473 via title and abstract screening, excluded 88 via full-text screening, and added one companion article). Eight studies were from Africa, 23 from the USA, and 1 from Australia. Twenty of 32 articles were interventional (3 protocols), and 12 were non-interventional. Seven articles focused on PrEP for adolescent girls and young women. Twelve studies discussed unique educational interventions (audio/video recordings, lectures, expert training, case-based scenarios, role-playing, standardized patients, problem-solving workshops, education on counseling/motivational interviewing, animation storyboards, shadowing). Eight studies highlighted decision-support tools (contacting PrEP experts, Extension for Community Healthcare Outcomes, on-site/technical support, templates, electronic prompts, "smart-phrases," coaching, and provider feedback). Nine studies identified provider challenges (misconceptions, knowledge gaps, discussing topics such as sex work and intimate partner violence) and training needs (cultural competency, flow diagrams for prescribing/monitoring, and ongoing training). Sixteen studies emphasized the integration of PrEP with other services (family planning, contraception, perinatal care, harm reduction, and sexual health care).

Discussion: There is a rich diversity of provider-level educational interventions for PrEP delivery to women, often harmonized with existing services but in limited geographic locations. Provider support should include algorithms and could form the basis of a Canadian implementation trial for HIV PrEP for women.

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Abstract #273

Baseline Social Support, Psychological Distress, and HIV-Related Stigma Among ART-Experienced Migrant Adults Living with HIV Switched to B/F/TAF in Montreal, Canada – the ASAP-Switch Study

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Background: In Canada, many migrant people with HIV (MWH) are referred for HIV care with limited known clinical history and antiretroviral treatments (ART) that can be renewed locally, while facing important psychosocial challenges. We evaluated the degree of social support, psychosocial distress, and HIV-related stigma among MWH enrolled in a cohort testing the feasibility of free-of-charge ART switch.

Methods: In May 2024, we initiated a 52-week prospective cohort at a hospital-based clinic in Montreal (Canada) – Antiretroviral Speed Access Program Switch Study (ASAP-Switch). ART-experienced MWH recently arrived in Quebec (<2 years) were switched to Bictegravir/Emtricitabine/Tenofovir-Alafenamide (B/F/TAF) free-of-charge. We measured social support with the 8-item Medical Outcomes Study Social Support Survey (MOS-SSS), with higher scores on an averaged 0–100 scale indicating better support. The 6-item Kessler Psychosocial Distress Scale (K6) was used to assess absence (0-18) or presence (9-30) of serious mental illness. HIV-related stigma was measured using the 6-point AIDS-Related Stigma Scale, with higher scores indicating greater internalized stigma. We computed descriptive statistics of socio-demographic and psychosocial variables collected at baseline.

Results: As of December 2024, 20/50(40%) participants have been recruited, prescribed B/F/TAF in a median (m) of 6 days from first clinic visit (Interquartile range [IQR]=0-19), and completed at least 4/72 weeks of follow-up. Among these, 17/20(85%) are active participants (3 withdrawals); 9/17(53%) are female; 13/17(76%) are aged <50 years; and 10/17(59%) are heterosexual. At baseline, concerning social support, mean score on the MOS-SSS was 31 (Standard Deviation=14.2). Most participants did not meet criteria for serious mental illness on the K6 scale (m=10; IQR=6-14) and the HIV-related stigma mean score was 2/6 (IQR=1-3).

Conclusion: Psychological distress and stigma were low in 17 MWH rapidly switched to B/F/TAF, despite limited social support. Monitoring these indicators along the HIV care cascade and offering mental health interventions could improve their care.

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Abstract #76

Disability and Associations with Intrinsic and Extrinsic Contextual Factors among Adults Living with HIV: Findings from the HIV in Motion and Episodic Disability Questionnaire Studies

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PURPOSE: To assess associations between dimensions of disability and contextual factors (intrinsic and extrinsic) among adults living with HIV.

METHODS: We conducted a cross-sectional study using data from the HIV in Motion (n=231) and Episodic Disability Questionnaire (n=359) studies with adults in Canada, Ireland, United States and United Kingdom. Participants completed the Episodic Disability Questionnaire (EDQ)(6 domains: physical, cognitive, mental-emotional health challenges, difficulties with day-to-day activities, uncertainty, and challenges to social inclusion) and questionnaires assessing intrinsic contextual factors (concurrent health conditions (pain, mental health), engagement in exercise, and 51 living strategies), and extrinsic contextual factors (Social Support Scale, HIV Stigma Scale). We conducted regression analyses using EDQ domain scores and contextual factors (predictor variables) to examine associations between disability and contextual factors. Standardized regression coefficients of >0.2-0.49 were classified as moderate and ≥ 0.5 as strong.

RESULTS: Of the 590 participants, the majority were from Canada(53%), men(78%), and taking antiretroviral therapy(98%). Living with pain (standardized coefficient range:0.24-0.51) or a mental health condition (0.29-0.47) was associated with greater disability scores, whereas social support (coefficient range:-0.24 to -0.42), and engagement in aerobic (-0.16 to -0.28) or strength (-0.14 to -0.19) exercise was associated with lower disability scores. Stigma was associated with higher disability scores. Living strategies associated with lower disability scores included: maintaining control over life(11 strategies), positive attitudes and beliefs(5 strategies) and engaging in social interaction(1 strategy). Living strategies associated with higher disability scores included: smoking cigarettes, feelings of hopelessness, blocking HIV from the mind, and isolating self from others(8 strategies). Age and gender were not associated with disability scores.

CONCLUSIONS: Modifiable contextual factors including social support, stigma, engagement in exercise, living strategies, and living with pain or mental health condition demonstrated associations with disability. Findings suggest areas to target rehabilitation interventions to mitigate disability and enhance health outcomes for adults with HIV.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #87

Assessment of Pharmacist Staffing in HIV and Viral Hepatitis Clinics Across Canada

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Background: Pharmacists play a vital role in the care of people living with HIV and viral hepatitis. However, pharmacist staffing across Canada remains poorly characterized. This project assessed Canadian pharmacist staffing in HIV and viral hepatitis care.

Methods: A survey was distributed to members of the Canadian HIV and Viral Hepatitis Pharmacists Network to collect data on pharmacist full-time equivalents (FTEs) and activities. An active outpatient was defined as a person with at ≥ 1 clinic visit in the last two years. A pharmacist with expertise was defined as someone with significant experience or advanced training. Participation was voluntary, and respondents consented to data presentation. Descriptive statistics are presented.

Results: A total of 19 responses were received from 7 provinces. All centres treated adults, 9 cared for neonates receiving vertical transmission prophylaxis, and 6 provided care to pediatric patients. The median number of FTEs per site was 1.0 (IQR 1-1.8). Clinics reported a median of 3,048 clinic visits annually (IQR 1,878 – 4,950) and a median of 1,280 active patients (IQR 542 – 1,763). The median number of active patients per FTE was 939 (IQR 460 – 1,477; range 230-2288), and the median number of annual clinic visits per FTE was 2,267 (IQR 1,878 – 3,173). Pharmacists dedicated 69% of their time to pharmaceutical care, followed by drug distribution (15%), teaching (7%), management (5%), and research (4%). Expert pharmacists provided direct care to all or most people living with HIV and viral hepatitis in 79% (15/19) and 17% (3/18) of the centres, respectively. Pharmacists' engagement in HIV prevention care was minimal, with only 1 centre providing care to a significant proportion of patients on PrEP.

Conclusions: Pharmacist staffing and involvement with various patient populations varied significantly across Canada. These findings may support clinics to advocate for increased pharmacist resources.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #325

Changes in Drug Use Behaviors Before and During Imprisonment in Quebec provincial prisons

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Introduction:

People in prison are a key population for hepatitis C virus (HCV) and HIV elimination efforts. While injection drug use (IDU) is the primary risk factor for HIV/HCV acquisition in prisons, non-injection drug use (nIDU), through sniffing/snorting, also poses a risk due to limited access to prison-based harm reduction services. We aimed to assess changes in drug use behaviors and associated risk factors before and during imprisonment among adult men incarcerated at l'Établissement de Détention de Montréal, Quebec's largest provincial prison.

Method:

Participants serving sentences of 2-12 weeks were recruited using convenience sampling. Participants underwent point-of-care HCV-antibody testing and completed a baseline questionnaire assessing drug use patterns both pre-incarceration and in-prison, including IDU and nIDU practices. The McNemar test was used to compare pre-prison and in-prison risk behaviors. Logistic regression analysis examined associations between age, race/ethnicity, prior drug use, mental health diagnosis, or participation in opioid substitution program and the likelihood of continued drug use during imprisonment

Results:

Between March 1, 2022, and February 16, 2024, 538 participants were recruited, 427 (79%) of whom reported a history of drug use. Pre-incarceration IDU or sniffing/snorting was reported by 350(65%) participants. A total of 117 individuals (22%) reported IDU or sniffing/snorting both before and during incarceration, among whom 33 (6%) ceased drug use after incarceration, and 77(14%) continued. One participant initiated drug use during incarceration. The McNemar test showed a significant decline in drug use post-incarceration (67%) compared to pre-incarceration(94%).The logistic regression analysis showed no significant association between continued drug use in prison and its covariates ($p>0.05$)

Conclusion:

While IDU and nIDU decreased following incarceration, a significant proportion of people in prison continue to engage in high-risk behaviours, underscoring the importance of scaling up harm reduction services, including opioid agonist therapies and prison-based needle and syringe programs, in Canadian provincial prisons.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #71

Disability and Engagement in Physical Activity among Adults Living with HIV: A Structural Equation Model Using the Episodic Disability Questionnaire

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PURPOSE: To describe relationships between dimensions of disability among adults living with HIV and the influence of engagement in physical activity.

METHODS: We used structural equation modeling to determine relationships between dimensions of disability as measured in the Episodic Disability Questionnaire (EDQ): i) physical, ii) cognitive, iii) mental-emotional health challenges, iv) difficulties with day-to-day activities, v) uncertainty, and vi) challenges to social inclusion. We used data from the HIV in Motion and EDQ studies, involving adults in Canada, Ireland, United States and United Kingdom who completed the EDQ and reported whether they met the Canadian Physical Activity (PA) Guidelines (≥ 150 minutes of moderate to vigorous aerobic physical activity in the past week). We conducted a confirmatory factor analysis with EDQ domain scores representing disability dimensions, and established a structural model to assess relationships between disability dimensions for exercisers (met PA guidelines) versus non-exercisers. Model fit was evaluated using Root Mean Square Error of Approximation (RMSEA <0.05). We classified standardized path coefficients $>0.2-0.5$ as moderate and >0.5 a strong effect.

RESULTS: Of the 590 participants, most were from Canada (53%), men (78%), and had not met PA guidelines (59%). The measurement model had good overall fit (RMSEA=0.046). Physical health challenges strongly predicted difficulties with day-to-day activities (path coefficient:0.54) and moderately predicted uncertainty (0.36). Uncertainty moderately predicted mental-emotional health challenges (0.49) and social inclusion challenges (0.21). Uncertainty had the largest indirect influence on social inclusion through mental-emotional health challenges (0.49*0.45:0.22). Exercisers had lower disability scores for all domains. Compared with non-exercisers, exercisers demonstrated a stronger relationship between cognitive challenges and day-to-day activities (0.31 versus 0.11) and weaker relationship between physical challenges and uncertainty (0.22 versus 0.44).

CONCLUSIONS: Uncertainty is a key dimension of disability experienced by adults living with HIV, predicting mental-emotional health and social inclusion. Exercise moderated disability experiences, highlighting areas for rehabilitation to mitigate disability and enhance health outcomes.

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Abstract #253

Assessing ChatGPT's Capability in Understanding and Reporting Antiretroviral Therapy Drug Interaction Effects: the ACCURATE-DDI Study

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Background:

Artificial intelligence platforms, such as ChatGPT, are transforming access to medication information. However, their ability to accurately identify antiretroviral (ARV) drug-drug interactions (DDIs) remains unclear. This study evaluates ChatGPT's analysis of ARV-related DDIs compared to established HIV-specific DDI tools.

Methods:

Using ChatGPT4o-mini in November 2024, we tested 94 ARV DDI pairs. We asked ChatGPT to classify each interaction as "no interaction," "potential interaction," or "serious interaction." We calculated accuracy, sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV), using the HIV/HCV Drug Therapy Guide and the University of Liverpool HIV Drug Interactions Checker as the correct classification. A subset of 25 pairs was qualitatively analyzed for responses to the query, "Can I take Drug A with Drug B?" Severity, mechanism, clinical effects, and management were scored (0 = incorrect, 1 = mixed, 2 = correct), yielding a composite score (maximum = 8). Responses were independently assessed by HIV-specialized pharmacist/pharmacologist reviewers; score discrepancies of 2+ between two reviewers were resolved by consensus involving a third reviewer.

Results:

ChatGPT correctly classified 40.4% (38/94) of DDI pairs, with errors primarily due to false negatives (34/56 errors; 60.7%). Sensitivity was 46.0%, specificity 29.0%, PPV 56.9%, and NPV 20.9%. The mean composite score was 3.9/8. ChatGPT was better able to categorize the severity of potential DDIs (1.6/2), compared to mechanism (0.7/2), clinical effects (0.9/2), and management (1/2). ChatGPT showed limited accuracy in identifying severity of serious DDIs (0.4/2), despite often correctly identifying mechanism (1.4/2) and clinical effects (1.6/2). Serious DDI management was often incorrect (0.9/2). ChatGPT performed poorly when assessing ritonavir DDIs involving mechanism other than CYP3A4 inhibition.

Conclusion:

ChatGPT demonstrated limited accuracy and specificity, often generating responses that combined correct and incorrect information. Notably, ChatGPT demonstrated a high rate of false negative classifications, frequently underreporting the severity of serious DDIs.

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Abstract #143

Initiation of Opioid Agonist Therapy Within Seven Days Following a Nonfatal Opioid Poisoning Among People Living with HIV in British Columbia

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Background

There's a high rate of opioid poisonings among people living with HIV (PLWH) in British Columbia (BC). We assessed whether, among PLWH, sex was associated with opioid agonist therapy (OAT) dispensation within seven days of discharge following an opioid poisoning-related healthcare encounter.

Methods

Among PLWH aged ≥ 19 years in BC, we identified first (index) nonfatal opioid poisoning events that resulted in an emergency department visit, hospitalization, or a healthcare practitioner encounter between 2012-2020 using diagnostic codes. We ascertained OAT from prescription dispensations. We used Kaplan-Meier and log-rank test to compare time to first OAT dispensation by sex, Chi-squared test to assess the association between sex and OAT dispensation within seven days post-event, and logistic regression to adjust for potential confounders.

Results

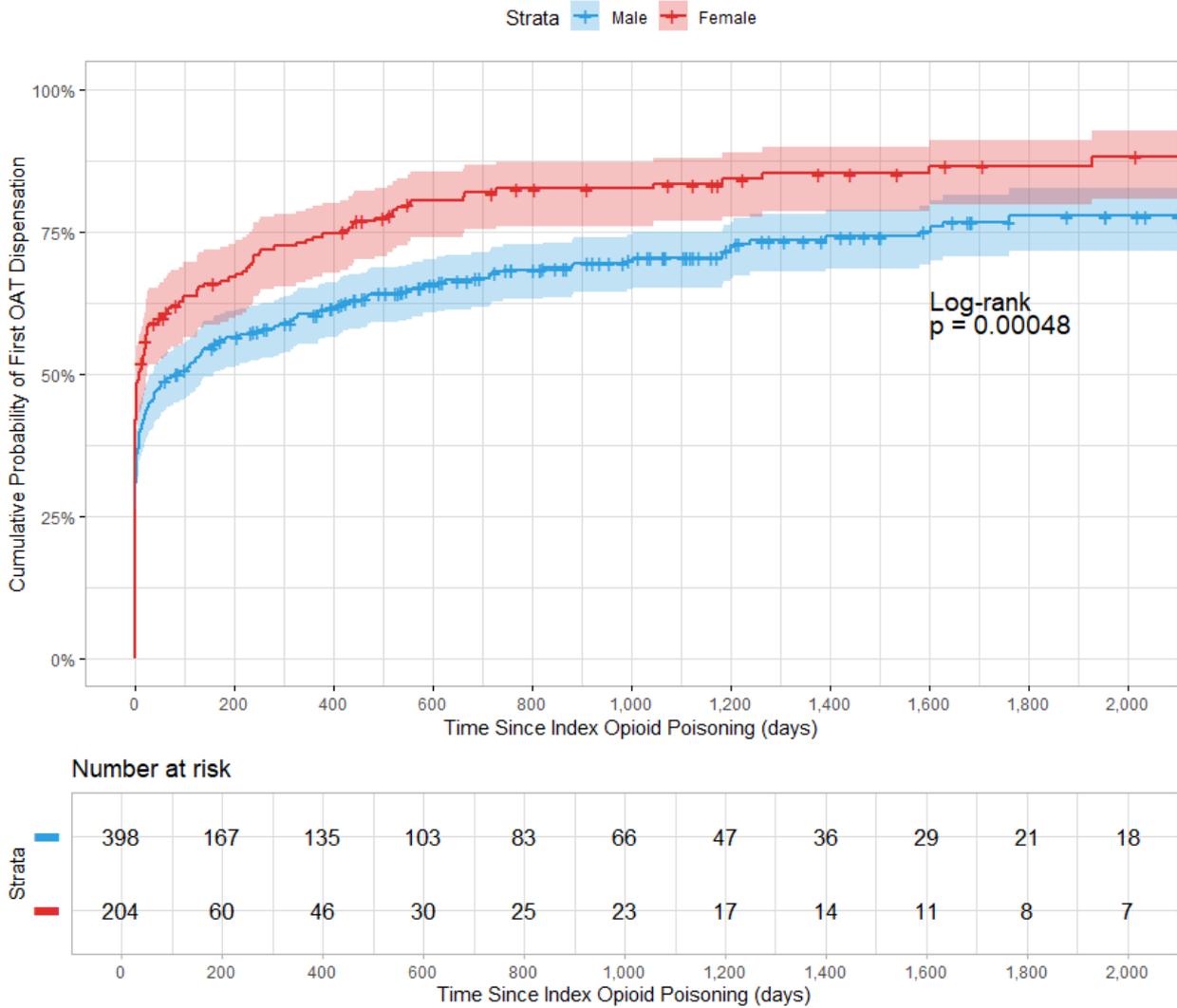
Among 11,040 PLWH, we identified 602 index opioid poisonings (204 females). Eighty-two percent of females and 71% of males received OAT at least once post-event; median time to first OAT dispensation was one day (Q1-Q3, 0-73) among 167 females and four days (0-130) among 282 males (Figure 1). Forty-eight percent of females and 35% of males received a first post-event OAT dispensation within seven days, $p=0.003$. Adjusting for age, socio-structural, and health-related factors, females had higher odds of OAT initiation within seven days (aOR 2.06, 95% CI 1.37-3.10) compared to males.

Conclusion

Females with HIV were more likely to have an OAT dispensation within seven days following index opioid poisoning. Future analyses will assess whether OAT initiation within seven days is associated with risk for repeat drug poisoning.

Supporting Document

Figure 1. Time to first OAT dispensation (in days) following discharge after an index nonfatal opioid poisoning-related healthcare encounter among males and females with HIV.



Footnote: The x-axis was cut at 2000 days to mask small numbers (<5) at risk.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #238

Acute complications during hospitalized nonfatal overdose are more likely among people with HIV than those without HIV, in British Columbia

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Background:

People with HIV (PWH) have high rates of nonfatal overdoses (NFODs). NFODs are associated with severe acute complications, which can have long-term health consequences. We compared occurrence of acute complications and hospital length of stay (LOS) during hospitalized NFOD among PWH and people without HIV (PWoH) in British Columbia (BC), examining differences by HIV-status and sex.

Methods:

Using linked administrative data of all known PWH and a 10% random sample of PWoH in BC between 2012 and 2020, we identified first (index) hospitalized NFODs in the Discharge Abstract Database (DAD). Respiratory, brain injury, cardiovascular, renal, and neurological acute complications were identified using diagnostic codes, and intensive care unit (ICU) admission and hospital LOS using flags in the DAD. Proportions of acute complications were compared using Chi-squared tests and LOS (in days) using Kruskal-Wallis tests.

Results:

We identified 206 index hospitalized NFODs (85 females) among 11,274 PWH and 1,190 (620 females) among 473,958 PWoH. Overall, 65.5% of PWH and 58.0% of PWoH experienced acute complications ($p=0.0418$). ICU admission was the most common complication (54.4% of PWH, 50.3% of PWoH), followed by intubation (17.0% of PWH, 13.4% of PWoH). Males without HIV were more likely to experience acute complications (63.2%) than females (53.2%) ($p=0.0005$), whereas this did not differ significantly between males and females with HIV. Median hospital LOS did not differ significantly by HIV status (4 days for both PWH [Q1,Q3: 2,11] and PWoH [Q1,Q3: 2,9]).

Conclusions:

In this population-based cohort study, PWH were more likely to experience acute complications during their index hospitalized NFOD than PWoH. While complications were more common among males than females without HIV, no sex differences were observed in PWH. Planned multivariable analyses will adjust for potential confounders in the association between HIV-status and occurrence of acute complications and hospital LOS during a hospitalized NFOD.

Clinical Sciences - Poster Abstracts / Sciences cliniques - Abrégés affiches

Abstract #166

Feasibility of Evaluating Standard THC Units (STU) Across Product Types Among People Living with HIV in Ontario, Canada

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Aims: Canada's legalization of recreational cannabis has resulted in greater product diversification. We need accurate measures of quantity to evaluate risks and benefits, and to provide public health guidance on safer levels of use. We investigated the use of survey data to determine STU across product types.

Methods: We recruited 292 participants of a multi-site clinical HIV cohort, the Ontario HIV Treatment Network Cohort Study, who reported cannabis use in the past year to complete an extensive cannabis questionnaire (August 2022-December 2023). We inquired about use of smoked flower, vaped flower, edibles, beverages, capsules, topicals, vape cartridges, concentrates/extracts, hashish, oil drops, and tinctures. Stratified by product type, we calculated STU for each participant's self-reported use by multiplying amount used by THC content and dividing by 5 mg. We removed outliers using pre-specified cutoff values.

Results: With a mean age of 50 years, most participants were men (84%), White (72%), and used cannabis in the past month (89%). The most consumed products in the past year were smoked flower (68%), edibles (55%), vaped flower (25%), beverages (19%), vaped cartridges (18%), and hashish (17%). Only a portion of participants who indicated use provided information on amount used and THC content to calculate STU, going from 35% for concentrates/extracts to 73% for edibles. STUs were highest for vaped flower (M=276, SD=98), followed by smoked flower reported in grams (M=124, SD=146), hashish (M=86, SD 282), and smoked flower reported in joints (M=60, SD=86). Mean STU ranged broadly across product types and SDs for some products were high.

Conclusions: People with HIV reported a broad range of use across product types. Calculation of STU per product type was feasible using THC content ranges and amounts used in a jurisdiction under federal legalization. Future research should further refine the questionnaire and algorithm to best determine STU.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #18

Trends In Cancer Screening Among People Living with HIV In Ontario, 2017 To 2023: A Population-Based Analysis

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Background

People living with HIV (PLWH) are at higher risk of developing certain cancers, underscoring the importance of timely screening. We examined cancer screening trends among people living with and without HIV in Ontario.

Methods

We conducted a retrospective longitudinal study using linked administrative health databases from April 2017 to October 2023. Outcomes were biannual proportions of screening-eligible adults who were up to date with colorectal (fecal test in the previous two years or a flexible sigmoidoscopy or colonoscopy in the previous ten years), breast (mammogram in the previous two years), and cervical (Papanicolaou test in the previous three years) screenings.

Results

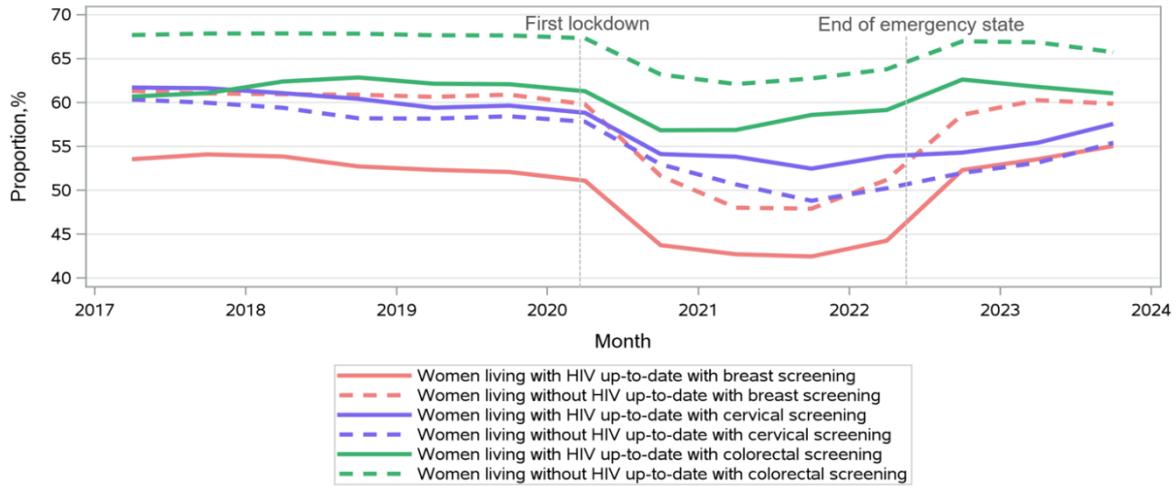
PLWH were disproportionately represented in the lowest-income neighborhoods and urban areas, were immigrants, and had a high comorbidity burden. The proportions of women living with HIV and up to date with breast and colorectal cancer screening were consistently lower compared to women not living with HIV. Men living with HIV were consistently more up to date with colorectal cancer screening. Screening declined during COVID-19 pandemic lockdowns, with the largest drop in breast screening (April 2019 vs. April 2021: 12.6 and 9.6 percentage points for women not living with HIV and living with HIV). This was followed by a slow recovery, though cervical screening remained below pre-pandemic levels.

Conclusions

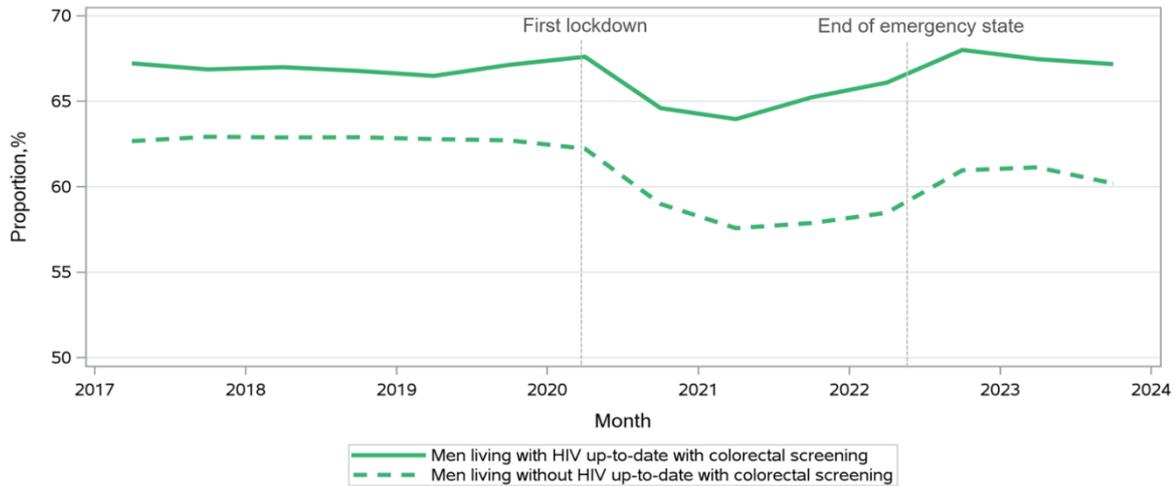
This study highlights persistent disparities in breast and colorectal cancer screening for women living with HIV and the significant disruption to screening programs due to the pandemic. These findings emphasize the need to address barriers to preventive care for PLWH.

Supporting Document

A: Percentage of women living with and without HIV eligible and up to date with breast, cervical, and colorectal cancer screening



B: Percentage of men living with and without HIV eligible and up to date with colorectal cancer screening



**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #179

High coverage of COVID-19 vaccine among people living with HIV suggests successful engagement during the COVID-19 pandemic

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Background: Since 2018, Manitoba has experienced unprecedented rates of HIV and other sexually transmitted and bloodborne infections (STBBI). As HIV/STBBI and COVID-19 share similar healthcare barriers, we investigated whether previous HIV/STBBI exposure was associated with COVID-19 vaccination.

Methods: Retrospective cohort analysis using linkable population-based healthcare databases. Cohorts of individuals alive on March 1st, 2020 and with a positive laboratory test for HIV, syphilis, or chlamydia/gonorrhoea (CT/GC) in the 4 years prior to the pandemic were assembled. COVID-19 vaccination (up to March 31, 2022) was captured using Manitoba's vaccine registry. Poisson regression estimated relative rates (RRs) and 95% confidence intervals (95% CIs) for vaccination by age-group, income quintile (IQ), and geography.

Results: 1,372 individuals testing positive for HIV, 4,527 for syphilis, and 24,414 for CT/GC. Proportion vaccinated with 2+ doses was 82%, 70%, and 76% in the HIV, syphilis, and CT/GC cohorts, respectively. Within the HIV cohort, 2+ doses uptake ranged from 81%-95% from lowest to highest urban IQs (RR_{hi_vs_loIQ}: 1.17, 95% CI: 0.88-1.55). Those in the highest IQ were >20% more likely to have 2+ doses, relative to lowest IQs for syphilis (RR_{hi_vs_loIQ}: 1.24, 95% CI: 1.01-1.54) and CT/GC (RR_{hi_vs_loIQ}: 1.23, 95% CI: 1.15-1.32) cohorts. Vaccination in the HIV cohort was consistent across age-group and geography (Table 1) and similar to the rest of Manitoba.

Conclusion: Vaccination in the HIV cohort was high, and equitable across determinants. Reasons likely include Manitoba having a single provincial HIV program, and its ability to pivot and provide continuity of service during the pandemic.

Supporting Document

Table 1: Relative Rates and 95% Confidence Intervals from Poisson Regression Models Examining the Association between Income Quintile, Geographic Area, and Age Group with 2+ COVID-19 Vaccinations among HIV/STBBI Cohorts, Manitoba, Canada (2020-2022)

	HIV	Syphilis	CT/GC
Income Quintile			
U1 (lowest)	<i>ref</i>	<i>ref</i>	<i>ref</i>
U2	1.06 (0.90-1.28)	0.995 (0.88-1.12)	1.06 (1.00-1.11)
U3	1.03 (0.84-1.27)	1.08 (0.93-1.26)	1.12 (1.06-1.19)
U4	1.04 (0.83-1.30)	1.14 (0.97-1.33)	1.20 (1.13-1.28)
U5 (highest)	1.17 (0.88-1.56)	1.25 (1.01-1.54)	1.23 (1.15-1.32)
Regional Health Authority			
Winnipeg	<i>ref</i>	<i>ref</i>	<i>ref</i>
Interlake	1.02 (0.79-1.31)	1.03 (0.89-1.19)	1.03 (0.98-1.09)
Northern	0.99 (0.75-1.31)	1.28 (1.18-1.38)	1.13 (1.09-1.17)
Prairie Mountain	0.87 (0.66-1.16)	1.15 (0.97-1.35)	0.97 (0.92-1.03)
Southern	0.91 (0.65-1.26)	0.89 (0.74-1.08)	0.90 (0.85-0.96)
Age Group			
<25	<i>ref</i>	<i>ref</i>	<i>ref</i>
25-44	0.93 (0.62-1.39)	1.04 (0.94-1.15)	0.98 (0.95-1.01)
45-59	1.03 (0.69-1.54)	1.19 (1.05-1.35)	1.04 (0.97-1.11)
60+	1.00 (0.66-1.52)	1.26 (1.07-1.48)	1.18 (1.00-1.40)

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #181

Gay, Bisexual, and Other Men Who Have Sex with Men, Particularly Those Living with HIV, Have Higher Rates of Substance Use Disorders and Related Hospitalizations: A Matched Cohort Study

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Introduction: Gay, bisexual, and other men who have sex with men (GBM), especially those living with HIV, may face greater substance-related harms. We compared substance use disorder (SUD) diagnoses, SUD-related hospitalizations, and all-cause mortality between GBM and men from the general population in Vancouver. We also explored the association of HIV status and other factors with these outcomes among GBM.

Methods: We linked 798 consenting participants from two GBM cohorts (Momentum I and II) to administrative health data and matched them (1:5) on age, sex, and health region to 3,990 HIV-negative British Columbia residents. Healthcare practitioner billings and hospitalizations were used to ascertain SUD diagnoses. We used multivariable regression to compare incidence of SUD diagnoses, SUD-related hospitalizations, and all-cause mortality among GBM and their matches, from February 2012 to March 2020. We also examined factors associated with SUD diagnoses and SUD-related hospitalizations among GBM.

Results: Compared to men from the general population, GBM had higher rates of SUD diagnoses (incidence rate ratio [IRR]=2.73; 95% Confidence Interval [CI]=2.00-3.73) and SUD-related hospitalizations (IRR=1.97; 95% CI=1.21-3.20), but similar all-cause mortality (IRR=1.03; 95% CI=0.55-1.91). SUD-related deaths were rare (n=7; all in the control group). Among GBM, living with HIV (adjusted IRR [aIRR]=2.95; 95% CI=1.68-5.17), recent transactional sex (aIRR=3.71; 95% CI=1.88-7.33), and unstable housing (aIRR=2.41; 95% CI=1.09-5.32) were associated with higher rates of SUD diagnoses. Living with HIV (aIRR=3.10; 95% CI=1.46-6.56), recent tobacco use (aIRR=2.42; 95% CI=1.40-4.17), unemployment (aIRR=2.05; 95% CI=1.09-3.86), and unstable housing (aIRR=2.84; 95% CI=1.57-5.11) were linked to higher rates of SUD-related hospitalizations.

Conclusions: GBM experienced higher rates of SUD diagnoses and SUD-related hospitalizations compared with men from the general population. Rates were higher among GBM living with HIV and intersecting inequities. Public health and mental health interventions and policies should respond to this group's unique and overlapping challenges.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #205

Violence, trauma- and violence-informed care and antiretroviral therapy consistency among women living with HIV in Metro Vancouver

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Background/Objective: A trauma- and violence-informed care (TVIC) approach to HIV care has been proposed to improve HIV treatment outcomes but remains understudied, including among women living with HIV. This study examined the association between interpersonal violence and antiretroviral therapy (ART) consistency among women living with HIV in Metro Vancouver and assessed interactions between interpersonal violence and TVIC in HIV care on ART use consistency.

Methods: Data were drawn from the Sexual Health and HIV/AIDS: Women's Longitudinal Needs Assessment (SHAWNA) Project, a longitudinal community-based study with women living with HIV in Metro Vancouver (September/2014-February/2025). Interpersonal violence was defined as any physical, verbal, or sexual violence in the past six months. Outcomes included ART consistency <95% (vs ≥95%), and ART consistency <90% (vs ≥90%), both in past 3-4 weeks. We considered 19 measures of TVIC in women's main HIV clinic/provider (e.g., feeling safe at clinic) as effect modifiers separately. Multivariable generalized linear mixed models (GLMM) and marginal standardization were employed to estimate risk ratios (RR) of ART consistency, adjusting for key confounders. Interaction was assessed on additive (relative excess risk due to interaction) and multiplicative (ratio of RR) scales.

Results: The study sample included 357 women (2,008 observations) between September/14-August/2020. Multivariable GLMM found interpersonal violence was significantly associated with <95% ART consistency (RR:1.68[95%CI:1.27-2.08]) and <90% (RR:1.62 [95%CI:1.13-2.11]). Little evidence of additive or multiplicative interaction effects of interpersonal violence and TVIC on ART use consistency was found.

Conclusion: Interpersonal violence was associated with lower ART use consistency. While TVIC in HIV care did not moderate this relationship in our sample where TVIC prevalence is relatively high in HIV care, TVIC principles (e.g., safe environments, violence screening) remain critical to support women who experience violence in HIV and other healthcare. Anti-violence interventions, programming and policy at systemic, social and structural levels are key priorities.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #56

Gay, Bisexual, and Other Men Who Have Sex With Men Living With HIV or Using Opioids Experience Higher Rates of Incident Psychosis Compared to HIV-Negative Men in The General Population

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Background: Gay, bisexual, and other men who have sex with men (GBM) report higher use of many psychoactive substances which may cause harmful health outcomes. We examined the rates and determinants of incident diagnoses of psychosis among two cohorts of GBM in Metro Vancouver, and compared their rates with matched controls from the general male population.

Methods: We linked consenting participants from the Momentum-I (2012-2019) and Momentum-II (2017-2023) GBM cohorts to administrative health data, and matched them (1:5) on age, sex, and health authority geography to a random HIV-negative sample. Up to March 2020, we calculated psychosis incidence rates based on International Classification of Diseases 9 and 10 codes associated with two physician visits within a year or any hospitalization. We compared incidence rate ratios (IRR) for GBM with their HIV-negative matched controls. Among GBM, we used Poisson regression to identify factors associated with incident psychosis diagnoses.

Results: 798 GBM (median age 35.0 years) were matched to 3990 controls from the general population. The incidence of psychosis was 1.74 per 100 PYRs (95% CI 1.33-2.28) for GBM and 0.64 per 100 PYRs (95% CI 0.53-0.78) for HIV negative controls for an IRR of 2.71 (95% CI 1.95-3.78). Among GBM, we found univariable associations with psychosis and past six-month use of amphetamines ($p=0.005$), sedatives ($p=0.009$), and opioids (<0.001). However, only opioid use was retained to minimize QIC in the multivariable model (adjusted rate ratio [aRR]=2.38; 95% CI 1.09-5.20), along with living with HIV (aRR=3.29; 95% CI 1.72-6.32), unstable housing (aRR=2.49; 1.21-5.09) and symptoms of moderate/severe anxiety (aRR=3.98; 95% CI 2.17-7.32).

Conclusions: The rate of psychosis diagnoses was higher for GBM, and was more common among those living with HIV and with recent opioid use. Culturally appropriate interventions to reduce psychoactive substance use among GBM could help prevent negative mental health outcomes.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

Theme: HIV, comorbidities and other factors / Thème : Le VIH, comorbidités et d'autres facteurs

Abstract #298

Investigating intersectional inequalities of gender, age, and race in cannabis use among Ontarians living with HIV: the Ontario HIV Treatment Network Cohort Study.

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Background: Cannabis use among people living with HIV is common. Our aim was to understand intersectional inequalities related to cannabis use frequency and daily use prevalence by gender, age, and race among Ontarians living with HIV.

Methods: We used cross-sectional data from 5,342 participants of the Ontario HIV Treatment Network Cohort Study, a clinical HIV cohort, to examine the additive interaction effects between gender, age, and race on the frequency of cannabis use per week and the prevalence of daily use in the past month. We included data from participants' first visit between 2008 and 2023 and conducted a Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA) focusing on gender (man, woman, other), age (16-25, 26-50, 51+) and race (white, black, other) resulting in 27 intersecting strata.

Results: The majority of participants were men (76%), 26-50 years old (58%), and white (56%). We found that the 27 strata accounted for 7% and 17% of the inequality in cannabis use frequency and prevalence of daily use, respectively. Most of the explained inequalities are accounted for by the additive effects of gender, age, and race (85% for frequency of cannabis use and 88% for daily use). In other words, there was little evidence of interactions between these variables. Both cannabis use frequency and daily use tend to be higher for men, youth and whites. For example, for daily use: men (OR=1.66, 95%CI 1.10-2.52), age 31-50 (OR=0.51, 95%CI 0.32-0.81), age 51+ (OR=0.45, 95%CI 0.28-0.73), white (OR=1.71, 95%CI 1.10-2.65), black (OR=0.42, 95%CI 0.25-0.70).

Conclusion: The additive effects of gender, age and race on inequalities in cannabis use are predominant. Further research exploring the role of these and other intersecting identities (e.g., sexual orientation, immigration status) and their role in cannabis use prevalence/frequency may help direct interventions to promote healthy cannabis use.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #152

Our Healthbox Program: Implementation and Outcomes from the first 4,000 Participants Accessing Supplies

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Introduction: Our Healthbox (www.ourhealthbox.ca) is a network of interactive dispensing systems hosted by community-based organizations, providing free, low-barrier, anonymous access to HIV self-testing kits, harm reduction supplies, sexual health and other wellness items along with health resources for people to find the care they need. The program launched in January 2023 has 5 Healthboxes in New Brunswick, 4 in Ontario, and 1 in Manitoba and 1 in Alberta.

Methods: We evaluated data for the first 4,000 participants who accessed items and described participant demographics, supplies dispensed and reason for accessing items using data collected from sign-up, dispensing and post-access survey questions between January 23, 2023 and November 30, 2024.

Results: The 11 Healthboxes currently in communities had 25,000+ uses by 4,000 unique participants who accessed 33,000+ items. Overall: 58% participants were male, 76% under 40 years, 46% identified as heterosexual, 62% educated (≥high school), 60% were under-housed, 64% had difficulty paying for basic needs, 67% saw a healthcare provider within the last year and 65% used opioids and stimulants. Supplies accessed: 18,500+ harm reduction items (35% were safe injecting supplies) including 984 naloxone kits/refills, 2,600+ sexual health supplies (including menstrual products) and 11,000+ wellness items. Overall, 503 participants accessed 841 HIVST kits (61% by New Brunswickers); 47% were first-time testers, 13% identified as gay, bisexual or men who have sex with men, 8% as African, Caribbean or Black, 36% as Indigenous, 33% were women and 87% used substances. People connected to care: 14 started pre-exposure prophylaxis, 5 started post-exposure prophylaxis and 2 started HIV treatment. Participants found Our Healthbox acceptable and over 60% felt it helped to reduce stigma around accessing HIV testing.

Conclusion: Our Healthbox program is reaching key populations where they live without judgment, when they need it. We aim to implement 100 machines in communities across Canada.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

**Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en
œuvre et les interventions fondées sur des données probantes**

Abstract #321

**Reaching the Unreached for HIV Self-Testing with I'm Ready: Advancing Access and Health Equity
Across Urban and Rural Canada**

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Background: Facility-based HIV testing in Canada is predominantly available in urban areas, with limited access in rural communities. These inequities are exacerbated by health disparities across key populations affected by HIV. The I'm Ready Program provides access to HIV self-testing across Canada via mail delivery or local pick-up from community agencies. This study evaluated the program's effectiveness in reaching people in urban, rural and remote areas by race and key priority populations.

Methods: I'm Ready reached 11,219 people from June 2021 to October 2024. Rates of testing were examined by population size: in very large urban (>200,000 people), large urban (100,000-199,999), medium (30,000-99,999), small (1,000-29,999) and rural (<1,000) areas. Chi-squared tests ($p < 0.05$) examined rates of first-time testers across race and key populations by the five location sizes.

Results: Most participants (75%) lived in urban areas (>100,000 people) with 25% living in smaller/rural areas. Overall, 34% of participants were first-time testers, varying significantly from 31% in very large urban to 45% in rural areas. High rates of first-time testers were seen across all location sizes for youth, and for cis-women in small/rural areas. There were higher rates of first-time testers for people who identified as Asian or Middle Eastern/North African in very large/large urban areas, but similar rates of all other races (Caucasian, Black and Indigenous) across rural, small, and medium-sized areas. In rural areas, Black and Indigenous populations had higher proportions of first-time testers, while there were lower rates of people who identified as gbMSM and people who use substances.

Conclusion: I'm Ready program was effective at reaching people from all key populations and racial groups across all population sizes. This demonstrates the potential and need for a technology solution to advance health equity across diverse population settings, particularly in underserved small and rural areas with limited testing options.

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Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #154

Nurse-Led and Public Health Unit Linked STI/HIV Testing: Evaluating Online Access to Care via GetaKit.ca

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Background: In 2020, we established the first nurse-led asynchronous online STI/HIV testing platform, known as GetaKit.ca. The site offered clinically-indicated testing for STIs/HIV based on clinical guidelines. Services operated in collaboration with public health agencies, who acted as local ordering providers and facilitated linkage-to-care for persons with positive test results.

Results: Since launching GetaKit.ca in 2020 and adding full STI testing mid-2023, 17 public health units in Ontario (over half of those in the province) now use the platform to offer testing to their residents. This system thus has a population coverage of over 9 million Ontarians (or 9% of all Canadians). Results from the last 12 months (i.e., Jan-Dec 2024) showed high uptake of GetaKit.ca, with >10,000 requests made for STI testing, of whom >80% belonged to an equity denied group. We completed a sub-analysis of data from Ottawa, Canada, which allowed us to evaluate the outcomes of online testing versus all STI/HIV testing done in this city of over 1 million residents. We found that, for GetaKit.ca, 53% of participants were cis-male, 41% cis-female, and 6.3% trans/nonbinary. By ethnicity, 15% were Black, 2.5% Indigenous, and 58% white. 31% identified as men who have sex with men (MSM). For testing, we diagnosed 353 STIs/HIV, yielding positivity rates of 1.5% for gonorrhoea, 3.8% for chlamydia, 1.8% for syphilis, 0.5% for hepatitis C, and 0.2% for HIV. Overall, GetaKit.ca accounted for 5% of all STI/HIV diagnoses in Ottawa in 2024, and 36% of all STI/HIV diagnosis by Ottawa Public Health in that year; notably, 10% of all STI/HIV diagnoses in 2024 among MSM in Ottawa occurred through this platform. Lastly, >28% of users noted this was their first-time undergoing STI/HIV testing.

Interpretation: We take these findings to signal that online asynchronous nurse-led STI/HIV testing platforms can yield beneficial clinical/public health outcomes.

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**Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en
œuvre et les interventions fondées sur des données probantes**

Abstract #159

**A cross-sectional investigational study to evaluate the sensitivity, specificity, and utility of Syphilis
POCT to diagnose syphilis in Ottawa, Ontario.**

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Across Ontario, syphilis rates have increased by 300% in the last decade, prompting demands for advancements in diagnostics and testing accessibility. Currently no Health Canada approved syphilis point-of-care tests (POCTs) can distinguish between active and historical infections, meaning only laboratory methods are used, resulting in syphilis management delays and ongoing transmission. Consequently, we decided to evaluate a complete antibody (TP/nTP) syphilis POCTs in a clinical setting to compare its results to serology, which could allow public health workers to immediately diagnose and treat syphilis.

We are undertaking an 18-month (2024-2025) cross-sectional investigational study at the Sexual Health Clinic in Ottawa, involving 800 participants using the MedMira Multiplo ® device. As part of this study evaluation, we will compare the results of syphilis POCTs to serology, evaluating the sensitivity, specificity, and utility of the POCT.

To the end of 2024, 383 total individuals were approached to participate in the syphilis POCT study with 304 participants enrolled. Of 293 investigative results, we observed 219 non-reactive results (concordance rate of 95% [n=208]) and 74 reactive results (concordance rate of 75% [n=52]). Overall concordance between POCT and serology results was 89%. Among those with reactive syphilis serology results, almost three-quarters (n=53) of participants had results indicative of historical syphilis and one-quarter (n=16) were new infections. Of those with new syphilis infections, 11 participants had infectious syphilis, with 81% (n=9) being diagnosed/treated in clinic based on POCT results and presenting issue. To date, the study has yielded a syphilis positivity rate of 24% for all participants and 5% for participants with new infections.

Our current findings suggest that together with syphilis history and clinical assessment, syphilis POCT can be a useful tool to rule-out syphilis, confirm previous treatment, and guide management of infections – particularly when these devices can distinguish between active and historical infections.

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Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #342

Self-compassion, Mindful Acceptance & Resilience Transformation (SMART): An Evidence-informed Pilot Randomized Trial with Diaspora Middle Eastern and North African Gay, Bisexual, Trans & Gender Diverse Youth in Ontario.

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INTRODUCTION: Middle Eastern and North African (MENA) diaspora gay/bisexual/MSM (GBM) and trans/gender diverse (TGD) youth bear disproportionate burden of STIs & HIV and experience unique mental health challenges. Mindfulness-based training has shown benefits for mental and physical health with other racialized groups. We assessed the feasibility and acceptability of a mindfulness pilot-intervention with MENA GBM and TGD youth in Ontario.

METHOD: We ran a mixed-methods pilot intervention: Self-Compassion, Mindful Acceptance & Resilience Transformation (SMART), an 8-week group-based mindfulness training. Participants (N=40) were randomized (1:1) to receive either SMART intervention immediately (intervention group), or 8 weeks after initial baseline (delayed waitlist control group). Youth attended group mindfulness intervention via video conference for 2 hrs/week for 8 weeks. Online surveys collected quantitative data in pre-and post-intervention, and 3 months post-intervention, with outcome variables/measures: Primary: Feasibility & acceptability. Secondary: Depression, Anxiety and Stress (DASS-21); Self-compassion (SCS-SF). Exploratory: Resilience (ARM-R); Mindfulness (CAMS-R). Focus groups collected qualitative data at 3 months post-intervention.

PRELIMINARY RESULTS: Focus group discussions demonstrated feasibility and acceptability of mindfulness training. P-values for all outcome variables show no statistically significant difference between treatment and control groups at baseline. Depression: $\eta^2=0.0234$, indicating a small effect size, with 2.34% of variance explained by group differences; Cohen's $d=-0.2906$ suggests small negative effect size, with treatment group showing slightly greater reduction than control group. Mindfulness: $\eta^2=0.0409$, a small effect size, explaining 4.09% of variance; Cohen's $d=0.3926$ indicates a small-to-medium effect size in favour of treatment group. Resilience, $\eta^2=0.0651$, reflecting a medium effect size, with 6.51% of variance explained by group differences; $d=0.5$ reflects a medium effect size in favour of treatment group.

CONCLUSION: Results are important for planning a future randomized controlled trial, including estimating effect sizes for sample size calculations, identifying and addressing potential challenges to recruitment and implementation, and refining intervention for cultural relevance.

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Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #254

Sustaining High Coverage of Needle and Syringe Programs is Important to Limit HIV and HCV Incidence Among People Who Inject Drugs in Montréal: a Mathematical Modeling Study

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Background: Needle and syringe programs (NSP) are evidence-based interventions for preventing HIV and hepatitis C virus (HCV) transmission, but are vulnerable to funding cutbacks, especially amid declining incidence. We explored the potential impacts of reduced NSP access on HIV and HCV among people who inject drugs (PWID) in Montréal.

Methods: Using a dynamic model of HIV/HCV co-transmission parameterized and calibrated to surveillance data (2003-2018), we simulated funding reductions by reducing NSP reach (percent PWID accessing NSP), which was stable at 82%, except during the COVID-19 pandemic (reduced to 70%). We modelled scenarios over 2024-2030, where NSP reach declined from 82% (status quo) in 10%-decrements, from 80%-50%, and estimated the impacts on incidence of 1) HIV and 2) chronic HCV (overall and among PWID living with HIV).

Results: Baseline (2024) HIV and chronic HCV incidence per 100 person-years was 1 (95% credible interval [CrI]: 0-2) and 7 (95%CrI: 4-10), respectively. Reducing NSP reach, even to 70%, increased the incidence of both over 2024-2030 (Table). By 2030, the estimated HIV incidence was 7% (95%CrI: 1%-14%) to 19% (95%CrI: 2%-41%) higher than the status quo. Chronic HCV incidence was 5% (95%CrI: 1%-14%) to 15% (95%CrI: 3%-43%) higher among all PWID in 2030, with similar changes among PWID living with HIV.

Conclusions: Our preliminary results suggest that sustaining NSP availability in Montréal remains important to prevent HIV and HCV acquisition, despite low baseline incidence. As entry points for testing, treatment, or opioid agonist therapies, reduced NSP services could further undermine broader harm reduction efforts.

Supporting Document

Table. Simulated HIV and chronic hepatitis C virus outcomes among people who inject drugs in Montréal, Canada in 2030 under different levels of needle and syringe program reach from 2024-2030[†].

NSP reach over 2024-2030	Increase in HIV incidence among all PWID in 2030 (95% CrI) [‡]	Increase in chronic HCV incidence among all PWID in 2030 [‡]	Increase in chronic HCV incidence among PWID living with HIV in 2030 [‡]
80%	1% (0%-2%)	1% (0%-2%)	1% (0%-2%)
70%	7% (1%-14%)	5% (1%-15%)	5% (1%-15%)
60%	13% (1%-27%)	10% (2%-28%)	10% (2%-29%)
50%	19% (2%-41%)	14% (3%-43%)	14% (3%-44%)

Abbreviations: needle and syringe program (NSP); people who inject drugs (PWID); credible interval (CrI); hepatitis C virus (HCV).

^{*}The effectiveness of NSP for HIV and HCV prevention is taken as 34% and 20%, respectively.

[†]These analyses assumed the levels of all other interventions to reduce HIV and HCV transmission (testing, treatment, and opioid agonist therapy) remained unchanged over 2024-2030.

[‡]Compared to the status quo NSP coverage of 82%.

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Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #285

Lessons Learned in Sustaining GetCheckedOnline, BC's Digital Sexually Transmitted and Blood-borne Infection Testing Program: Perspectives of Implementers across Multiple Sectors

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Background: 2024 marked the 10 year anniversary of the launch of GetCheckedOnline, BC's digital sexually transmitted and blood-borne infection (STBBI) testing program, now available in 9 communities with > 30,000 test visits per year. Services like GetCheckedonline are complex health system interventions, with many parts interacting across multiple health organizations, systems and contexts, and may be challenging to sustain over the long term. We aimed to understand the perspectives of implementers what lessons could be learned about sustainability from GetCheckedOnline that may be relevant in other contexts.

Methods: We conducted interviews and focus groups with 45 staff from multiple regional and provincial organizations involved in implementing GetCheckedOnline from initial planning (2009) to current scale-up (2024). Organizations spanned clinical, public health, laboratory, government and community sectors. Factors perceived as contributing to sustainability of the service were identified from observer notes using framework analysis based on the Consolidated Framework for Sustainability Constructs in Health Care.

Results: The most commonly identified factors perceived as contributing to the sustainability of GetCheckedOnline were related to the framework's constructs of People Involved, Resources, and Negotiating Initiative Processes. Building GetCheckedOnline required interdisciplinary teams, collaborations, and new partnerships across health system program silos and organizations, as well as identifying the required teams and functions needed for implementation. Building and maintaining relationships by program staff—which took time and resources—was recognized as critical and cut across multiple framework constructs.

Conclusion: Based on our study, multiple factors contributed to sustaining GetCheckedOnline, speaking to its complexity and need for for interdisciplinary teams, new partnerships within and across organizations and systems, integrated operations, and a foundation of strong relationships. Incorporating and appropriately resourcing processes that that reflect these factors during the planning, implementation and scale-up of digital testing or other digital sexual health services may maximize their sustainability.

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Theme: Implementation science and evidence-based interventions / Thème : La science de la mise en œuvre et les interventions fondées sur des données probantes

Abstract #140

The Implementation of a Pharmacist-Led Point-of-Care Testing Service for HIV and Hepatitis C in Rural NL Correctional Facilities: A Pilot Study

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Background:

Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) disproportionately affect incarcerated populations. Point-of-care (POC) testing in correctional facilities addresses barriers associated with traditional testing. Pharmacists can play a key role in delivering POC testing and addressing these gaps. We aimed to determine the feasibility of pharmacist-led POC testing for HIV and HCV in rural correctional facilities in Newfoundland and Labrador.

Methods:

This prospective, interventional pilot study invited incarcerated individuals at three rural NL correctional facilities to participate. Testing occurred in January and February 2024. Pharmacists provided education, conducted voluntary HIV and HCV POC testing, explained results, and arranged confirmatory testing if needed. Participants completed pre-test surveys to capture demographics and risk behaviors. Pharmacist work logs were used to document the total number of tests conducted to measure testing uptake, the outcomes of POC testing (reactive or nonreactive), and the confirmation of new diagnoses through confirmatory test results. Testing, demographic, and risk behavior data were analyzed using descriptive statistics.

Results:

Of 103 incarcerated individuals, 75 volunteered for testing. Pharmacists performed 58 HCV and 73 HIV tests on 74 participants. No reactive HIV results were identified, however six HCV tests were reactive. All six participants, along with an additional four who were within the window period for exposure, underwent confirmatory testing. Four new HCV cases were diagnosed, all of which received follow-up care. The majority of participants had either no history or no known history of prior HIV testing (68%) or HCV testing (58%). A total of 79% of participants disclosed a history of substance use, while 82% reported having more than one sexual partner in the past year.

Conclusion:

Pharmacist-led POC testing for HIV and HCV in rural correctional facilities is highly feasible. Expanding such services could improve diagnoses and reduce the burden of these infections among incarcerated populations.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

**Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science
méthodologique**

Abstract #37

**Unveiling the hidden reality: First-ever prevalence estimates of sexually transmitted and blood-borne
infections in Canadian provincial prisons**

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Background: Incarcerated individuals are disproportionately affected by sexually transmitted and blood-borne infections (STBBI) and are considered a key population by the World Health Organization and the Government of Canada to the global STBBI response. As Canadian data on this population are lacking, we aimed to determine the prevalence of blood-borne (HIV, hepatitis B virus (HBV), and hepatitis C virus (HCV)) and bacterial sexually transmitted infections (chlamydia, gonorrhea, and syphilis) among people incarcerated in Quebec provincial prisons.

Methods: Convenience sampling of participants from seven representative provincial prisons (where individuals are sentenced for < 2 years) was undertaken. Participants were offered self- or peer-collected dried blood spot (DBS) testing for HIV and HCV antibodies, anti-treponemal antibodies for syphilis, hepatitis B surface antigen (HBsAg), and HIV and HCV viral loads. PCR testing was conducted on urine samples collected in participants' cells for Chlamydia trachomatis and Neisseria gonorrhoea. While recruitment is ongoing (desired sample size: 1,176), preliminary results are presented.

Results: From October 7 – December 11, 2024, 259 participants were recruited from L'Établissement de Détention de Montréal - Bordeaux (100% male; median age: 35 years; 43 (17%) ever injected drugs). Among these, 41 (16%) chose a self-collected DBS method. Prevalence estimates were 0.4% (1/259) for anti-HIV antibodies (0/1 with a detectable viral load), 1.2% (3/259) for HBsAg, 4.6% (12/259) for anti-HCV antibodies (1/12 with a detectable viral load), and 5.8% (15/259) for anti-treponemal antibodies. Urine prevalence estimates were 1.6% (4/257) and 0.4% (1/257) for Chlamydia trachomatis and Neisseria gonorrhoea, respectively.

Conclusion: Preliminary results among people in Quebec provincial prisons demonstrate high hepatitis B, C, and syphilis prevalence estimates compared to the general population, underscoring significant public health concerns and unmet needs. Enhanced testing and treatment for STBBI both within and beyond carceral settings is imperative to curb transmission and meet Canada's elimination goals.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science méthodologique

Abstract #314

Psychometric Evaluation of the HIV-KQ-18 Questionnaire in a Black Canadian Population

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Background: HIV/AIDS knowledge has been identified as a determinant of preventative or self-protective sexual behaviour. The HIV Knowledge questionnaire (HIV-KQ-18) is one of the most widely used HIV knowledge scales.

Objective: The objective of this study was to test the psychometric properties of the HIV-KQ-18 in Black people in Ontario. The psychometric properties of interest are construct validity and internal consistency.

Methods: We analyzed the data from 1,302 participants who completed the HIV-KQ-18 in a cross-sectional study conducted among Black people in Ontario. We estimated the internal consistency of this scale using Cronbach's alpha. We analyzed the construct validity of the scale, testing hypotheses about HIV knowledge and age, education, employment status, gender, language and city using one-way ANOVA and independent sample t-tests. We hypothesized that older age groups, those with higher levels of education and those with full-time employment would have higher scores.

Results: Cronbach's alpha for the scale was 0.82 (95% CI: 0.80-0.84) suggesting good internal consistency. One-way ANOVA tests revealed significant differences in mean HIV knowledge scores between at least two subgroups when considering the following characteristics: age ($F(5, 1286) = [30.30]$; $p < 0.001$); employment status ($F(2, 1299) = [39.93]$; $p < 0.001$); education ($F(3, 1276) = [75.76]$; $p < 0.001$) and gender ($F(2, 1292) = [6.76]$; $p = 0.001$). Independent two sample t-tests revealed higher HIV knowledge scores among those in Toronto compared to Ottawa ($MD = 1.13$, 95% CI: 0.68-1.58; $p < 0.001$) and higher scores among those who completed the questionnaire in English compared to French ($MD = 1.08$, 95% CI: 0.24-1.94; $p = 0.012$)

Conclusion: The HIV-KQ-18 is a valid instrument to assess the level of HIV/AIDS knowledge among Black Ontarians, with robust internal consistency and construct validity. The HIV-KQ-18 identified important differences in HIV knowledge based on the characteristics examined, indicating the need for targeted initiatives focused on increasing HIV-related knowledge.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

**Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science
méthodologique**

Abstract #91

**Trends in Annual Healthcare Costs among People Living with HIV in Ontario, Canada from 2003 to 2018:
Results from a Population-Based Study**

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Introduction: HIV care and related costs are expected to evolve over time. However, Canadian studies on healthcare costs over time are scarce. Our study quantified trends in annual mean healthcare costs per person living with HIV (PLWH) in Ontario (2003-2018) from a publicly funded healthcare system perspective.

Methods: We conducted a population-based study of PLWH in Ontario health administrative databases diagnosed from 1992-2018 (merged ICES-HIV and ICES-Ontario HIV Treatment Network Cohort Study [OCS] cohorts [merged: n=25842; ICES-OCS only: n=3516]). We examined three time-periods: 2003-2009; 2009-2015 (following guidelines for HIV treatment as prevention); and 2015-2018 with the expansion of generic ART regimens. Costs were estimated using a previously validated algorithm and inflated to 2018 Canadian dollars. Descriptive analyses were performed, and cost estimates were stratified by sociodemographic factors (age, sex, rurality, neighbourhood-level income, immigration status), year of entry into HIV care, and HIV-related characteristics (nadir CD4 count, ART use; ICES-OCS cohort only).

Results: Among the merged cohorts, the mean age at entry into HIV care was 38 years (SD:15) and 78% were male. The annual mean cost per PLWH increased from \$9726 (2003) to \$13594 (2018), rising by 46% from 2003 to 2009, 2% from 2009 to 2015, and declining by 7% from 2015 to 2018; trends were consistent across populations. Medications accounted for the largest share of annual healthcare costs (47-62%), increasing from \$4749 in 2003 to \$8974 in 2015, and declining to \$7867 in 2018. Stratified analyses revealed that healthcare costs were higher among PLWH diagnosed at an older age, long-term residents, resided in low-income neighbourhoods, or had a nadir CD4 count less than 200copies/mL.

Discussion: Healthcare cost trends for PLWH in Ontario have fluctuated over time, primarily reflecting changes in medication costs. Differential healthcare costs across populations warrants further study, including the role of delayed diagnoses and care.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrégés

Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science méthodologique

Abstract #274

Centering EGAP Principles in HIV Research with Black Communities: Advancing Equity through Data Governance

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Introduction:

African, Caribbean, and Black (ACB) communities in Canada continue to experience disproportionately high rates of HIV alongside systemic barriers that hinder equitable care and research participation. This project applies the EGAP framework—Engagement, Governance, Access, and Protection—to establish ethical, community-driven data governance practices. Building on the foundational work of Black Canadian scholars, the principles of racial equity, health equity and social justice are prioritized in HIV-related data management.

Methods:

Using the CHIWOS ACB Data Access Initiative as a case study, this research employed community-based participatory research (CBPR) to co-create a data governance framework tailored to ACB women's HIV research. Two key groups guided the process: The National ACB Program Expert Steering Committee and the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS) ACB Sub-hub. Together, they developed data access protocols, Community Governance Tables, and strategies for transparent, co-led decision-making. The approach focused on dismantling systemic barriers by embedding EGAP principles into every stage of the collaboration process.

Results:

The initiative produced a robust framework that aligns data management practices with the priorities of ACB communities. Key achievements included:

- 1) Development of standardized protocols for ethical data access and usage.
- 2) Creation of culturally responsive governance structures informed by lived experiences.
- 3) Mechanisms to translate research findings into actionable policy recommendations.

Feedback from interest-holders has showed strengthened trust and engagement within the community, alongside increased demand to access CHIWOS ACB data.

Discussion:

This study highlights the transformative potential of applying EGAP principles to HIV research by centering ACB voices and needs. The findings affirm the critical role of equitable partnerships and transparent governance in advancing health equity and dismantling systemic barriers. Future research should examine how this framework can be scaled to be integrated into public data holdings across Ontario and nationally to ensure broader impact.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science méthodologique

Abstract #107

Hepatitis C Therapeutic Outcomes Among People Living with HIV: Examining Effectiveness of Early DAA Era Therapy in British Columbia

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Objective: Introduction of short-course, pan-genotypic, oral direct-acting antivirals (DAA) improved hepatitis C (HCV) therapeutic outcomes with clearance rates exceeding 95% in clinical trials, but assessing treatment success among key populations using real-world observational evidence remains critical. This study describes early era DAA treatment outcomes among a population-based cohort of people living with HIV (PLWH) in British Columbia (BC).

Methods: We included all PLWH aged ≥ 19 years in BC's Seek and Treat for Optimal Prevention of HIV/AIDS (STOP HIV/AIDS) cohort linkage. We identified index DAA treatment episodes using PharmaNet from January 2015 until March 2019, with one-year of follow-up to assess therapeutic outcomes (sustained virologic response [SVR] 10-52 weeks post-treatment). SVR was sourced from laboratory results from the Drug Treatment Program registry at the BC Centre for Excellence in HIV/AIDS. Logistic regression modeled associations of demographic, behavioral and clinical characteristics with not achieving SVR.

Results: The study included 754 PLWH initiating HCV treatment, of which 637 (84.5%) achieved SVR. Problematic alcohol use (OR 1.53, 95% confidence interval (CI): 1.02-2.31) and methadone dispensation (OR 2.02, 95% CI: 1.34-3.05) (both measured [ever] from HCV treatment start up to one year after treatment end) were associated with higher odds of not achieving SVR. Only methadone dispensation remained significant when adjusting for confounders in a multivariable model. Gender, age, gbMSM, race and HIV viral suppression were not significantly associated with odds of not achieving SVR in univariable models.

Discussion: Demographic and clinical characteristics among PLWH did not significantly impact DAA treatment success in a real-world setting. Factors related to substance use show mixed results. Findings suggest high effectiveness of DAAs observed for HCV treatment among PLWH. While demographic and clinical factors should still be considered, future research on HCV treatment should focus on people who use drugs as a key population.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

**Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science
méthodologique**

Abstract #171

**The expanded Polling Booth Survey (ePBS): An innovative, community-engaged method for routinely
assessing HIV/STBBI program outcomes among marginalized populations across contexts**

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Background: In many lower-resourced settings, comprehensive surveillance systems for HIV/STBBI are sub-optimal. Countries often depend upon resource-intensive population-based surveys that are implemented sporadically, leaving them reliant on outdated data to support epidemic responses. To better inform (sub-)national policy/programming, lower-cost, rapid, and flexible methods that retain methodological rigour are needed to maintain up-to-date HIV/STBBI estimates. Our team pioneered the expanded polling booth survey (ePBS) method with female sex workers (FSW) and men who have sex with men (MSM) in Nairobi County, Kenya to rapidly generate relevant data for programmatic refinement.

Methods: The ePBS is a nimble, community-engaged method comprising three modules—polling booth surveys (anonymous, ballot-based group surveys); individual questionnaires linked to biological samples; and focus group discussions—that uses population- and location-based random sampling to generate representative samples. Descriptive equity analyses of ePBS data presented examine programmatically relevant outcomes—e.g., HIV prevalence, service coverage—by sub-county.

Findings: Over 30-days in 2023, ePBS data were collected from 759 FSW and 398 MSM across 15 and 9 sub-counties of Nairobi, respectively. Crude inequalities by sub-county were stark. HIV prevalence: FSW=13.4% (range:0-24.2%) and MSM=17.6% (range:0-36.3%); contact with outreach (last quarter): FSW=67.3% (range:47.2-100%) and MSM=68.3% (range:52.1-91.7%); consistently taken PrEP (last 12-months): HIV-negative FSW=14.0% (range:0-28.6%) and HIV-negative MSM=13.5% (range:2.9-40.0%). Additional, ongoing analyses will be presented to examine inequalities by other key variables (age, typology, years identifying as FSW/MSM); equiplots and choropleth maps will illustrate heterogeneity in inequalities.

Implications: ePBS is a rapid, rigorous, and lower-cost tool that can be regularly implemented to supplement routine program data. Coupled with community engagement, ePBS enhances program monitoring and response to changes in local HIV/STBBI epidemiology, and service users' needs over time and space. The flexibility, adaptability, and modular nature of ePBS is conducive to incorporating new surveillance and biomedical technologies and tracking emerging epidemiological trends rapidly, at relatively low cost.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

**Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science
méthodologique**

Abstract #199

**Simplifying the Hepatitis C Treatment Pathway Improves Achievement of Sustained Virologic Response
Among People Who Inject Drugs: A Linked Administrative Data Study in Alberta, Canada**

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Background: Hepatitis C virus (HCV) infection disproportionately affects people who inject drugs (PWID). In October 2020, Alberta expanded access to HCV treatment by allowing family physicians, in addition to specialists, to supervise treatment with direct-acting antivirals. This simplified the treatment pathway for patients, and could be particularly impactful for populations facing social barriers to care, including PWID.

Objectives: 1) Describe patients treated for HCV in Alberta, 2) evaluate the effect of the October 2020 policy change on successful treatment completion, defined as achievement of sustained virologic response (SVR).

Methods: This study used linked hospitalization, emergency department, pharmacy, and laboratory data from Alberta Health Services. A cohort of adults treated for HCV with direct-acting antivirals between fiscal years 2017 and 2021 were identified and followed for □1 year. We described cohort demographics, acute care utilization, and substance use. PWID were identified using a validated case definition. Interrupted time series analysis using a quasi-Poisson model was used to model the effect of the policy change.

Results: We identified 5,545 adults treated for HCV in Alberta during the study period (36% female, 20% rural). 1169 (21%) were identified as PWID. Among those eligible, 66% of PWID and 85% of non-PWID achieved SVR. The interrupted time series analysis found a 39% (95% CI 16-66%) immediate increase in treatment completion among PWID following the policy change, but no lasting effect was observed (IRR 0.97; 95% CI 0.89-1.04). No immediate (IRR 0.97; 95% CI 0.84-1.12) nor lasting (1.01; 95% CI 0.98-1.05) change was observed non-PWID.

Conclusion: The main benefit of allowing family physicians to supervise HCV treatment was for PWID, despite the change not being targeted at them directly. Simplifying treatment pathways for all patients may be an important step toward health equity through removing barriers to care that most affect underserved patients.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Surveillance, data and methodological science / Thème : Surveillance, données et science méthodologique

Abstract #262

Enhanced Surveillance of HIV Among Two-Spirit People, Gay, Bisexual, and Queer Men, and Non-Binary People in Canada: Sex Now 2024

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Introduction: The Public Health Agency of Canada (PHAC) Tracks surveillance system monitors trends in HIV, sexually transmitted and blood-borne infections (STBBI), and associated factors among key populations, including gay, bisexual and other men who have sex with men (GBMSM).

Methods: We used a community-based participatory approach to implement a cross-sectional bio-behavioural survey (Sex Now 2024) as Tracks GBMSM Phase 3. We recruited in all provinces in 19 cities at 43 events (e.g., Two-Spirit powwows, Pride festivals) between June-September 2024. Eligibility criteria were expanded beyond GBMSM to include all Two-Spirit people, trans men, and nonbinary people. Participants had to be aged 15+, live in Canada, and be able to consent to and self-complete the questionnaire in English, French or Spanish. Participants aged 18+ could opt-in to provide dried blood spots (DBS). Participants received \$10 cash for survey participation and a tote bag for providing DBS. Data analyses determined prevalences for HIV/STBBI indicators.

Results: Of 4,881 eligible participants, 64% identified as white, 11% as Indigenous (of whom 64% were Two-Spirit), 10% East/Southeast Asian, 8% Black, and 7% Latin. The majority identified as gay (52%) and men (62%), with 28% as trans, 27% queer, and 24% bisexual. Half (47%) were aged <30. DBS were provided by 42% (n=1712/4103) of eligible participants. Self-reported HIV prevalence was 4.3% (n=198/4614). For 95-95-95 targets, 91.9% (182/198) who self-reported living with HIV reported currently taking antiretroviral drugs, and 92.3% (168/182) of those reported viral suppression. Half (48.8%) of HIV-negative participants reported past-year HIV testing; 24.4% were never tested for HIV. Among those STBBI-tested, self-reported past-year prevalence: 7.0% gonorrhoea, 6.5% chlamydia, 2.9% syphilis, 0.6% hepatitis C, and 0.5% mpox.

Discussion: Results provide a descriptive snapshot of HIV/STBBIs among this population in Canada. Data use at local, provincial and federal levels should inform and guide public health interventions.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Prevention / Thème : Prévention

Abstract #101

Developing an Educational Resource to Support Healthcare Providers Counseling Gay, Bisexual, Men Who Have Sex With Men, and Transgender and Non-binary Individuals (GBMTNB) about HIV Pre-exposure Prophylaxis (PrEP) in Ontario

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Background: Findings from a study looking at PrEP uptake and its determinants (PRIMP) were discussed among stakeholders. Better counseling was identified as a potential strategy to improve access to PrEP.

Our aim was to create a resource to assist healthcare providers in providing culturally informed HIV prevention care with a focus on HIV PrEP for GBMTNB.

Methods: We drew from relevant theories to design a framework to guide the creation of an educational resource for providers. This resource was further developed using findings from PRIMP and based on the team's professional experience. Several iterations of this document were reviewed.

A panel of 12 experts reviewed the document and independently rated its sections using 5-point Likert scales in terms of complexity, relative advantage, appropriateness, and trialability. The material was discussed in three separate subgroups, each with at least one physician, one nurse, and one community-based organization representative.

A convenience sample of 15 providers potentially interested in such a resource (12 physicians, 2 NPs, and one public health practitioner) were asked about their preferred modality of learning.

Results: The developed framework consists of four core elements that serve as a guide/approach to discussions about HIV prevention with a focus on PrEP: exploring values, confirming the need for prep, eliciting the intention to use PrEP, and preparing to start PrEP.

The panel of experts rated the material highly: 4.5/5 for complexity and appropriateness, 4.2 for relative advantage, and 4.1/5 for trialability.

Eight of the fifteen potentially interested providers indicated they would prefer an online self-paced training modality. We created a series of online eLearning modules including case vignettes, requiring approximately 75 minutes to complete.

Discussion and Conclusion:

Iterative discussions engaging various types of providers result in culturally competent, highly rated content that has the potential to improve HIV prevention care delivery.

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

Theme: Prevention / Thème : Prévention

Abstract #241

**Understanding Physicians Pre-exposure Prophylaxis (PrEP) and Antiretroviral Therapy (ART)
Prescription Patterns Across Ontario, 2023**

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Pre-exposure prophylaxis is an effective tool for HIV prevention, while Antiretroviral Therapy has transformed care for people living with HIV. Understanding physicians' prescribing patterns of PrEP and ART, in Ontario can show the availability of care across the province and can lead to targeted education efforts.

Data were obtained from IQVIA, a private company whose drugs dispensation database reflects more than 70% of the retail pharmacies in Ontario. IQVIA's algorithms classified prescriptions for TDF/FTC and TAF/FTC as being for PrEP, hepatitis B therapy, post-exposure prophylaxis, or ART. Prescribing physicians were pre-classified in a prescription ranking from Q1 (PrEP: 1016-7012 Rx; ART: 2743-6705 Rx) to Q5 (PrEP: 1-73 Rx; ART:1-540 Rx). Data are broken down by PrEP or ART, by number of physicians, and specialties.

Among 1286 PrEP prescribing physicians, the majority were in family medicine (1033,80.3%), general practice (124, 9.6%), infectious diseases (62, 4.8%), or residents (30, 2.3%). Most PrEP prescribers were in Toronto (592), Ottawa (147), Hamilton (59) and York (55). Only 10 physicians were ranked Q1 (located in Halton, Hamilton, Peel, Ottawa and Toronto) with 91.1% (1276) of the physicians ranked Q5. Among 843 ART prescribers, family medicine (480, 56.9%) and infectious diseases (104, 12.3%) were the leading specialties, followed by residents (49, 5.8%) and internal medicine (30, 3.5%). Prescribers ranked Q1 were located in the GTA (6), Ottawa (1), Windsor (2) Thunder Bay (1) and Sudbury (1). 91.2% of the prescribers ranked as Q5. Toronto (320), Ottawa (98), Hamilton (56), Middlesex-London (44) and Peel (42) had the highest ART prescribers counts.

Based on drug dispensing in Ontario, the majority of PrEP and ART prescriptions were driven by a small proportion of physicians (Q1s). These findings highlight gaps in prescribing patterns, providing an opportunity for targeted programs aiming to strengthen physicians' capacity in prescribing PrEP and ART.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Prevention / Thème : Prévention

Abstract #7

Sexually Transmitted Infections Risk Compensation in the Context of Dapivirine Vaginal Ring Use for HIV Prevention among Women in Africa: A Scoping Review

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Background

Sexually transmitted infections (STIs) remain a critical public health challenge globally, with Africa facing the highest incidence and mortality rates. The Dapivirine Vaginal Ring (DPV-VR) is a discreet HIV prevention tool for women but does not protect against other non-HIV STIs. Its use may inadvertently lead to complacency around other STI transmissions, contributing to their spread. This scoping review aimed to assess the prevalence of STI acquisition and the sociocultural, economic, and demographic factors influencing STI risk among African women using DPV-VR. The review also examines proposed policies and interventions to reduce STI risk for these women.

Method

We searched electronic databases such as Ovid platform, MEDLINE, Embase, Global Health, CINAHL, Web of Science, Cochrane Library databases, Social Sciences Citation index, and Gray literature from January 2014 to July 2024. The Rayyan tool was used to screen the title and abstract, whereas DistillerSR Version 2 was used for the full text screening. The qualitative data was analyzed for themes using QDA Miner Lite, while the numeric data was analyzed using Microsoft Excel Package. This scoping review followed the PRISMA-ScR guidelines.

Result

Out of 1,247 papers, 11 were selected. The overall prevalence of any STI was 42.4%, with specific rates for chlamydia (17%), Neisseria gonorrhoeae (9.2%), Trichomonas vaginalis (16.7%), and syphilis (0.9%). Sociocultural, economic, and demographic factors, including poverty, patriarchy, location, knowledge, and age, were found to influence STI risk among women using DPV-VR. Suggested policies include routine STI screening, education, targeted interventions, and partner treatment frameworks to effectively control STIs.

Conclusion

Holistic sexual health services are needed to support the use of DPV-VR and prevent other STIs. Further research on biomedical tools that prevent both HIV and other STIs is crucial to address this gap.

Keywords: Dapivirine Vaginal Ring, Sexually transmitted infections, Women, Africa

**Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé
publique présentation orale d'abrévés**

Theme: Prevention / Thème : Prévention

Abstract #42

**Utilizing an Ecosocial Approach to Examine Associations Between Wildfire Exposure and other
Hazardous Socio-Environmental Factors with HIV Prevention Outcomes among Northern and
Indigenous Adolescents in the Northwest Territories, Canada**

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Background: Condom use self-efficacy (CUSE), encompassing knowledge, relational dynamics, and sexual agency, facilitates youth HIV prevention engagement. We applied an ecosocial lens to consider how hazardous environments, such as those wrought by climate change and extreme weather events (EWE), social marginalization, and socio-economic inequities, affect HIV prevention outcomes such as CUSE. We examined associations between ecosocial factors, including EWE exposure to the 2023 wildfires, and CUSE among Northern and Indigenous adolescents in the Northwest Territories (NWT), Canada.

Methods: This community-based study collected cross-sectional survey data (2023-2024) with a purposive sample of adolescent secondary-school students aged 13-18 in 17 NWT communities. We conducted structural equation modeling (SEM) using maximum likelihood estimation to examine pathways from a latent construct of ecosocial factors (gender [cisgender girls]), sexually diverse identity, Indigenous identity, rurality, food insecurity, 2023 NWT wildfire exposure [Traumatic Exposure Severity Scale] to CUSE. Self-esteem was tested as a mediator in this relationship.

Results: The sample comprised n=290 participants (mean age: 13.68 years, standard deviation: 1.69; cisgender girls: 57%, n=137; cisgender boys: 50.35%, n=145; gender diverse: 2.09%, n=6; sexually diverse [gay, lesbian, bisexual, queer, other]: 18.37%, n=52). Most identified as Indigenous (68.79%, n=194) and lived in rural communities outside of Yellowknife (79.10%, n=212). Over half (54.47%; n=134) reported EWE exposure to the 2023 wildfires. The final SEM model demonstrated good fit (Chi²=26.08, p=0.128; CFI=0.971; RMSEA=0.052 [90% CI = 0.001–0.681]; SRMR=0.060). Ecosocial factors were significantly associated with lower CUSE ($\beta = -0.149$, $p < 0.05$), with self-esteem partially mediating this effect ($\beta = -0.117$, $p < 0.05$).

Conclusion: Ecosocial factors, including EWE exposure to the 2023 NWT wildfires, socially marginalized identities (Indigeneity, sexual diversity, gender, rurality), and socio-economic disparities (food insecurity), were associated with reduced CUSE, in part via reduced self-esteem. Multi-level climate-informed strategies that centre social equity are needed to advance HIV prevention with Northern and Indigenous NWT adolescents.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Prevention / Thème : Prévention

Abstract #133

Changes in Sexual Behaviour Following HIV Pre-Exposure Prophylaxis Initiation Among Gay, Bisexual and Other Men Who Have Sex with Men in Canada's Three Largest Cities

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Introduction

Gay, bisexual and other men who have sex with men (GBM) who use HIV pre-exposure prophylaxis (PrEP) reduce their likelihood of acquiring HIV, but are more likely to engage in sexual practices exposing them to other sexually transmitted infections (STIs). We examined within-person changes in sexual behaviour after PrEP initiation among GBM in Canada's three largest cities.

Methods

Sexually active GBM, aged ≥ 16 years, were recruited using respondent-driven sampling in Montreal, Toronto and Vancouver (02/2017-08/2019). Participants completed a computer-assisted self-interview and tests for STIs at enrolment and every 6–12 months until 02/2020 (pre-COVID). HIV-negative participants were included in this analysis if they (1) initiated PrEP after enrolment, and (2) had at least one visit post-PrEP initiation. We analyzed changes in sexual behaviours and HIV Incidence Risk Index (HIRI)-MSM scores after PrEP initiation using McNemar's and Wilcoxon signed-rank tests for each city.

Results

A total of 288 GBM were included (Montreal: 119, Toronto: 39, Vancouver: 130). The proportion of participants with a HIRI-MSM score ≥ 10 increased across the three cities from 73.8%-84.6% prior to PrEP initiation to 77.7%-87.2% after PrEP initiation. Median HIRI-MSM scores significantly increased, from 18 to 19 in Montreal ($p=0.013$), from 18 to 23 in Toronto ($p=0.016$) and from 15.5 to 18 in Vancouver ($p=0.004$). The median number of partners with any condomless anal sex in the past six months increased significantly from 4 to 6 in Montreal ($p<0.001$), but not in Toronto (5 to 6, $p=0.196$) or Vancouver (3 to 4, $p=0.130$). Engagement in chemsex or group sex did not change after PrEP initiation in any city ($ps>0.05$).

Conclusions

Overall, HIV PrEP programs are reaching and supporting GBM who will benefit from this prevention intervention. PrEP is associated with changes in sexual behaviour that warrant ongoing attention to sexual health promotion.

Epidemiology and Public Health Sciences Oral Abstract Session / Épidémiologie et sciences de la santé publique présentation orale d'abrévés

Theme: Prevention / Thème : Prévention

Abstract #92

HIV Prevention Outcome Trends Among Northern and Indigenous Adolescents in the Northwest Territories, Canada: A Repeated Cross-sectional Study of Arts-Based Sexual Health Workshops

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Background: Arts-based approaches hold promise for improving adolescent sexual health, yet few longitudinal studies evaluated their effectiveness. This study investigated trends in HIV prevention outcomes among adolescents in the Northwest Territories (NWT), Canada, assessing outcomes before and after arts-based sexual health workshop participation.

Methods: This single-group pre- and post-test study examined sexual health workshops implemented by FOXY (Fostering Open eXpression among Youth) and SMASH (Strengths, Masculinities, and Sexual Health), a Northern and Indigenous sexual health organization, with adolescents aged 13–18 in secondary schools across 17 NWT communities between 2018-2023. Surveys measured socio-demographic characteristics, HIV knowledge, condom use self-efficacy (CUSE), and self-esteem. A repeated cross-sectional analysis using mixed-effect models across six waves assessed changes from pre- to post-workshop and explored related factors over time.

Results: Among the entire sample (N=1579; cisgender girls: n=735, 46.67%; cisgender boys: n=774, 49.14%; gender diverse: n=66, 4.19%; Two-sprite, lesbian, gay, bisexual, and queer [2SLGBQ+]: n=296, 19.33%), nearly three quarters (n=1091, 72.49%) identified as Indigenous. Most (n=1796, 73.19%) resided outside of Yellowknife in rural communities. Results suggest that attendance at the FOXY/SMASH sexual health school-based workshops was associated with increased HIV knowledge, CUSE, and self-esteem. There was a large, positive effect size association between workshop attendance and HIV knowledge ($r=1.26$), and small effect sizes for CUSE ($r=0.11$) and self-esteem ($r=0.05$). The difference in CUSE and self-esteem pre-post workshop remained similar over the years (Adjusted coefficient (Acoef): 0.15; 95% CI: -0.01, 0.30). The pre-post workshop changes in HIV knowledge increased over time among young women (Acoef: 0.63; 95% CI: 0.40, 0.86; $p<0.001$) and 2SLGBQ+ youth (Acoef: 0.35; 95% CI: 0.04, 0.66; $p<0.05$).

Conclusion: Arts-based HIV prevention approaches show promise in enhancing HIV knowledge, condom use self-efficacy and self-esteem among Northern and Indigenous youth in the NWT. Findings signal the continued need for such HIV prevention approaches over time.

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Abstract #2

Combien en coûterait-il de plus d'offrir la gratuité des médicaments antirétroviraux pour la population québécoise ?

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Objectifs

En 2024, le Canada a établi un plan pour atteindre les objectifs mondiaux en matière de soins du VIH d'ici 2030, visant à atteindre 95 % des personnes vivant avec le VIH diagnostiquées, sous thérapie antirétrovirale et avec une charge virale supprimée. Les taux actuels de 90 %, 85 % et 95 % au Québec, et une recrudescence récente du nombre de nouvelles infections, suggèrent que des efforts supplémentaires sont nécessaires. Ce travail explore les conséquences financières d'instaurer la gratuité des antirétroviraux (ARV) au Québec.

Méthode

Une revue des données démographiques, épidémiologiques et financières a été effectuée. Trois scénarios ont été explorés :

scénario 1 : la modification de la Loi sur l'assurance médicaments pour exclure la participation financière,

scénario 2 : l'intégration au Programme de gratuité des médicaments pour les infections transmises sexuellement et par le sang, et

scénario 3 : la création d'un réseau de distribution parallèle aux pharmacies communautaires.

Résultats

Il est estimé que 17 851 personnes seraient touchées par la gratuité. Le scénario 1 représente le scénario le moins coûteux avec un supplément de 6,2 et 6 millions de dollars pour les régimes public et privés. Les scénarios 2 et 3 entraîneraient une dépense annuelle supplémentaire de fonds publics de 71,9 à 85,9 millions de dollars.

Conclusion

Bien que coûteuse pour le régime public, les bénéfices anticipés attribuables à la gratuité des ARV méritent la considération des décideurs afin d'atteindre les objectifs de lutte contre le VIH pour 2030.

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Abstract #141

Sex Differences in Overdose-Related Hospitalizations Among People Living With HIV in Canada.

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BACKGROUND

Previously, we presented rates of overdose hospitalizations among people living with HIV (PLWH) in Canada. We examine the sex differences in the occurrence overdose-related hospitalizations among PLWH across Canada.

METHODS

Using standardized hospitalization data from the Canadian HIV healthcare use study (CHES), we examined hospitalization records for adult (≥ 20 years) PLWH who had at least one HIV-related inpatient acute hospitalization in Canada between April 2006 and March 2020. We identified overdose-related hospitalizations using International Classifications of Diseases 10, Canada revision (ICD-10-CA) diagnostic codes, distinguishing opioid, stimulant, and other overdoses. We used logistic regression models with generalized estimating equations to assess whether sex was associated with the odds of a hospitalization being (1) overdose-related, and (2) opioid overdose-related, adjusting for province and territories, area-level income, rurality, and fiscal year.

RESULTS

Among a total of 117,436 hospitalizations in 28,320 PLWH (25% females) between 2006 and 2020, we identified 2,230 overdose-related and 1,201 opioid overdose-related hospitalizations. Compared to males, females had a significantly higher proportion of overdose-related hospitalizations (4.8% vs 8.6%, $p < 0.0001$) and opioid overdose-related hospitalizations (2.6% vs 5.6%, $p < 0.0001$). After adjusting for confounders, the odds of a hospitalization being overdose-related was higher among females than males (adjusted OR [aOR] = 1.20, 95% Confidence Interval [CI] = 1.06–1.35). Similarly, the odds of a hospitalization being opioid overdose-related was higher in females than in males (aOR = 1.38, 95% CI = 1.18–1.61).

CONCLUSION

Our findings highlight a significant sex-based disparity in the overdose and opioid-overdose related hospitalizations among PLWH. These results suggest a disproportionate burden of substance-use related harms among females with HIV and indicate a need for further research and action.

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Abstract #115

Examining a Method to Classify Deaths of an Unknown Cause as Presumably Drug-Related, Among People with HIV in British Columbia During the Unregulated Drug Toxicity Crisis.

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Background

Accurate and timely cause of death information is important for public health monitoring. In recent years, deaths with an unknown/ill-defined underlying cause have increased in Canada, particularly in British Columbia (BC), among people with HIV (PWH). Delays/missingness in cause of death data coincide with BC's drug toxicity crisis, suggesting the complexity of classifying drug poisoning deaths may have contributed to these delays. To help classify some of these deaths, we adapted a published method to presume unknown deaths as drug-related.

Methods

From the STOP HIV/AIDS study (a linkage of administrative healthcare and clinical data for PWH in BC), we examined deaths occurring 2015/16– 2019/20. Unknown deaths were defined using the International Classification of Diseases 10 code: R99. Drug-related death classification criteria were: a) died aged 20-64, b) a "pending", "accident", or "undetermined" manner of death; and c) history of drug use ascertained via drug-related healthcare contact (practitioner encounters, hospitalizations, opioid agonist therapy dispensations, urine drug screening), and injection use history from clinical forms.

Results

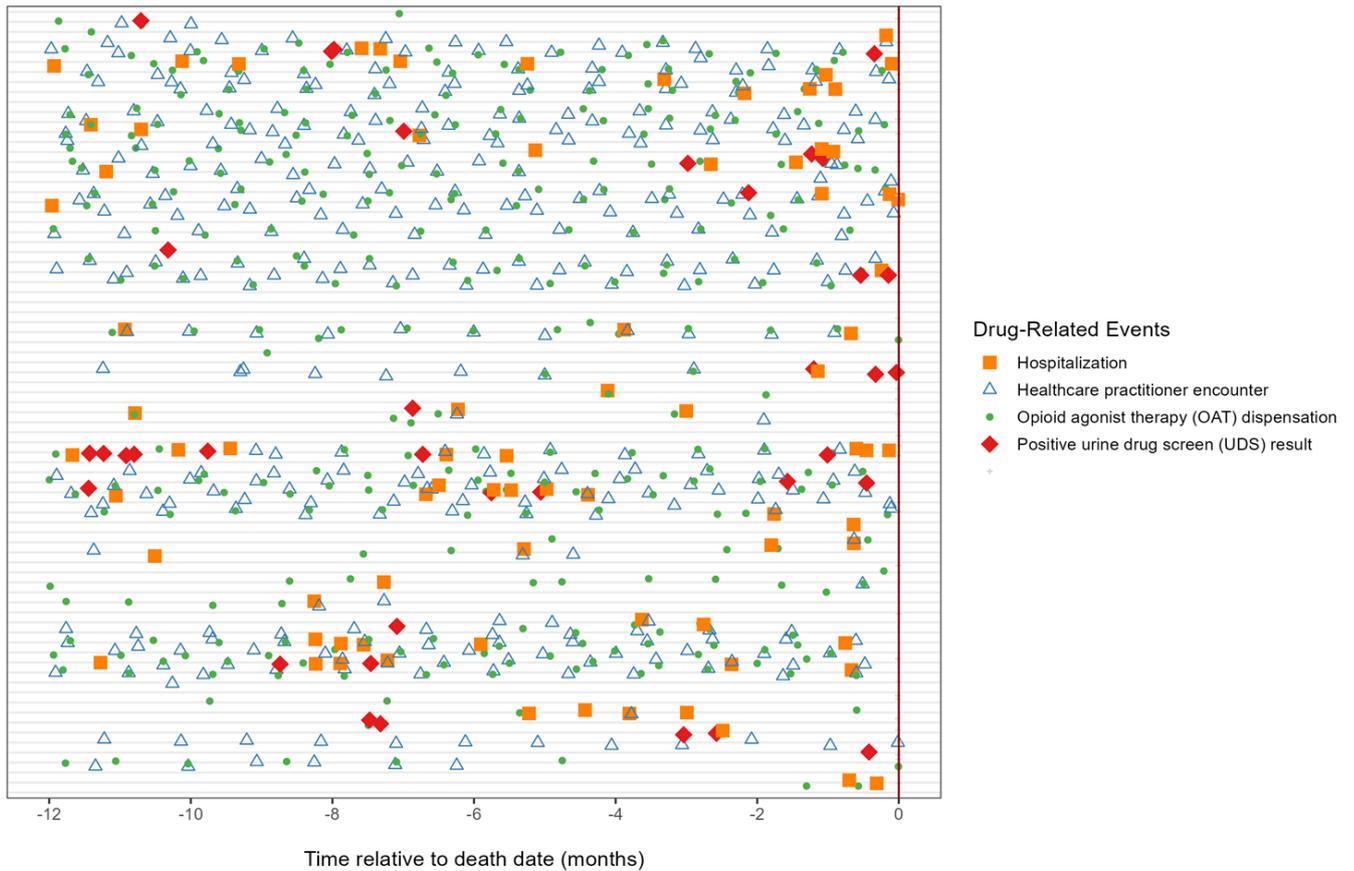
Of the 79 unknown deaths, 70.9% (56/79) were men. Median age at death was 49 (Q1:42, Q3: 58). In total, 88.6% (70/79) met the presumed drug-related death criteria. In the 12 months before death, 78.5% (62/79) recorded a drug-related healthcare interaction, with 21.5% (17/79) hospitalized in the 30 days prior (Figure 1).

Conclusion

Our method suggested almost 90% of unknown deaths among PWH in BC between April 2015 - March 2020 may be drug-related. Future work may further validate such classifications using updated mortality data.

Supporting Document

62/79 (78%) of R99 deaths between Apr 2015 - Mar 2020 had a drug-related healthcare contact* within 12 months



*Healthcare contact included drug-related hospitalizations (Discharge Abstract Database - DAD), Healthcare practitioner encounters (BC Medical Service Plan Payment Information File - MSP), Opioid agonist therapy (OAT) dispensations (PharmaNet and MSP), Positive urine drug screening results (VPP Lab Interface)
- VPP = Vancouver Coastal Health/Provincial Health Services Authority/Providence Health Care
Each line represents a person

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Abstract #244

Surveillance of Pre-Exposure Prophylaxis (PrEP) Uptake in Ontario, 2019-2023

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Introduction: Pre-exposure prophylaxis (PrEP) is a highly effective HIV-risk reduction strategy and critical part of a comprehensive public health approach to HIV prevention. Recent progress has improved access to PrEP in Ontario, but no provincial-level monitoring system currently exists. This creates a poor understanding of the landscape of PrEP in Canada's largest province.

Method: PrEP uptake was estimated using a published algorithm together with branded/generic TDF/FTC and branded TAF/FTC dispensation data extrapolated from more than 70% of retail pharmacies in Ontario, provided by a private company, IQVIA. PrEP counts (estimated number of unique PrEP users), and PrEP-to-need ratios (P2N: PrEP users to first-time HIV diagnoses, as determined by the Ontario HIV Epidemiology Surveillance Initiative) are described in yearly (2019 to 2023) and quarterly bases (Jan-Mar 2022 to Oct-Dec 2023) to assess PrEP uptake over time in Ontario.

Results: An estimated of 21,180 individuals were dispensed PrEP at least once in Ontario in 2023, the largest number ever recorded. This is compared to 9,957 in 2019, 10,687 in 2020, 13,104 in 2021, and 16,635 in 2022, an increase of 112% compared to 2019 and 27.3% to 2022. 97.1% of the PrEP users were male (P2N:31.24); however, females have seen a steady increase from 306 to 618 between 2019 and 2022 (102% relative increase, P2N:2.24). Furthermore, most of the PrEP users in Ontario were below the age of 40. Toronto and Ottawa continue to account for the largest number of PrEP users. While PrEP programs have been in place, 76% of the users pay for this medication with private insurance. Full geographical analysis pending.

Conclusion: PrEP usage is mainly male driven; however, PrEP use changes show a rise of females on PrEP. This analysis allows for the better understanding of PrEP use and to identify implementation gaps to guide future work.

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Abstract #165

A comprehensive profile of cannabis consumers living with HIV after legalization: The Ontario Cannabis and HIV Survey

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Background: Canada legalized cannabis for medical purposes in 2001 and recreational purposes in 2018. Our aim was to produce a comprehensive profile of Ontarians living with HIV who use cannabis for medical or recreational purposes to document their post-legalization changes in use.

Methods: Participants were recruited from the Ontario HIV Treatment Network Cohort Study, a multi-site clinical cohort. Those reporting past-year cannabis use were invited to complete the Ontario Cannabis and HIV Survey assessing patterns of past-year cannabis use, since legalization, and since COVID-19. Data were collected between August 2022 and December 2023. We used descriptive statistics to describe the sample.

Results: Among 292 respondents, 84% were male and 72% were White, with a mean age of 50 (SD=13). Post-legalization, 34% of participants used cannabis more frequently (versus 9% less frequently) due to easier access, pleasure, safer products, more product variety, and less stigma. Post-COVID-19, 36% used more frequently versus 4% less frequently. Reasons included stress/anxiety, pleasure, more opportunities to consume, boredom, and loneliness. Common products for recreational and medicinal users, respectively, were smoked flower (77%; 69%), edibles (62%; 43%) and vaped flower (28%; 23%). Some did not know the THC content of their products (17-19% medicinal; 13-23% recreational). Only 36% of medicinal users had healthcare provider authorization and fewer still (7%) had insurance coverage; also, 17% used cannabis to manage symptoms of insomnia, 15% anxiety, and 13% depression. Screening for problematic use indicated 71% had a moderate risk for health and other problems while only 3% reported high risk of dependence and severe problems.

Conclusions: Our findings provide a rare documentation of cannabis use among people living with HIV. Use patterns were broadly similar for recreational and medical purposes and across product types, except edibles and beverages. More consumer education is needed regarding cannabinoid levels and lower-risk cannabis use.

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Abstract #68

A Review of Validation Studies to ascertain conditions using Canadian Electronic Medical Records: Highlighting an Evidence Gap for identifying People Living with HIV, Hepatitis C, And Substance Use Disorders

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Objective:

Primary healthcare is an effective way to reach individuals with complex conditions, including HIV, hepatitis C (HCV), and substance use disorder (SUD). Despite these conditions being public health priorities, relatively little research leverages primary care data, including electronic medical records (EMRs), to monitor and evaluate care for these conditions. As an initial step in informing primary care research on these conditions and potential comorbidities, we conducted a targeted literature review of studies validating case-finding algorithms, including those for HIV, HCV, and SUD, using Canadian EMRs.

Methodology:

A targeted search was conducted using PubMed, Ovid MEDLINE, and publication lists from the Canadian Primary Care Sentinel Surveillance Network (Canada's largest EMR-based research network). Studies were included if they validated a case-finding algorithm for any condition using Canadian EMR data. Additionally, studies had to be written in English and published between 2010-2024 in a peer-reviewed journal.

Results:

Of 377 unique articles identified, 25 met eligibility criteria. Most studies validated chronic conditions (92%), with 8% validating algorithms for acute conditions. No validation studies were found for ascertaining HIV or HCV infection, or any type of SUD. All studies included International Classification of Diseases diagnostic codes in their algorithm, with 72% additionally using medications, 36% using lab results, and 52% using diagnosis descriptions. Chart review was the most common validation reference standard (85%), with a few studies using disease registries or lab results. The mean sensitivity and specificity of EMR case-finding algorithms was 81% (ranging 18% - 100%) and 95% (ranging 79% - 100%), respectively.

Conclusion:

Although validity evidence generally supports ascertainment of numerous conditions using Canadian EMRs, no algorithms aimed to identify HIV, HCV, or SUD. The results of this search will inform our efforts to develop valid and reliable algorithms for these conditions and ultimately open opportunities to expand primary care research.

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Abstract #153

A Review of Public Health Surveillance Data to Inform Doxy-PEP Use: Results from Ottawa, Canada for Bacterial STI Diagnoses among Gay, Bi, and Other Men who have Sex with Men

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Background: Men who have sex with men (MSM) account for a disproportionate number of bacterial STIs (bac-STIs). A new tool, “doxy-PEP,” is used after condomless oral or anal sex. We reviewed surveillance data to understand the potential public health impact of offering doxy-PEP to MSM diagnosed with 0, 1 or ≥ 2 bac-STI diagnoses.

Description: We analyzed episodes during 2022 –2024 in which a bac-STI was confirmed in MSM to determine the number of individuals with ≥1 positive bac-STIs testing episodes (PTEs) within 12 months of another diagnosis. We calculated the number of PTEs and bac-STIs that might be prevented, and the number needed to treat (NNT), using either 0, ≥1 or ≥ 2 PTEs in a 12-month period as a threshold for doxy-PEP.

Findings: We found that ~3% of MSM had ≥1 PTEs within 12 months, 26% with one PTE had a second PTE within 12 months; and 32% with two PTEs, a third. Based on this analysis, the NNT for doxy-PEP taken by all MSM to prevent a first PTE is 50; by MSM following a first PTE to prevent a second, 7; and following a second PTE to prevent a third, 6. Taking doxy-PEP following one PTE would avert one-third of subsequent PTEs and one-fifth of bac-STIs.

Conclusion: This analysis informed decisions about prescribing doxy-PEP to achieve the best prevention outcomes while minimizing antibiotic overuse. Doxy-PEP use in MSM with ≥1 bac-STI diagnoses within 12 months would yield a high population-level prevention outcome with a low NNT.

Supporting Document

Table 1: Unique gay, bisexual and other men who have sex with men (gbMSM); positive bac-STI testing episodes (PTE); and chlamydia, gonorrhea and syphilis bac-STI diagnoses by year, Ottawa, 2021–2024

	Number of gbMSM*	Number of gbMSM with 1+ PTE	Percent of gbMSM with 1+ PTE	Total number of PTEs	Number of chlamydia infections	Number of gonorrhea infections	Number of syphilis infections	Total number of infections
2021	20,497	413	2.0%	471	231	169	125	231
2022	20,884	644	3.1%	770	388	368	120	388
2023	21,290	749	3.5%	889	399	449	150	399
2024	21,650	692	3.2%	792	330	456	102	888
Sum	N/A	1,912**	N/A	2,922	1,348	1,442	497	3,287
2022-24 average	21,274	695	3.3%	817	372	424	124	921

Notes:

*Based on population growth following 2019 estimate from SexNow

** Individuals are counted in each calendar year in which they experience a PTE

Table 2. Number and percent of gbMSM with one or more PTEs in a 12-month period, with corresponding number needed to treat (NNT), by year, Ottawa, 2022 – 2024

Year	Number of PTEs/individual	Number of individuals with given number of PTEs	Percent of individuals with given number of PTEs who have another PTE	Percent of individuals with given number of PTEs who would have another PTE were doxy-PEP used	NNT to have prevented another PTE
2022	0+	20,884	3.2%	1.2%	52
	1	485	26.3%	10.2%	6
	2	117	32.4%	12.6%	5
	3+	42			
2023	0+	21,290	3.6%	1.4%	46
	1	577	24.0%	9.3%	7
	2	116	36.3%	14.1%	5
	3+	56			
2024	0+	21,650	3.2%	1.3%	51
	1	511	26.8%	10.4%	6
	2	140	25.1%	9.7%	6
	3+	41			
2022-24 average	0+	21,274	3.3%	1.3%	50
	1	524	24.6%	9.5%	7
	2	124	27.1%	10.5%	6
	3+	46			

Note: The calculation of PTEs averted takes average efficacy of doxy-PEP into account

Table 3: Potential public health impact of offering doxy-PEP to individuals with no, one, or two previous PTEs, Ottawa 2022-2024 annual average

Number of previous PTEs/individual in a 12-month period ending with the individual's most recent PTE	Average number of PTEs averted in the following 12 months if given doxy-PEP following a given PTE	% of PTEs in the following 12 months averted if given doxy-PEP	Average number of bac-STIs averted in the following 12 months if given doxy-PEP following a given PTE	% of bac-STIs in the following 12 months averted if given doxy-PEP
0	426	61.2%	564	61.2%
1	209	30.1%	160	17.4%
2	85	12.2%	46	5.0%

Note: The calculation of PTEs and bac-STIs averted takes average efficacy of doxy-PEP into account

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Abstract #251

An Assessment of HIV PrEP Access in Nova Scotia

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Introduction:

HIV Pre-Exposure Prophylaxis (PrEP) is critical to HIV prevention. Understanding PrEP use, prescribing, and dispensing patterns is crucial for optimizing HIV prevention strategies in Nova Scotia. This study assesses PrEP access from 2019-2023.

Methods:

We conducted a descriptive analysis tracking PrEP clients (2019-2023) using unique person identifiers. Prescribing providers and dispensing pharmacies were identified by license numbers. Client-prescriber/pharmacy and prescriber/pharmacy distances were calculated using the linear distance between Nova Scotian postal code centroids.

Results:

PrEP dispensation doubled (2019-2023) particularly among males, with a rising male-to-female ratio (7:1 to 15:1). Most dispensations were to those aged 30-34 in the Central Zone. Prescriptions increased 139.9% (primarily in the Central Zone), with a 116% increase in prescribers (mostly family physicians). 47.5% of provincial pharmacies dispensed PrEP (n=236), located in the central zone Median client travel distance to providers and pharmacies was 7.8 km and 2.7 km, respectively, with most traveling 20 km or less. The maximum distance a client traveled to access a prescriber was 370 km, while the maximum distance to reach a pharmacy was 407 km. Approximately, 28.7% of clients traveled over 20 km to obtain a prescription, while 13.8% traveled the same distance to have it dispensed. 1.1% (mainly clients from the Eastern Zone) traveled more than 300 km to access a prescriber and 0.8% (mostly from the same zone) commuted a similar distance to dispense it.

Conclusions and implications:

These findings will inform targeted actions to increase PrEP access in Nova Scotia. More work is needed to address the lack of increased uptake by females and to expand PrEP access outside of the Halifax Regional Municipality. By ensuring that more individuals at high risk have access to this effective prevention method, we can help curb the spread of HIV in the province.

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Abstract #259

The Economic Cost of HIV-AIDS in Canada

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Background: While Canada has made significant progress in reaching the UNAIDS' 95-95-95 targets, there are signs that progress is plateauing. This suggests the need for greater commitment and public investment to address HIV-AIDS as a public health threat. To support policymakers faced with competing priorities and limited budgets, we provide updated estimates of the economic burden of HIV in Canada, which was last estimated in 2011.

Methods: A burden analysis was conducted to estimate the lifetime economic cost among people diagnosed with HIV in 2021. An annual cohort approach was used. The economic burden includes healthcare costs, individual costs incurred from productivity losses, and the value of diminished quality of life. This burden analysis was compared to previous evaluations to assess the impact over time and to forecast the cost of HIV investment remains status quo.

Results: We estimate that the current lifetime cost of HIV for all newly diagnosed persons in 2021 to be over \$2.1 billion, including \$454 million (22%) due to healthcare costs, \$1.2 billion (57%) due to productivity losses and \$453 million (21%) due to diminished quality of life. Adjusted for inflation, this represents a modest decline in the total economic burden from a decade ago. However, the healthcare costs have risen over that time, meaning the direct financial pressure on Canada's healthcare system from HIV has grown.

Conclusion: Despite Canada's progress in addressing HIV over the last decade, the economic burden of HIV remains substantial. These costs represent a fraction of the total costs incurred and are likely an underestimation due to underreporting. Further, with 2023 surveillance data showing a significant increase in incident cases compared to 2021 (approximately 66%), the economic burden is unlikely to diminish, leaving significant headroom for further investments to reach the 95-95-95 targets in a short timeframe.

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Abstract #252

Cost-effectiveness and Public-Health Impact of Cabotegravir Long-Acting Injectable for HIV Pre-exposure Prophylaxis in Canada

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Background: In Canada, HIV incidence increased 24.9% between 2021 and 2022. Cabotegravir long-acting (CAB-LA), the first long-acting injectable, administered every two months was approved in Canada (05/2024) as pre-exposure prophylaxis (PrEP) for adults and adolescents, including men who have sex with men, transgender women, and cisgender women. The HIV Prevention Trials Network (HPTN) 083 and HPTN 084 studies demonstrated superiority of every-two-month CAB-LA vs. daily oral TDF/FTC for PrEP.

Methods: A decision-analytic Markov model was used to estimate lifetime clinical and economic impact of CAB-LA compared with oral TDF/FTC and no PrEP from a Canadian public payer perspective. Modelled individuals initiated PrEP (CAB-LA, TDF/FTC, or no PrEP) upon model entry and continued to receive their initially assigned PrEP until discontinuation, HIV acquisition, or death. Secondary HIV seroconversions related to onward transmission were also estimated. An indirect treatment comparison including HPTN 083 and 084 provided an estimate of effectiveness of CAB-LA vs. no PrEP based on observed effectiveness of CAB-LA vs. TDF/FTC and predicted effectiveness of TDF/FTC vs. no PrEP.

Results: Number needed to treat (NNT) to prevent one primary HIV acquisition over the modelled lifetime was 13 for CAB-LA and 19 for TDF/FTC compared with no PrEP; compared with TDF/FTC, NNT was 37 with CAB-LA. CAB-LA was less costly (\$174,847) and more effective (36.86 QALYs) than TDF/FTC (\$192,328; 36.67 QALYs) and no PrEP (\$261,682; 36.29 QALYs), resulting in incremental cost savings of \$17,481 and QALY gains of 0.20 vs. TDF/FTC, and \$86,835 and 0.57 vs. no PrEP. CAB-LA would be the dominant PrEP option based on the \$50,000 willingness-to-pay threshold in Canada.

Conclusions: Compared to TDF/FTC and no PrEP, results indicate introduction of CAB-LA as PrEP in Canada would result in substantial public health and monetary benefits by preventing additional HIV acquisitions and reducing clinical and economic burden of HIV.

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Abstract #43

HHV-8 seropositivity among gay, bisexual, and other men who have sex with men in Montreal

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Background

HHV-8 is a gammaherpesvirus associated with Kaposi sarcoma, some B lymphoproliferative disorders and inflammatory cytokine syndrome, mostly in older and immunosuppressed men. Lack of validated serological tests has hampered the assessment of its seroprevalence. Using our in-house serology assay, we assessed demographic and sexual behaviour factors linked with HHV-8 seropositivity in men.

Methods

802 Cis and transgender gay, bisexual and other men who have sex with men (GBM) from the Engage study in Montreal were included. 33 HIV-negative heterosexual men from the McGill HIV cohort were included. HHV-8 serology was assessed by flow cytometry quantifying IgG binding to HHV-8 infected BCBL1 cells. Comparisons of demographics and sexual behaviours in GBM were performed using Kruskal Wallis', t- and binomial tests.

Results

From a total of 802 participants, 157 (19.6%) were living with HIV. HHV-8 seropositivity was elevated in GBM with HIV as compared to GBM without HIV (67.5% vs. 41.8%, $p < 0.001$), independently of ethnicity. Conversely, HHV-8 seropositivity was low at 9.1% in heterosexual men compared to GBM, regardless of HIV ($p < 0.001$). HHV-8 seropositive HIV-negative GBM were older (median age 35 vs. 32, $p < 0.001$), and had more lifetime (8 vs. 5, $p < 0.001$) and recent (<6 months) sexual partners (6 vs. 3, $p < 0.01$) than their HHV-8 seronegative counterparts. HHV-8 seropositive GBM living with HIV had similar age (52 vs 50, $p > 0.99$), but tended to have more sexual partners in their lifetime (10 vs. 4, $p = 0.054$) than their HHV-8 seronegative counterparts. Irrespective of HIV, HHV-8 seropositive GBM had more often been diagnosed with an STI in their lifetime (HIV-: 70 vs. 56%, HIV+: 94 vs. 82%, $p < 0.001$).

Conclusion

HHV-8 seropositivity appears elevated among this large sample of Montreal GBM compared to heterosexuals. Older HIV-negative GBM and those living with HIV may be more at risk for the development of HHV-8-induced diseases.

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Abstract #283

An intersectional exploratory analysis of syphilis prevalence among people who inject drugs in Montreal, Canada

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BACKGROUND

Syphilis notifications have increased among women and heterosexual men in Canada and people who inject drugs (PWID) are an emerging group at risk. However, there is a limited understanding of syphilis specifically among PWID. We examined syphilis prevalence and how this varied by intersecting population groups and environmental factors.

METHODS

Data were from HEPCO, a cohort study of PWID in Montreal. Syphilis testing via venipuncture was added in November 2022 with treponemal testing reflexed to non-treponemal testing if positive. We included the result at each person's first test and Fisher's exact test was used to examine differences in the prevalence of any syphilis exposure, inclusive of current or past infection.

RESULTS

As of March 2024, 386 people (16.1% women, 2.6% non-binary/transgender/two-spirit) had a syphilis test. Two people (0.52% [95%CI 0.1-2.1]), one man and one woman had current syphilis and 33 (8.6% [95%CI 6.1-11.8]) had any syphilis exposure. Men and women both had a prevalence of 8.1%. Among men, prevalence was higher among those identifying as gay, bisexual and other MSM (gbMSM), those with HIV, and those who reported recent sex work (all $p < 0.001$). All women with syphilis identified as heterosexual and none were living with HIV. Prevalence was higher among women reporting recent sex work and recent unstable housing; however, this was not statistically significant.

CONCLUSION

Current syphilis infection was uncommon among this cohort of PWID; however, any syphilis exposure was higher than anticipated. Among men, there is an intersection and overlap among those who identify as gbMSM and are living with HIV. Among women, there was a possible link to sex work and unstable housing however caution is needed due to the small sample size. Periodic syphilis testing among PWID may be justified alongside testing for other STBBIs.

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Abstract #201

Recent Syphilis Incidence for Gay, Bisexual and Men who have Sex with Men (gbMSM) versus non-gbMSM at a Community Health Centre in Victoria, British Columbia, Canada

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Background:

Rates of syphilis, a sexually transmitted blood-borne infection (STBBI), have surged over the last decade. This increase is driven by cases among gbMSM, individuals living with HIV (IwHIV) and females. There has been a fifteen-fold increase of cases in females from 2017 to 2022, with over 90% of childbearing age, raising concerns about vertical transmission.

Cool Aid Community Health Centre in Victoria, BC serves 7,000 clients experiencing homelessness and mental health and substance use challenges. The weekly nurse-led STBBI clinic, Prism Wellness, partners with AVI Health and Community Services and is staffed by STI certified practice nurses and offers STBBI education, screening, treatment, pre-exposure prophylaxis (PrEP) and doxycycline post-exposure prophylaxis (doxyPEP). STBBI testing is also offered during regular client encounters.

Methods:

A retrospective chart review was conducted to identify and include all clients tested for syphilis between January 1, 2021, to December 31, 2024. Client demographic variables included age, gender, gbMSM, IwHIV, and PrEP.

Results:

7828 syphilis tests were completed with 2994 unique individuals in the last 3 years (2725 non-reactive, 269 reactive). Of the reactive tests (n=269, mean age=46), 111 (41%) were determined to have a current infection (149 previously treated, 9 false positive). For those with current infection, 106 (95%) were fully treated. Females, particularly those under 40, are disproportionately affected by recent syphilis infections. While females account for 25% of all reactive syphilis tests, they represent 41% of current infections.

Conclusions:

Evolving syphilis trends require targeted interventions as rates shift from gbMSM and pIwHIV to females.

Supporting Document

Recent Syphilis Incidence for gay, bisexual and men who have sex with men (gbMSM) versus non-gbMSM at a Community Health Centre in Victoria, British Columbia, Canada

Table 1.

	Previously Treated	False Positive	Current Infection	Current who completed treatment	Total
All Syphilis Reactive	149 (55%)	9 (3%)	111 (41%)	106 (95%)	269
Age					
46 and under	79(49%)	4 (2%)	78 (48%)	75 (96%)	161
47 and over	70 (64%)	5 (5%)	34 (31%)	31 (91%)	108
Gender					
Female	20 (30%)	1 (1.5%)	46 (69%)	43 (93%)	67
Female under 40	7 (21%)	0	26 (79%)	24 (92%)	33
Male	127 (64%)	8 (4%)	63 (32%)	61 (97%)	198
Trans/non-binary	2 (50%)	0	2 (50%)	2 (100%)	4
gbMSM					
Yes gbMSM men	105 (78%)	0	30 (22%)	30 (100%)	135
Non gbMSM men	14 (29%)	8 (17%)	26 (54%)	24 (92%)	48

Unk gbMSM men	10 (56%)	0	8 (44%)	8 (100%)	18
HIV+	55 (76%)	2 (3%)	15 (21%)	15 (100%)	72
HIV+ men	52 (76%)	2 (3%)	14 (21%)	14 (100%)	68
HIV+ women	2 (67%)	0	1 (33%)	1 (100%)	3
On PrEP	46 (77%)	0	14 (23%)	14 (100%)	60

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Abstract #280

Gender-based Violence among Adolescent Girls and Young Women in Dnipro, Ukraine: Implications for HIV Prevention Across Sex Activity Typologies

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Background: Gender-based violence (GBV) shapes HIV risk among adolescent girls and young women (AGYW). Transactional sex (TS) and sex work (SW) often occur within structural contexts that heighten exposure to both violence and HIV. This descriptive cross-sectional analysis explored the prevalence of GBV among cisgender AGYW engaged in casual sex (CS), TS, and SW in Dnipro, Ukraine, examining whether associations between sex activity typology and GBV persisted after controlling for key confounders.

Methods: Participants included AGYW aged 14–24 years (n = 1,818) engaged in CS (n = 899), TS (n = 469), or SW (n = 450), sampled within a 2015 HIV prevention study. The prevalence of GBV was calculated for each group, and associations between sex activity typology (CS/TS/SW) and outcomes of lifetime or recent GBV were assessed using separate multivariable logistic regression models; adjusted odds ratios (AORs) and 95% confidence intervals (95% CI) are reported.

Results: Lifetime GBV was reported by 47.8% (95% CI: 43.1–52.5) of AGYW engaged in SW, 23.0% (19.3–27.1) in TS, and 13.1% (11.0–15.5) in CS (p<0.001). Recent GBV followed similar patterns: 23.1% (19.3–27.3) (SW), 8.5% (6.2–11.4) (TS), and 4.0% (2.8–5.5) (CS) (p<0.001). AORs of lifetime and recent GBV were 3.9 (2.9–5.3, p<0.001) and 3.9 (2.5–6.0, p<0.001) for SW, and 1.8 (1.3–2.5, p<0.001) and 1.7 (1.0–2.7, p = 0.042) for TS, compared to CS. Only 24.7% (20.8–28.9) of AGYW in SW reported ever accessing an HIV prevention clinic, with little use among the TS or CS groups. Recent use of embedded violence prevention services was negligible.

Conclusion: These findings underscore the urgent need for integrated and increased awareness of HIV and GBV prevention services, particularly those tailored to address both the overlapping and distinct risks faced by AGYW engaged in TS and SW.

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Abstract #59

Patterns of HIV-1 Drug Resistance Among Key Populations in Nigeria: Insights from the Integrated Biological and Behavioural Surveillance Survey, 2020-2021.

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Background: HIV-1 drug resistance mutations (DRMs) compromise the effectiveness of antiretroviral therapy (ART) and lead to treatment failure. While DRMs have been extensively studied in many parts of the world, data from African countries, including Nigeria, remains limited.

Methods: A cross-sectional integrated biological and behavioural surveillance survey was conducted across 12 states, representing two states from each of Nigeria's geo-political zones, among female sex workers, men who have sex with men, people who inject drugs (PWID), and transgender individuals. Dried blood spot specimens were collected from 2,309 participants, of whom 719 (31.1%) were HIV-1 viremic (>1,000 copies/mL). Partial HIV-1 pol genes were sequenced from viremic specimens using an in-house DRM genotyping assay. DRMs were identified from MiSeq reads with HyDRA Web and resistance levels were interpreted using the Stanford HIVdb program. Pearson chi-square tests assessed associations between sociodemographic factors and DRMs.

Results: Of the 414 HIV-1 genotyped specimens, 16.7% contained at least one DRM. The most common DRMs were K103N, M41L, and M184V, with 9.2% showing high-level resistance to both efavirenz and nevirapine. DRMs were most prevalent among PWID (21.6%) and in the North Central zone (25.8%). Older age was significantly associated with the presence of DRMs ($p < .001$). Notably, over half (58.7%) of participants reported being unaware of their HIV-positive status and having never received ART.

Conclusion: Our findings suggest the presence of transmitted drug resistance, given most participants reported never receiving ART. The association between older age and DRMs may be indicative of HIV-1 chronicity and/or sub-optimal ART adherence. While the high-level resistance to efavirenz supports the transition to dolutegravir-based regimens in Nigeria, parallel efforts should be made to improve adherence and ensure sustained ART access to prevent the emergence and spread of drug-resistant strains. Ongoing surveillance remains essential to address these challenges and guide effective interventions.

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Abstract #158

Use of HIV Pre-Exposure Prophylaxis Among Men Who Have Sex with Men: Low Uptake and Retention Despite High-Risk Indications

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HIV pre-exposure prophylaxis (PrEP) is over 99% effective in preventing HIV infection when medication adherence is high. Despite this, uptake and retention in PrEP care remains less than optimal. We investigated here whether men who have sex with men (MSM) who presented with objective risk factors for HIV acquisition and were automatically offered a referral to a PrEP provider would have a higher acceptance, initiation and retention in PrEP. Through our PrEP-RN program, MSM with clinical evidence of HIV risk received from a reflexive offer for PrEP by a nurse. Number of offers, referral acceptance, presentation to first appointment, PrEP initiation, and retention in care at 6 months were examined between August 2018 and November 2022. Data were further analyzed to look at trends based on age and referral clinic setting. Of 1181 MSM identified with objective risk factors for HIV acquisition who automatically received an offer for PrEP referral, only 50% accepted the offer, 28% initiated PrEP and 16% remained on PrEP at 6 months. Loss across the cascade was more pronounced for youth. We found a notable disconnect between the presence of objective risk factors for HIV acquisition such as a diagnosis of rectal gonorrhea or Chlamydia or syphilis and acceptance, initiation and retention in PrEP. This notwithstanding, 137 at risk individuals were retained in care because of an active offer of PrEP. Nurse-led PrEP was as effective in terms of initiation and retention as that delivered by infectious diseases physicians. While an active offer of PrEP successfully brought at risk individuals into care, more work is required to understand how individuals perceive HIV risk, how they weigh the benefits and challenges of PrEP, how stigma and structural barriers affect PrEP retention and how these factors vary between the diverse groups affected by HIV.

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Abstract #170

Exploring the Relative Importance of Different Aspects of PrEP Care Among Two-Spirit, Gay, Bisexual, Queer and Other Men Who Have Sex With Men (2SGBQM): The Future of PrEP is Now

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Background

Long-acting PrEP formulations offer opportunities to re-imagine PrEP delivery. We pilot-tested a questionnaire about PrEP preferences using Best Worst Scaling (BWS) among Two-Spirit, gay, bisexual, queer and other men who have sex with men (2SGBQM).

Methods

HIV-negative 2SGBQM recruited from a Toronto PrEP clinic and community-based organizations (CBOs) completed a 49-item electronic questionnaire, assisted by trained research staff over Zoom. The questionnaire included 12 BWS questions, each presenting 4 hypothetical PrEP care scenarios characterized by PrEP product (daily pill, on-demand pill, intramuscular injection, subcutaneous injection, intravenous infusion, implant), care setting (clinic, pharmacy, CBO, home), healthcare provider (physician, nurse, pharmacist, community worker), and assessment format (in-person, telephone, video-link, online). For each scenario, participants ranked the relative importance of each attribute for decision-making. We used ranked order logistic regression to estimate the relative importance of attributes/levels. We derived preference scores from coefficient values for levels and corresponding attributes, rescaled from 0-100 (least to most important).

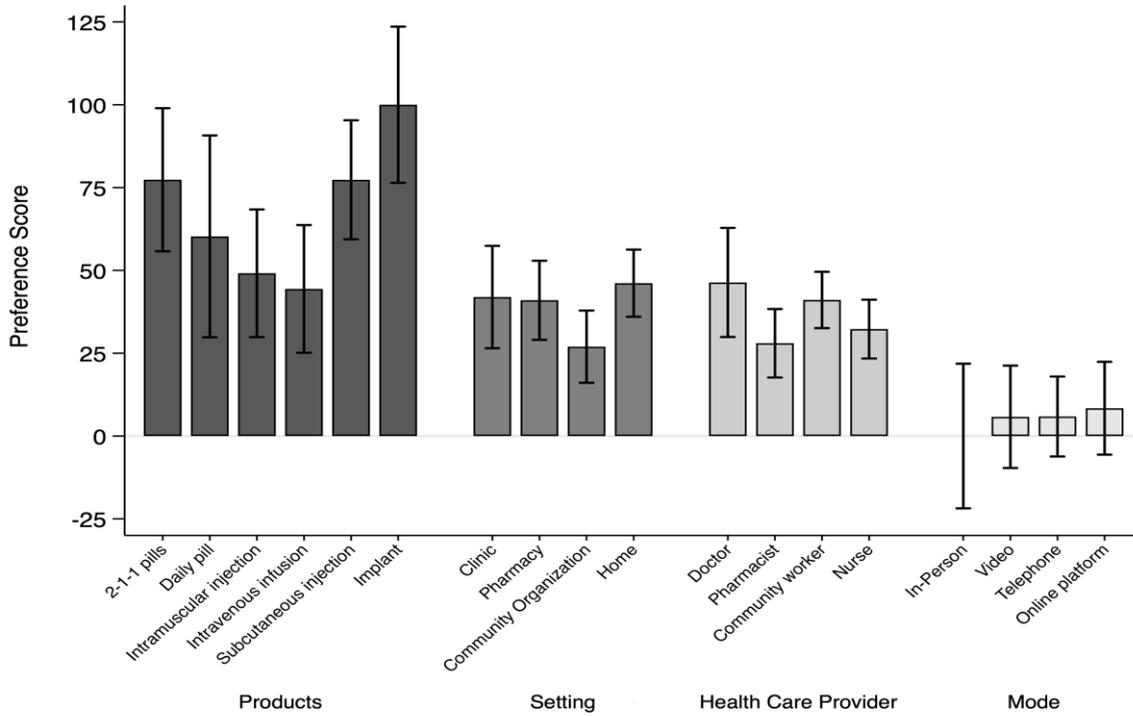
Results

Of 39 participants, 35 (90%) were recruited from clinic, 38 (97%) had post-secondary education, 14 (36%) were racialized, and median age was 38 years. The Figure shows the relative importance of each attribute/level combination (bar height) and the variability in response (vertical lines). The most important attribute in determining willingness to use PrEP was the product itself, and there was greater variability in how participants viewed individual PrEP products compared with other aspects of care.

Conclusions

These pilot results suggest that diverse PrEP products, care settings and provider types warrant study for enhancing PrEP delivery for 2SGBQM in Canada.

Supporting Document



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Abstract #310

New HIV Diagnoses Among Participants of British Columbia's Publicly-Funded HIV Pre-Exposure Prophylaxis Program

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Background

In 2018, publicly-funded, oral tenofovir-based HIV Pre-Exposure Prophylaxis (PrEP) became available to individuals at elevated HIV risk in British Columbia (BC). We describe new HIV diagnoses, evaluate factors associated with HIV diagnosis, and estimate the diagnosis rate amongst BC PrEP program participants.

Methods

Participants with ≥1 PrEP dispensing between 1-Jan-2018 and 31-Dec-2023 (follow-up to 30-Jun-2024) were included. We described baseline characteristics and compared participants with and without subsequent HIV diagnosis, using Chi-square or Fisher's exact tests and Wilcoxon rank sum test. We identified factors associated with HIV diagnosis using a multivariable model, and reported the diagnosis rate per 100 person-years (PY).

Results

Overall, 12,389 PrEP participants were included (98.1% men who have sex with men [MSM]) and followed for median (Q1-Q3) 31 (15-58) months. 73/12,389 (0.6%) participants were subsequently diagnosed with HIV at median 32 (13-50) months after enrolment, and median 13 (6-28) months after PrEP prescription run out. All were MSM, and were younger (median 31 [25-37] vs. 32 [27-41] years; p=0.044) with higher HIRI-MSM scores (median 22 [18-29] vs. 18 [14-22]; p<0.001) than participants without new HIV diagnosis. Substance use, syphilis infection, and <3 PrEP prescription fills were associated with increased odds of HIV infection (Table). The HIV diagnosis rate was 0.19 per 100 PY (95%CI, 0.14, 0.23) over 39,313 PY of follow-up.

Conclusions

New HIV diagnoses were low amongst BC's PrEP program, occurring almost exclusively among participants disengaged from PrEP medication. Our results suggest focused follow-up may be warranted for such participants with ongoing risk factors.

Supporting Document

Table: Multivariate results for the probability of new HIV diagnosis amongst PrEP participants, N=12389		
Variable	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Age (per 10-year decrement) ^a	1.32 (1.05-1.68)	1.20 (0.94-1.52)
Baseline HIRI-MSM score		
10-24	1.00	1.00
≥25	2.87 (1.77-4.66)	2.04 (1.22-3.42)
NA/Unknown	0.94 (0.34-2.64)	0.68 (0.24-1.97)
Known substance use ^b		
No	1.00	1.00
Yes	7.96 (4.24-14.94)	3.73 (1.88-7.40)
Syphilis infection		
No	1.00	1.00
Yes	4.59 (2.76-7.63)	4.55 (2.64-7.83)
Unknown	1.23 (0.52-2.90)	0.71 (0.29-1.78)

Time between last prescription to study end (per 1 month increment) ^c	1.05 (1.04-1.06)	1.03 (1.02-1.04)
Number of prescriptions ^d		
≥3	1.00	1.00
<3	4.43 (2.79-7.05)	3.91 (2.22-6.88)
OR, odds ratio; HIRI-MSM, HIV incidence risk index score for men who have sex with men ^a Age at first PrEP prescription dispense. ^b Known substance use based on reported injection drug use and/or positive urinary drug screening. ^c From expected PrEP prescription run out date (based on daily use) to the study end date. ^d Number of HIV PrEP prescriptions dispensed per participant.		

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Abstract #293

Describing the HIV PrEP cascade and predictors of willingness & use among gay, bisexual and other men who have sex with men in British Columbia and Ontario

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Introduction:

HIV pre-exposure prophylaxis (PrEP) use is increasing in Canada, but barriers to uptake persist. We described the PrEP cascade among gay, bisexual, and other men who have sex with men (GBM) in Ontario and British Columbia (BC), and identified predictors of cascade outcomes.

Methods:

Using cross-sectional 2022 PRIMP survey data from GBM within five urban centers across Ontario and BC, we constructed a PrEP cascade defined as being: 1) aware of, 2) willing to use, and 3) currently using PrEP. For outcomes 2) and 3), we used a Change-In-Estimate approach with stepwise variable selection to produce adjusted odds ratios (aORs) with 95% confidence intervals (CIs) comparing BC to ON. Subsequently, multivariable logistic regression was used to identify predictors for each outcome.

Results:

Among the denominators of 1,193 eligible respondents, PrEP awareness, willingness, and current use were reported by 96.5%, 84.1%, and 55.2%, respectively. Predictors of willingness included residing in BC, younger age, higher HIRI-MSM score, identifying as gay, full-time employment, prior post-exposure prophylaxis (PEP) use, and knowing PrEP users. Predictors of current PrEP use included older age, higher HIRI-MSM score, income >\$40,000/year, private drug insurance, prior PEP use, and knowing PrEP users (Table 1).

Conclusions:

Current PrEP use among eligible GBM in BC and Ontario is moderate. Willingness and use were higher among those who knew others' using PrEP, had taken PEP themselves, and had greater socioeconomic resources, suggesting that promotion of access pathways, PEP use, and expanded public funding models could be leveraged to improve the PrEP cascade.

Supporting Document

Table 1: Predictors of willingness to use PrEP and current PrEP use^a.

Predictor Variable	Willingness to use PrEP aOR (95%CI)	Current PrEP use aOR (95%CI)
BC (ref=ON)	1.61 (1.10,2.37)	1.13 (0.84,1.53)
Age (per 1 SD increase)	0.75 (0.62,0.91)	1.43 (1.22,1.70)
HIRI score (per SD increase)	1.27 (1.03,1.57)	1.59 (1.35,1.87)
Sexual orientation (ref=Gay)		
Bisexual	1.10 (0.66,1.90)	<i>N.I.</i>
Other	0.44 (0.21,0.97)	<i>N.I.</i>
Yearly Income (ref <\$40,000)		
\$40,000 - \$80,000	<i>N.I.</i>	1.67 (1.13,2.49)
>\$80,000	<i>N.I.</i>	1.69 (1.08,2.64)
Prefer not to answer	<i>N.I.</i>	1.61 (0.90,2.90)

Occupation (ref=student)		
Employed full time	1.85 (1.03,3.22)	<i>N.I.</i>
Other	1.10 (0.57,2.10)	<i>N.I.</i>
Drug coverage (ref=private)		
Public	<i>N.I.</i>	0.58 (0.36,0.94)
Out of pocket	<i>N.I.</i>	0.43 (0.29,0.64)
Other	<i>N.I.</i>	0.45 (0.24,0.87)
Healthcare Provider (ref=PCP)		
Non-PCP	<i>N.I.</i>	0.94 (0.67,1.31)
No regular HCP	<i>N.I.</i>	0.64 (0.39,1.04)
Prefer not to answer	<i>N.I.</i>	0.41 (0.19,0.85)
Prior PEP use (ref=no)		
Yes	5.34 (2.70,12.16)	1.99 (1.39,2.88)
Prefer not to answer	1.42 (0.85,2.47)	0.76 (0.49,1.18)
Knowledge of PrEP users (ref=no)		
Yes	4.29 (2.60,7.05)	4.29 (2.36,8.11)
Prefer not to answer	1.89 (0.65,6.39)	8.56 (2.58,32.78)

^a aOR=adjusted odds ratio; BC=British Columbia; CI=confidence interval; HCP=healthcare provider; HIRI=HIV Incidence Risk Index for men who have sex with men; N.I.=variable not included in final logistic regression model; PCP=primary care provider; PEP=post-exposure prophylaxis; PrEP=pre-exposure prophylaxis; ON=Ontario; SD=standard deviation.

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Abstract #144

Evaluating the Reach of the Kingston, Frontenac, Lennox, and Addington Public Health Unit's Pre-Exposure Prophylaxis Clinic: An Implementation Science Framework Evaluation

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Background: HIV diagnoses in Canada increased by 35.2% from 2022-2023, challenging the UNAIDS 95-95-95 targets. Scaling access to pre-exposure prophylaxis (PrEP) is critical, yet uptake remains low in suburban and rural areas. Since 2018, Kingston, Frontenac, Lennox, and Addington Public Health has offered PrEP services through its sexual health clinic (SHC) to address these gaps. This study aims to evaluate the clinic's reach and effectiveness in reducing HIV risk.

Methods: The SHC possesses an interdisciplinary team, initially focused on gay, bisexual, and other men who have sex with men (gbMSM), before expanding to serve all populations at risk for HIV. Clients are referred by healthcare providers or self-initiate care. The clinic offers in-person and remote services for appointments and prescriptions within the first 30-days and every 3 months thereafter, including SMS reminders and phone appointments. In consultation with SHC staff, we used the RE-AIM Framework to analyze client characteristics (reach) and evaluate implementation effectiveness across the continuum of care, leveraging client electronic medical records.

Results: Between October 1, 2018, to December 15, 2024, 171 clients consulted the PrEP clinic, with 71.8% initiating PrEP. Most clients were male (97.8%), ages 29-40 (35.5%), living locally (74.5%), with primary care attachment (57.4%). Data on heterosexual clients and those using injection drugs are not reported due to small sample sizes. The median duration of PrEP use was 8 months (IQR: 3-21 months), with no new HIV diagnoses reported. Overall, 52.4% of clients discontinued, with the highest rates occurring in the first 3 months (30.2%). Reasons for discontinuation included transferring care (28.4%), moving (18.9%), and changes in sexual activity (13.2%).

Conclusion: While the SHC effectively reaches gbMSM and reduces HIV risk, other populations remain underserved. Addressing these gaps requires tailored outreach strategies and inclusive screening practices to optimize HIV prevention.

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Abstract #292

Fragmented Representation: Evaluating Ontario's Public Health Websites, Standards, and Surveillance for inclusion of SOGIE (Sexual Orientation, Gender Identity/Expression) Diverse Communities in Ontario

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Background: Sexual Orientation, Gender Identity, and Expression (SOGIE) diverse communities (SDCs) face notable health inequities, including increased incidence and prevalence of HIV/AIDS within community-specific subgroups (i.e., gay, bisexual, transgender, and other men who have sex with men, GBTMSM). These inequities highlight the need for explicit consideration, whether directly in health service provision and via policies and programming. Prior research on SDCs' representation in health policy bodies in Ontario has highlighted exclusion in policy and programming.

Objectives: This study reviews: 1) Ontario Public Health Standards (OPHS) documents to assess consideration of SDCs; 2) Ontario's public health unit (PHU) websites to explore how SDCs are defined and represented; and 3) publicly available surveillance data and reports for inclusion of SDCs, in measurement and in context.

Methods: OPHS documents, PHU websites, and surveillance data (2013-2024) were collated and analyzed. Overarching themes were gleaned from content reviews.

Results: Preliminary findings suggest that, while most PHUs' websites address SOGIE diversity in sexual health and mental health, representation is inconsistent and often vague. Salient issues such as PrEP for HIV prevention tended to be underemphasized or absent. MPOX vaccination for GBTMSM is disproportionately highlighted compared to broader SOGIE health issues, likely due to the recentness of the issue. OPHS documents lack detailed guidance on SOGIE inclusion, often using generic terms such as "diversity" without actionable directives. Protocols fail to address intersectional needs, particularly for marginalized subgroups. SOGIE-specific identity metrics in surveillance reports, in mental health or sexual health indicators, are largely absent. Reports do not include actionable recommendations or involve community consultations with SDCs, further limiting relevance for health equity.

Conclusion: These findings highlight fragmented and inadequate representation of SOGIE diversity in Ontario's public health systems. Standardized, inclusive policies and targeted data collection are essential to address structural barriers and to foster equitable outcomes.

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Abstract #124

Assessing the fidelity of implementation of a community-based exercise tele-coaching intervention among adults living with HIV in Toronto, Canada

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Objective: To assess the implementation fidelity of a community-based exercise (CBE) tele-coaching (online) intervention seeking to improve health outcomes among adults living with HIV.

Methods: The online 6-month CBE intervention included thrice-weekly 60-minute exercise sessions combining aerobic, resistance, balance, and flexibility exercises, supervised biweekly by a personal trainer (13 sessions); group exercise classes; and monthly group educational sessions. We assessed fidelity from participant and fitness trainer perspectives through structured interviews at months 2 and 6 (assessing 20 fidelity intervention criteria on fitness providers' performance, participant engagement, and exercise experiences) and coaching logs from personal training sessions (frequency, intensity, time, and type of physical activity during supervised sessions and self-reported physical activity the prior week). We defined fidelity to be met if at least 80% of participants reported meeting "complete criteria" for $\geq 80\%$ of the criteria (16/20) assessed through structured interviews, and completed $\geq 80\%$ of the intervention criteria (5/6) reported in coaching logs.

Results: Twenty-nine of 30 participants (age 33-71 years, 69% male) participated in a fidelity interview. According to the interviews and coaching logs, fidelity was not achieved for $\geq 80\%$ of criteria at month 2 or 6. Fidelity was achieved for personal training sessions but not for independent exercise and attendance at exercise classes (29% completed) and monthly group educational sessions (45% completed). At month 2, $\geq 80\%$ of participants reported 70% of the criteria as "completely met" and 30% at month 6. Scheduling issues, disinterest, and technology problems hindered online group exercise class attendance. Disability and disinterest hindered engagement in aerobic, resistance, balance, and flexibility exercise. In supervised sessions, highest exercise adherence was for strength and flexibility exercises ($\geq 80\%$ completion in 57% of participants).

Conclusion: Fidelity of implementation was achieved for supervised components of the intervention, and less for independent exercise. Future research should tailor interventions to personal preferences to improve engagement.

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Abstract #109

Examining Disparities in HIV Treatment Outcomes by Degree of Rurality and Metropolitan Influence in British Columbia, Canada: 2016 - 2023

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Background: Previous research has demonstrated that people living with HIV (PLWH) in rural areas may have suboptimal HIV treatment outcomes. We examined whether rurality impacts treatment interruptions (TIs) and unsuppressed viral load (VL) in a cohort of PLWH after the expansion of the STOP HIV/AIDS program in British Columbia (BC).

Methods: We recruited PLWH aged ≥ 19 years across BC into the STOP HIV/AIDS Program Evaluation (SHAPE) study from January 2016-September 2018 and conducted surveys online or with the assistance of peer-research associates (in-person or by telephone). We used postal code to classify participants' degree of rurality and metropolitan influence based on Statistical Area Classification (SAC) categories. We examined 6-month proportions of participants with TIs (>60 days late for medication refills) and yearly proportions of at least one unsuppressed VL (≥ 200 copies/mL) between 2016-2023. We used univariable generalized estimating equation regression analyses to model TI incidence and unsuppressed VL by SAC category (large, medium-sized/suburb, and rural).

Results: Among 608 PLWH included, the median age was 50 years (Q1-Q3: 43-57) and 21.5% were women. Of 608, 79.8% resided in large, 17.3% in medium-sized/suburban, and 3.0% in rural SAC areas. Overall, 6-month proportions of TIs ranged between 2.9-9.9% and yearly proportions of unsuppressed VL ranged between 10.2-13.9%. There were no statistically significant differences in TI incidence or unsuppressed VL between participants residing in rural (TIs: incidence rate ratio [IRR] = 1.10; 95% CI 0.50-2.40; unsuppressed VL: odds ratio [OR] = 0.89; 95% CI 0.38-2.05) or medium-sized/suburban (TIs: IRR = 1.23; 95% CI 0.88-1.73; unsuppressed VL: OR = 1.38; 95% CI 0.94-2.04) communities compared to large cities.

Conclusion: We did not observe differences in TIs or unsuppressed VL among PLWH residing in smaller or more rural areas relative to large cities, suggesting that disparities based on residence may be lessening over time.

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Abstract #198

Acceptability of Pharmacist-Led Point-of-Care Testing for HIV and Hepatitis C in Correctional Facilities

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Background: Rates of HIV and HCV are disproportionately high among incarcerated populations, yet testing in correctional facilities remains inadequate. Accessible and acceptable testing strategies are critical to address these gaps. Pharmacist-led point-of-care (POC) testing in correctional settings is a novel approach with the potential to normalize testing and overcome barriers associated with traditional methods. This study evaluated the acceptability of pharmacist-led testing for HIV and HCV in correctional facilities.

Methods: Between January and February 2024, two pharmacists visited three rural correctional facilities in Newfoundland and Labrador to offer voluntary HIV and/or HCV POC testing. Eligible participants completed pre- and post-test surveys to share their perceptions and experiences with the testing process. Survey items were based on the Theoretical Framework of Acceptability (TFA) to assess domains of Affective Attitude (AA), Burden (B), Ethicality (E), Intervention Coherence (IC), Opportunity Costs (OC), Perceived Effectiveness (PE), and Self-efficacy (SE). Surveys included multiple-choice questions and Likert-type scales. Descriptive statistics were used to analyze the results.

Results: Among 103 incarcerated individuals, 75 participants expressed interest in testing. A total of 73 HIV tests and 57 HCV tests were administered. The highest positivity ratings (>93%) were observed in domains AA, PE, SE, IC, and OC. All participants (100%) reported comfort in testing by pharmacists and supported its implementation in correctional facilities. A total of 91.1% of participants denied feelings of stigma throughout testing visits, and 97.9% of participants reported an understanding of pharmacist-provided education. Additionally, 52% preferred testing by pharmacists over other healthcare providers, while 38% expressed no strong preference.

Conclusions: Pharmacist POC testing in corrections is associated with high participant acceptability. This highlights its potential as a solution to low testing rates, improving access to essential HIV and HCV testing in underserved populations.

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Abstract #234

Identifying Social-Structural Factors Associated With HIV CBO Service Use and Community Participation Among Women Living With HIV in Metro Vancouver

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Background: Despite growing numbers of new HIV diagnoses in Canada, including among women, HIV Community-Based Organizations (CBOs) remain critically underfunded with limited resources to provide programming, services, and support. Given limited research, this study investigated social-structural factors associated with: (1) HIV CBO service use and (2) community participation among women living with HIV.

Methods: Data were drawn from the Sexual Health and HIV/AIDS: Women's Longitudinal Needs Assessment (SHAWNA) Project, a longitudinal community-based study with women living with HIV in Metro Vancouver (September/2014-February/2025). Bivariate and multivariable logistic regression with generalized estimating equations were employed to investigate the associations between social-structural factors and HIV CBO service use ('used the services of HIV CBOs') and HIV CBO community participation ('volunteered, worked and/or participated in HIV CBOs'), both measured in the last six months. Adjusted odds ratios (aOR) and 95% confidence intervals are reported. Missing data from covariates was addressed using multiple imputation.

Results: The study sample of the first outcome included 270 participants with 1445 observations (2019-2023) and 227 participants with 984 observations for the second (2020-2023). In multivariable analysis, women who were older (aOR:1.03 [1.01-1.05] (per year)), Indigenous (aOR:1.58 [1.01-2.45]), Black and otherwise racialized (aOR: 2.37 [1.25-4.50]) (vs White), and reported food insecurity (vs food secure) (aOR:1.39 [1.11-1.75]) had higher odds of HIV CBO service use. Women who were older (aOR:1.05 [1.01-1.09] (per year)) and had graduated high school (vs less than high school education) (aOR:1.91 [1.02-3.60]) had higher odds of HIV CBO community participation, while women who used criminalized substances (vs none) had lower odds of community participation (aOR:0.55 [0.36-0.86]).

Discussion: Increased support is needed to expand youth-focused services and reduce barriers for structurally marginalized women living with HIV (e.g., criminalized substance use, education) to engage with HIV CBOs. HIV CBOs need bolstered funding to sustain anti-oppressive and culturally safe services.

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Abstract #195

Wellness Outcomes in Relation to Economic and Cultural Poverty among Indigenous Women: Focus on Sexuality

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Background: Indigenous Women Living with HIV have distinct experiences with health and wellness. Understanding how socioeconomic status and cultural experiences impacts their wellness is vital for developing appropriate policy and health supports.

Methods: Frequencies were used to describe categorical variables. Medians and interquartile ranges were used for continuous variables. Associations between sociodemographic and cultural variables with health characteristics were assessed using Chi-square tests for self-rated health (Excellent/Very good Vs. Good/Fair/Poor) and linear regression models for mental and physical health (SF-12). Associations were then stratified by sexual orientation (heterosexual or 2SLGBTQ+).

Results: Of the 318 Indigenous women who participated in CHIWOS, 40% had ever lived in a First Nations (FN) community, 80% identified as heterosexual, and 20% identified as 2SLGBTQ+. The women had levels of physical health (median=47.7 [IQR=35.5, 54.5]) and mental health (median=44.6 [IQR=30.3, 52.3]) that are similar to values reported among other people living with HIV. Food security, paid employment and younger age were associated with better physical and mental health. Women who never lived in a FN community had higher mental (45.6 Vs. 39.9, $p<0.01$) and physical health (45.5 Vs. 42.1, $p=0.04$) than women who had. However, women currently living in a FN community had higher mental (45.8 Vs. 38.7, $p=0.06$) and physical health (44.8 Vs. 41.5, $p=0.39$) than women who were not. The effects of lower socioeconomic status on mental health were more pronounced for 2SLGBTQ+.

Conclusions: Employment status and food security are important for the wellbeing of Indigenous Women Living with HIV. These results underscore the need for tailored interventions and support systems for 2SLGBTQ+ women living in poverty. More work is needed to understand how heterosexism/homophobia may shape the relation between socioeconomic status and mental wellness, and to determine what role sex-related inequities play in shaping the relation between wellbeing and FN community living.

Poster Abstracts – Epidemiology and Public Health Sciences / Abrégés affiches - Épidémiologie et sciences de la santé publique

Abstract #311

Emerging Challenges Posed by Demographic Shifts in New HIV Drug Treatment Program Enrollees in British Columbia

Shinta Thio¹, Tian Shen¹, Morris Chan¹, Gerardo Mondragon¹, Paul Sereda¹, Raquel Espinoza¹, Erin Ready^{2,3}, Chanson Brumme^{1,3}, Viviane Lima^{1,3}, Julio Montaner^{1,3}, Junine Toy^{1,2,3}
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Introduction

Antiretroviral treatment (ART) is provided at no cost to persons living with HIV in BC. HIV/AIDS-related morbidity, mortality, and new infections have declined >90% from their respective peaks after generalized Treatment as Prevention (TasP) and targeted Pre-Exposure Prophylaxis implementation; however, new HIV Drug Treatment Program (DTP) enrollments are rising. Here, we describe evolving socio-demographic characteristics of newly-enrolled DTP participants.

Methods

Demographics, clinical characteristics and prior ART experience were assessed for DTP participants newly enrolled between 2017-2023. Enrollee characteristics (2018 vs 2023) were compared using Chi-square, Fisher's exact, and Wilcoxon rank-sum tests.

Results

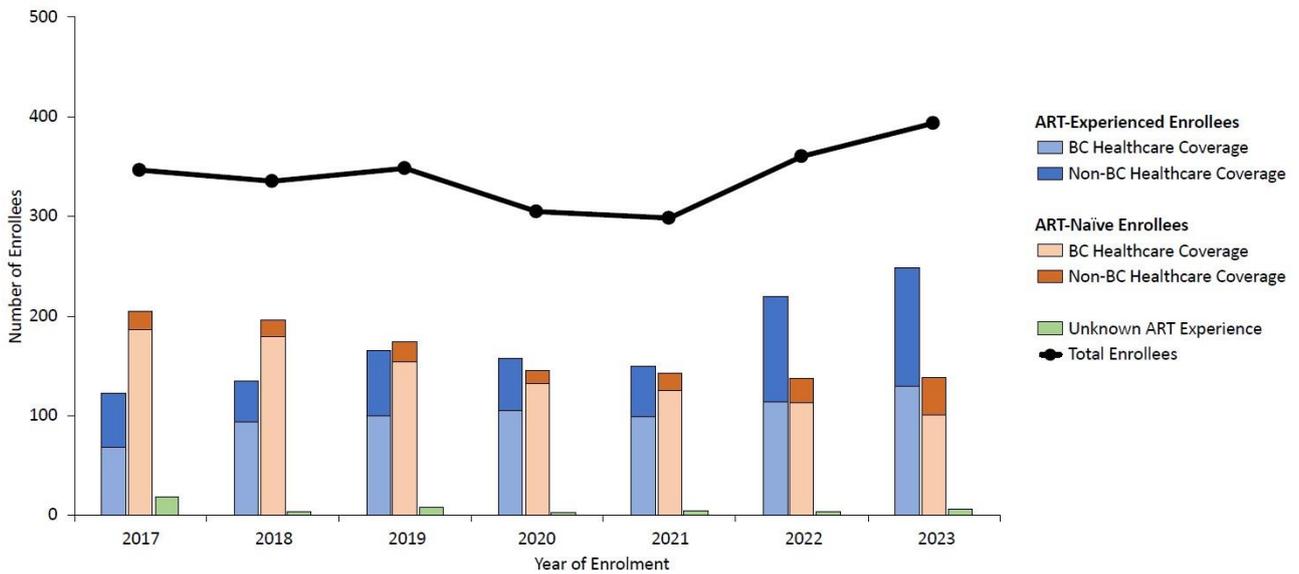
ART-naïve enrollees have decreased, while ART-experienced enrollees from outside BC increased (Figure). The proportion of total new enrollees with non-BC healthcare coverage doubled [18% in 2018 to 40% in 2023 ($p < 0.001$)]. Ethnicity distribution shifted for ART-experienced ($p = 0.002$) and ART-naïve ($p = 0.003$) enrollees (2018 vs 2023), so that within each group, self-identified White participants declined by >10%, with a compensatory increase among Latin and Black enrollees. Similarly, new ART-naïve enrollees with non-subtype B HIV increased from 14% to 31% ($p = 0.002$). Reassuringly, median[Q1-Q3] time from HIV diagnosis to enrolment declined from 23.5 [9-52] to 10 [5-21.5] days ($p < 0.001$) for ART-naïve enrollees.

Conclusion

Observed changes in ART experience, healthcare coverage, ethnicity, and HIV-1 subtype amongst new DTP enrollees are consistent with a shift from predominantly local transmission towards more migratory cases. Further national and international efforts are needed to ensure HIV/AIDS control in BC. Continued support for newcomers is essential to reach "End of AIDS as an Epidemic Concern by 2030".

Supporting Document

**Annual New Enrollees into British Columbia's HIV Drug Treatment Program
 by ART Experience and Healthcare Coverage (2017-2023)**



ART-Experienced Enrollees: previously treated with ART outside BC
 ART-Naïve Enrollees: no prior ART, newly starting ART in BC

BC Healthcare Coverage: active BC health coverage at program enrolment

Non-BC Healthcare Coverage: Interim Federal Health, other provincial coverage, Federal or Provincial Corrections, or inactive BC coverage at enrolment

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Abstract #225

The Use of Area-Based Measures of Socioeconomic Status in Studies Assessing Health Outcomes Among People Living with HIV in Canada and the United States: Scoping Review

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OBJECTIVES

This study provides an overview of area-based measures of socioeconomic status (SES) used in Canada and the United States (US), the domains captured, and their associations with health outcomes among people living with HIV (PLWH).

METHODS

A scoping review of studies published in English between 2012 and 2023 was conducted using PubMed and Web of Science. The search combined 'HIV' with terms related to area-based SES measures. Eligible studies included PLWH, were based in Canada or the US, used area-based SES measures, and assessed health outcomes.

RESULTS

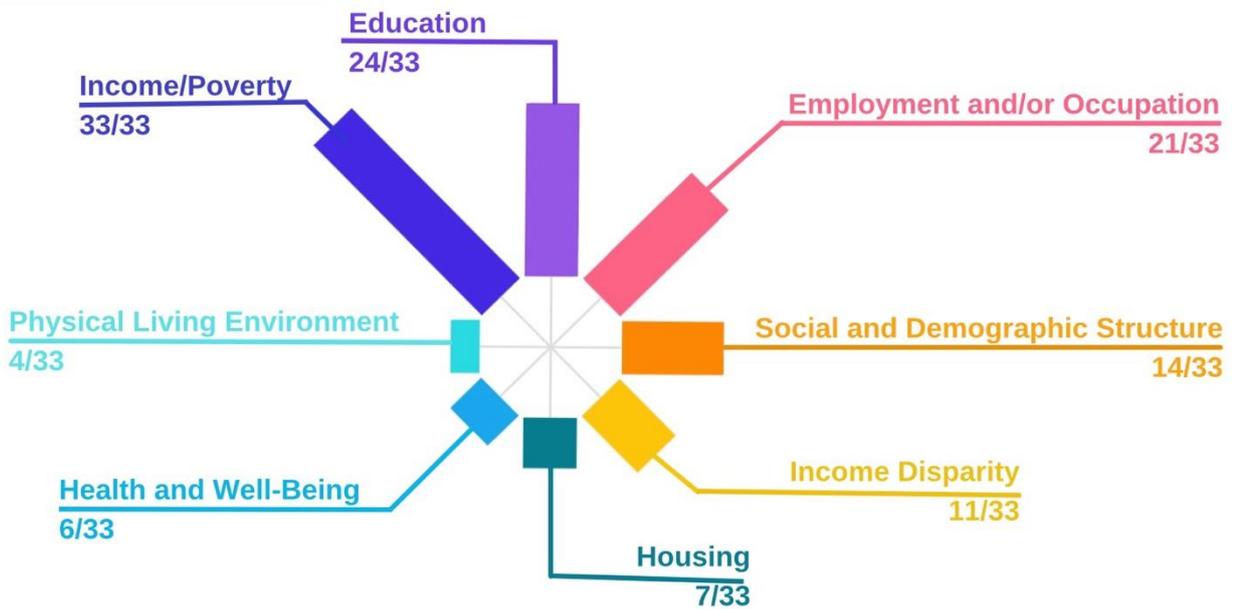
We identified 1,995 studies for title/abstract screening; 104 underwent full-text review; 48 met the inclusion criteria. Of these, 33 have been reviewed to date (31 US, 2 Canada). Most studies focused on PLWH only (29/33). Area-based SES was assessed using composite measures (21/33), single measures (10/33), or both (2/33) – all sourced from census data. The most common area-units used were census tract (12/33), and ZIP code tabulation area (12/33). Area-based SES domains assessed are shown in Figure 1. Common health outcomes assessed included viral load/suppression (19/33), care linkage/retention (6/33), and mortality (5/33). Most studies found that lower area-based SES was associated with poorer health outcomes.

CONCLUSIONS

Most area-based SES measures used in studies among PLWH in the US and Canada were composite scores, with area-level income/poverty, education, and employment/occupation being the most frequently captured domains. The associations between lower SES, assessed by area-level measures, and poorer health outcomes, underscore the utility of such measures in research addressing health disparities among PLWH.

Supporting Document

Figure 1: Distribution of Area-Based Socioeconomic Status Domains Assessed Using Composite Measures, Single Indicators, or a Combination of Both, Across Included Studies



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Abstract #150

Characterizing the Levels of Knowledge, Attitudes, and Behaviors Regarding the Use and Risks Associated with Oral HIV-1 Pre-Exposure Prophylaxis (PrEP) Among People Prescribed PrEP in Canada: Wave 2 Survey Findings

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Background: Educational materials on PrEP safety and effectiveness are privately and publicly available online for people prescribed PrEP. We assessed Canadian PrEP users' knowledge, attitudes, and behaviors regarding PrEP.

Methods: People aged ≥ 18 years who were currently taking or had previously taken (≤ 30 days) oral PrEP were invited to participate in Wave 2 (September–November 2024) of an online, self-reported, cross-sectional survey. Proportional sampling based on PrEP user location was utilized to recruit respondents. Primary outcome was knowledge of PrEP use and risks; adequate knowledge was defined as $\geq 75\%$ correct responses to 12 questions. Secondary outcomes included 5-point Likert scale questions on attitudes and behaviors towards PrEP. Wave 1 results were previously presented.

Results: Sixty-nine PrEP users completed the survey; most identified as male (98.6%), had a college education or higher (92.8%), and lived in Ontario (56.5%) or Quebec (26.1%). Overall, 47.8% demonstrated adequate knowledge, with 70.3% correct answers on average; only four respondents scored $< 50\%$. Most users were aware of testing HIV-1 negative before initiating PrEP (97.1%), regularly testing for HIV-1 while using PrEP (94.2%), and that missing doses increases HIV-1 risk (95.7%). Some users understood the need for hepatitis B testing (49.3%) and informing their provider about recent (< 1 month) flu-like symptoms (55.1%) before initiating PrEP. A minority of respondents (27.5%) knew that they should talk to their provider before stopping PrEP if hepatitis B positive. Most respondents initiated PrEP ≥ 1 year ago (94.2%) and tested for HIV-1 ≥ 3 times per year (91.3%). Condoms were used by 8.7% during their last sexual encounter and 'sometimes' (53.6%) or 'never' (39.1%) generally. Respondents 'somewhat agreed' (17.4%) or 'agreed' (75.4%) they were more likely to have condomless sex while using PrEP.

Conclusions: Respondents demonstrated adequate knowledge about HIV-1 testing and adherence. Opportunities exist regarding hepatitis B and acute HIV-1 infection symptoms.

Epidemiology and Public Health Sciences - Poster Abstracts / Épidémiologie et sciences de la santé publique - Abrégés affiches

Abstract #23

Understanding Preferences for Long-Acting Injectable HIV Treatment among Two-Spirit, Gay, Bisexual, Trans, and Queer Men and Non-Binary People and Advocating for Improved Access

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Background: Long-acting HIV treatment (LA-treatment) can improve quality of life and address key adherence challenges with daily oral treatments among people living with HIV (PLHIV). Currently, one complete LA-treatment regimen is approved in Canada, but access remains limited across different provinces and territories.

Methods: We assessed Two-Spirit, gay, bisexual, trans, and queer men and non-binary (2S/GBTQ) people's preferences for LA-treatment in Canada through CBRC's 2024 online Sex Now survey. Participants were 2S/GBTQ PLHIV who were aged 15+, living in Canada, and self-completed a questionnaire in English, French, or Spanish. Recruitment occurred through social media, community-based organizations, and sociosexual websites/apps. Pearson's chi-square and Fisher exact tests were used to assess statistically significant differences ($p < 0.1$) in preference for LA-treatment across explanatory variables.

Results: Overall, 42% of participants ($n=232$) reported preferring LA-treatment over daily pills. Preference for LA-treatment was higher among participants reporting financial strain (53%, $p=0.033$), sexualized substance use in the past 6 months (57%, $p=0.007$), and lower satisfaction with their connection to 2SLGBTQQIA+ communities (46%, $p=0.091$). The most frequently reported benefits of LA-treatment included not needing to take a daily pill (75%) and not worrying about forgetting to take daily meds (63%), while drawbacks included more frequent visits to healthcare providers (54%) and concern that LA-treatment was less effective than daily pills (50%). Participants preferred receiving LA-treatment at a clinic (76%), home (53%), or a pharmacy (46%) and from a primary care provider (79%), themselves (50%), or infectious disease specialist (48%).

Conclusion: Our findings can inform improvements in the rollout of LA-treatment among 2S/GBTQ people in Canada, including across diverse healthcare settings and within key sub-populations who would most benefit. Given the potential quality of life benefits of LA-treatment, access must be expanded and awareness about treatment efficacy must be enhanced among healthcare providers and PLHIV.

Epidemiology and Public Health Sciences - Poster Abstracts / Épidémiologie et sciences de la santé publique - Abrégés affiches

Abstract #151

Characterizing Healthcare Providers' Levels of Knowledge, Attitudes, and Behaviors Regarding the Use and Associated Risks of Oral HIV-1 Pre-Exposure Prophylaxis in Canada: Findings from a Dual-wave, Cross-sectional Study

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Background: In November 2020, emtricitabine/tenofovir alafenamide was granted indication expansion to include pre-exposure prophylaxis (PrEP) for HIV-1 infection. Updated educational materials on the safety and effectiveness of PrEP were made available to healthcare providers (HCPs). We assessed oral PrEP knowledge, attitudes, and prescribing behaviors of Canadian HCPs.

Methods: HCPs who had ever prescribed oral PrEP anywhere in Canada were eligible for a dual-wave, cross-sectional survey (December 2022–September 2024). Proportional sampling based on the practice location of PrEP prescribers was utilized to recruit HCPs via email/mail. Primary outcome was overall knowledge of PrEP use and risks; adequate knowledge level was defined as $\geq 80\%$ correct responses to 14 questions. Secondary outcomes included 5-point Likert scale questions on attitudes and behaviors towards PrEP. Results from both waves were aggregated.

Results: Among 1257 HCPs invited, 109 completed the survey. Respondents were primarily physicians (96.3%) specializing in family medicine (73.4%) and practicing in Ontario (51.4%). Most respondents (71.6%) demonstrated adequate knowledge, with 86.4% of questions answered correctly on average. Three HCPs achieved the lowest score of 57.1%. HCPs were aware that PrEP should be stopped (64.2%) and converted to an HIV-1 treatment regimen (50.5%) for PrEP users with signs/symptoms of acute HIV-1 infection. They understood the importance of verifying creatinine clearance (99.1%) and the link between adherence to PrEP and effectiveness (99.1%). Respondents reported always testing for creatinine clearance (94.5%) and counseling on adherence (85.3%). Most HCPs 'somewhat agreed' (22.9%) or 'agreed' (60.6%) with the attitude that the role of PrEP in HIV-1 prevention is distinct from condoms, abstinence, and testing. A minority of HCPs (16.5%) 'agreed' that PrEP use contributes to an increase in sex partners.

Conclusions: Most PrEP-prescribing Canadian HCPs were knowledgeable about PrEP but could benefit from education on treating people with signs/symptoms of HIV-1 and PrEP research on sex partners.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: African, Caribbean and Black People / Thème : Personnes d'origine africaine, antillaise et Noirs

Abstract #103

Comparative Analysis of Barriers and Facilitators in HIV Prevention and PrEP Studies Among African, Caribbean and Black Populations in Canada

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Background: African, Caribbean, and Black (ACB) populations in Canada face significant systemic and socio-cultural barriers to HIV prevention and pre-exposure prophylaxis (PrEP) uptake. This systematic review synthesizes the barriers and facilitators identified in research on HIV prevention and PrEP among ACB communities to highlight intersecting challenges and areas for targeted intervention.

Methods: After conducting a comprehensive search across Medline, EMBASE, SCOPUS, CINAHL Plus, PsychINFO, and Google Scholar, 12 peer-reviewed studies published between 2007 and 2022 met the inclusion criteria and were analyzed thematically. Seven studies focused on HIV prevention, while five investigated PrEP adoption. Key dimensions analyzed included barriers and facilitators, with data further categorized to explore overlaps and distinctions in proposed solutions for HIV prevention versus PrEP uptake.

Results: Systemic barriers included structural violence, racism, economic marginalization, and provider biases, with both HIV prevention and PrEP studies highlighting the inequities embedded within healthcare systems. Stigma—rooted in homophobia, cultural norms, and religious beliefs—was a pervasive barrier, limiting access to both prevention and PrEP. Provider gaps such as insufficient cultural competency and inadequate engagement with ACB communities further compounded these challenges. Facilitators common to both areas included community-driven interventions, culturally relevant education, and peer-led programs. However, PrEP-specific barriers, including cost and provider neglect, highlighted the need for broader structural interventions such as subsidized programs and integrated care models. Youth-targeted campaigns emerged as critical across both domains, emphasizing the need for tailored outreach to address stigma and support risk reduction.

Conclusion: This comparative analysis demonstrates significant overlap in the barriers to HIV prevention and PrEP uptake, underscoring the need for integrated, culturally responsive interventions. Structural reforms, community engagement, and targeted education are critical for reducing health disparities. Nationally representative data, particularly from provinces beyond Ontario, is essential to inform equitable and evidence-based health policy for ACB populations across Canada.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: African, Caribbean and Black People / Thème : Personnes d'origine africaine, antillaise et Noirs

Abstract #343

Barriers and Facilitators to Medication Adherence and Mental Health Among African, Caribbean, and Black Women Living with HIV in Canada: A Mixed-Methods Study

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Background: Consistent engagement in HIV care is essential for achieving viral suppression and improving health outcomes. Medication adherence, a key step in the HIV care continuum, is often disrupted by individual, systemic, and structural barriers. African, Caribbean, and Black (ACB) women living with HIV (WLWH) in Canada face unique challenges, including stigma, discrimination, socio-economic disparities, and mental health issues, such as depression and anxiety, which further impede adherence. This study examines the relationships between psychosocial vulnerabilities, mental health, and access to women-centered HIV/AIDS support services (WHSS).

Methods: A mixed-methods approach was employed, combining quantitative data from 415 participants in the Canadian HIV Women's Sexual and Reproductive Health Cohort Study (CHIWOS) and qualitative insights from 58 semi-structured interviews. Recruitment used purposive and snowball sampling, with data collection including demographic information and participant experiences with healthcare services. Quantitative analysis identified trends and relationships, while thematic content analysis explored barriers, facilitators, and policy recommendations.

Results: The ART adherence rate was 90% or more among 74.35% of participants, indicating successful HIV management. The study revealed significant links between psychosocial vulnerabilities and adherence to WHSS. Quantitative findings showed protective factors positively impacted adherence, while risk factors and depression had negative effects. Qualitative data identified systemic barriers, including geographic challenges, discrimination, and mental health concerns, affecting access to medication and services. Participants highlighted the value of personalized care, reliable healthcare systems, and supportive group environments, emphasizing the need for tailored interventions and policy changes to improve accessibility and mental well-being.

Conclusion: This research highlights the urgent need to address systemic barriers, stigma, and mental health challenges to improve medication adherence among ACB WLWH. Trauma-informed care, culturally sensitive interventions, robust community support, and policy reforms, including telehealth innovations, are critical for ensuring equitable access and better health outcomes for ACB women navigating the HIV care continuum.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: African, Caribbean and Black People / Thème : Personnes d'origine africaine, antillaise et Noirs

Abstract #207

A Rocky Road to Resiliency: A Mixed-Methods Exploration of the Potential & Pitfalls of GetaKit by BlackCAP

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In Ontario, new HIV diagnoses continue to remain highest among individuals who identify as gay, bisexual, or men who have sex with men (GBM), as well as persons of African, Caribbean, or Black (ACB) ethnicities. To address the disproportionate impact which HIV has on these sub-populations, and to encourage greater rates of HIV testing and, consequently, greater rates of HIV care, GetaKit, an internet-based service allowing for individuals to acquire a free HIV self-test (HIVST) partnered with the Black Coalition for AIDS Prevention (BlackCAP), an AIDS service organization in Toronto, Ontario, to provide tailored, culturally relevant, access to HIVST. As part of a larger mixed methods study, this work builds upon the quantitative data we have already published upon with the aim to explain the testing behaviors of ACB GBM. Using a focus group of nine individuals recruited from BlackCAP, this study further supports what is already known about HIVSTs and culturally sensitive public health interventions to empower and support community resiliency and liberation. However, the findings also demonstrate that there exist several issues which threaten to undermine the fecundity of HIVST as a resiliency building tool for ACB GBM, including the population's concerns around trust, privacy, and the misaligned, at times apotropaic, beliefs around the test itself. To address these potential pitfalls, we call for a greater commitment to culturally relevant care and a renewed effort regarding programming aimed at addressing the sexual health literacy of ACB GBM.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: African, Caribbean and Black People / Thème : Personnes d'origine africaine, antillaise et Noirs

Abstract #300

Racial Disparities in HIV Pre-Exposure Prophylaxis (PrEP) Awareness and Uptake among White, Black and Indigenous Men in Canada: Analysis of Data from the "I'm Ready" Program.

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Introduction: Black and Indigenous men in Canada experience a disproportionate burden of new HIV infections. PrEP is effective in preventing new HIV infections; however, there are barriers to awareness and uptake of PrEP in key populations. The purpose of this study was to understand racial differences in PrEP awareness and uptake among White, Black and Indigenous men in Canada.

Methods: We performed secondary analysis (n=4,294) of cross-sectional data from the I'm Ready national HIV self-testing program collected from June 2021 to December 2023. Prior to receiving a free HIV self-test, participants filled in a pretest survey asking about sociodemographic characteristics and PrEP awareness and uptake. Binary logistic regression was used to assess racial differences in PrEP awareness and uptake.

Results: Out of those who were PrEP eligible, 62% of participants were aware of PrEP and out of those who were aware, 19% had ever received PrEP. For race, participants identified mostly as White (56%), Black (36%), and Indigenous (8%). Black participants who identified as gbMSM, aged 18-45, living in urban or rural areas, and who were PrEP-eligible were all less likely to be aware of PrEP than the White reference group (OR=0.27-0.41, p<0.05). Indigenous participants aged 18-45, living in rural communities, and who were PrEP-eligible were also less likely to be aware of PrEP (OR=0.15-0.62, p<0.05). For PrEP uptake, Black participants aged 18-45, living in rural communities, and who were PrEP-eligible were less likely to be on PrEP than White participants (OR=0.44-0.62, p<0.05). Lastly, Indigenous men living in urban areas were more likely to be on PrEP White participants (OR=1.65, p<0.05).

Conclusion: Black and Indigenous communities in Canada experience significant racial differences in PrEP awareness and uptake. To maximize the potential benefits of PrEP for HIV prevention, more equitable PrEP access and a national PrEP strategy is urgently needed.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: African, Caribbean and Black People / Thème : Personnes d'origine africaine, antillaise et Noirs

Abstract #301

PrEParing for Equity: Addressing HIV Disparities Among African, Caribbean, and Black Women, and Gender-Diverse Individuals Through Culturally Responsive PrEP Interventions and Education.

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Background

HIV disparities persist among African, Caribbean, and Black (ACB) women in Canada, exacerbated by systemic racism, stigma, and inadequate access to culturally responsive healthcare services (Etowa et al., 2022). Despite a dramatic increase in national Pre-exposure Prophylaxis (PrEP) use, which rose 21-fold from 460 to 9,657 users between 2014 and 2018 (Public Health Agency of Canada, 2023), women remain underrepresented in PrEP uptake. Women account for only 2% of PrEP users in Canada (Public Health Agency of Canada, 2023). This disparity is particularly concerning, given that ACB women represent 26.4% of new HIV diagnoses in Canada (Public Health Agency of Canada, 2022).

Methods

We employed a qualitative approach, using focus group discussions as our data collection tool. Two focus groups were conducted with a diverse group of ACB women, trans and non-binary individuals from the Greater Toronto Area (GTA). Participants were recruited through collaborative efforts with organizations that serve the target population. Eligibility criteria included identifying as African, Caribbean, or Black, being a woman (cis and trans), non-binary or gender non-conforming, living in the GTA, and being at least 16 years of age.

Results

We gathered nuanced, contextual data that helped understand complex factors influencing ACB women and community members' decisions about PrEP uptake. Barriers to PrEP uptake included lack of awareness and knowledge of PrEP, affordability, and provider confidence. Facilitators to PrEP uptake included visibility, choice, and developing culturally sensitive awareness-raising campaigns.

Conclusion

ACB women and community members need equitable access to HIV biomedical prevention strategies that account for their unique needs and experiences. The focus group discussions highlighted the importance of developing culturally tailored PrEP interventions. Building an accessible and sustainable PrEP intervention empowers women and individuals in making informed choices and has the potential to reduce the disproportionate impact of HIV in ACB communities in Canada.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Indigenous Communities / Thème : Collectivités autochtones

Abstract #84

IndigenEyes: An Ethnographic Journey Into The Spiritedness Of The HeART Guided By The Heart Of A Cree HIV Positive Woman On The Land

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Background: Antiretroviral therapy (ART) has changed the course of HIV. Despite the advances, the treatment experiences of people with HIV taking ART must not be ignored, including regimen changes and side effects. This collective of work aimed to guide peer-led, Indigenous-based knowledge sharing about ART experiences through artistic expression. This presentation will share what I learned as the lead of these projects to highlight the impact of community collectiveness on healing and the return to spiritedness.

Methods: Our arts-based work used Indigenized approaches to knowledge sharing. People with HIV – Wisdom Speakers (WS) from across Canada were invited to join. We each completed a self-assessment before and after knowledge sharing. The Community at the HeART Framework and Powerful Positive Action Strengths-Based Messages were used by WS to share ART experiences with a focus on strengths-based messaging. The work culminated in a series of videos.

Results: With a focus on collectiveness and healing, these are my own perspectives (CC), as well as those of the other WS. When the community gathered, we exemplified the community collectiveness where healing and return to spiritedness were present. Key moments included my questions of recurrent treatment changes and how side effects of ART are impacted by these changes. The videos captured the ART journeys of WS, including my own. My reflections highlighted the value of engaging with my community authentically about my ART journey. Lastly, I share of my connection to the community by honouring my spirit weekly.

Conclusion: ART difficulties continue for people with HIV. Collectiveness through art and similar activities does have the power to heal ART difficulties. Continued research on reducing side effects – particularly among women – is essential for greater pathways to wholeness.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Indigenous Communities / Thème : Collectivités autochtones

Abstract #40

Creating Trauma-Informed and Violence Aware Environments for HIV prevention: Insights from Northern and Indigenous Youth in the Northwest Territories, Canada

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Background: Integrating trauma-informed and violence-aware care (TVAC) within HIV prevention is key for communities affected by structural violence, such as youth in the Northwest Territories (NWT) that experience disproportionate food insecurity, violence, and STIs. TVAC approaches centre: understanding the impacts of violence; creating safe environments; opportunities for connection; and capacity-building. This study explored experiences of TVAC among Northern and Indigenous youth participants in land-based and arts-based HIV prevention peer leader retreats (PLR) in the NWT.

Methods: A Northern and Indigenous sexual health program conducted week-long land and arts-based PLR in the NWT annually from 2022-2024 with adolescents aged 13-18 years. Following the retreats, we conducted focus groups with participants that were audio-recorded and transcribed verbatim. We conducted framework thematic analyses to explore participant retreat experiences in relation to TVAC.

Results: Among participants (n=185; mean age: 14.91, standard deviation: 1.55; gender: cisgender women: n=119, 64.3%; cisgender men: n=46, 24.9%; gender diverse: n=20, 10.8%; sexually diverse [lesbian, gay, bisexual, queer, or other]: n=87, 47.0%), most identified as Indigenous (n=150, 81.1%). Participant PLR reflections aligned with TVAC principles. Theme 1: Participants better understood the impacts of violence, including: 1a) Poly-violence (family violence, relationship violence, colonization) and 1b) Mental health coping strategies (trauma processing; grief circles; healing steps). Theme 2: The retreat environment was discussed as safe due to: 2a) Community-building (sense of community, coming home) and 2b) Traditional learning approaches (Elders, music, land, arts activities, Northern games). Theme 3: Participants discussed opportunities for interpersonal connection through increased: communication skills, non-violent conflict resolution, and boundary-setting. Theme 4: Capacity-building included growth and empowerment in: emotional regulation; leadership, self-care, confidence and self-efficacy, vulnerability, and openness.

Discussion: Findings highlight that adolescent peer leader HIV prevention experiences can advance TVAC approaches. Future adolescent HIV prevention programming can address social and structural drivers of HIV applying TVAC approaches.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Indigenous Communities / Thème : Collectivités autochtones

Abstract #44

Are Adolescent HIV Vulnerabilities Changing Over time? A Trend Analysis With Northern and Indigenous Adolescents in the Northwest Territories, Canada

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Background: Concerning declines in adolescent sexual health outcomes, including condom use, have been recently reported in Canada. While the Northwest Territories (NWT), Canada faces social and health disparities that elevate HIV vulnerabilities, little is known of NWT adolescent sexual health trends over time. To address this gap, we examined longitudinal trends in sexual health and social disparities with Northern and Indigenous adolescents in the NWT.

Methods: This community-based study employed a repeated cross-sectional design with 6 waves of data (2018-2023) to examine HIV vulnerability trends among adolescents (aged 13–18) in 17 NWT communities. We assessed changes over time in sexual health outcomes (safer sex self-efficacy [SSSE], sexual activity) and social disparities (food insecurity, intimate partner violence [IPV]) using repeated cross-sectional analyses with mixed-effects models to assess fixed and random effects.

Results: Among the sample (N=2,816; mean age: 13.71, standard deviation: 1.49), 45.45% (n=1,114) identified as cisgender girls, 50.47% (n=1,237) as cisgender boys, and 4.1% (n=100) as gender-diverse. Approximately one-fifth (18.91%; n=449) identified as sexually diverse (Two-Spirit, lesbian, gay, bisexual, queer, other [2SLGBQ+]). Nearly three-quarters identified as Indigenous (73.34%; n=1,735) and resided in rural communities outside of Yellowknife (73.19%; n=1,793).

Mixed-effects regression analyses revealed significant trends over time. SSSE declined (adjusted regression coefficient [Acoef]: -0.25 [-0.36, -0.15], p<0.001), with 2SLGBTQ+ and rural adolescents reporting lower SSSE. Sexual activity declined (Acoef: -0.02 [-0.02, -0.01], p<0.01), yet remained higher among 2SLGBTQ+ and rural adolescents. Food insecurity increased (Acoef: 0.02 [0.01, 0.03], p<0.01), disproportionately affecting girls, 2SLGBTQ+, and Indigenous adolescents. IPV remained constant overall (Acoef: -0.05 [-0.10, 0.01], p=0.07), but disproportionately affected rural adolescents.

Discussion: Findings signal the urgent need to address persisting social drivers of HIV (SSE, food insecurity, IPV) among Northern and Indigenous adolescents in the NWT, particularly affecting Indigenous, 2SLGBTQ+, and rural youth, with multi-level, contextually tailored and social-equity informed approaches.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Indigenous Communities / Thème : Collectivités autochtones

Abstract #86

Addressing Substance Use Among Indigenous Women and Two-Spirit People Living with HIV/STBBI in Manitoba through Culture, Ceremony, Community, and Peer-Based Harm Reduction

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Background: Honouring stories shared from the Kotawêw: HIV/STBBI Doula Project, substance use, harm reduction, and service access among Indigenous (First Nations, Métis, Inuit) women and Two-Spirit people living with HIV/STBBIs in Manitoba was explored. Kotawêw, from the Cree language, translates to “making a fire” reflecting the warmth and light Indigenous HIV/STBBI doulas bring through culturally safe prevention and care.

Method: Utilizing a community-based participatory research design, grounded in the principles of Indigenous Storywork, an Indigenous Elder, cultural knowledge holder, and community guiding circle consisting of 6 Indigenous people living with HIV guided the project. Participants (N=40) were recruited using word of mouth, peer networks, and a community agency, Ka Ni Kanichihk; 29 identifying as First Nations/non-status, 7 as Métis, and 4 non-Indigenous service providers. Stories were analyzed using thematic analysis.

Results: Three key themes emerged: 1) Increased substance use upon initial diagnosis, 2) strong sense of community among those who use substances, 3) the role of culture and ceremony in individual healing journeys. Those who use substances sometimes take on supportive roles keeping one another safe and establishing a sense of community. Many respondents acknowledged culture and ceremony as significant for their healing, amplifying the need for access to cultural supports through harm reduction protocols as described by service providers and knowledge holders. The need for centering expertise of those with lived experience was identified throughout each group.

Conclusion: Findings underscore the need for integration of peer-based harm reduction, cultural safety, and ceremony as central components of care. Centering the knowledge of those with lived experience into services would more adequately meet the health and social care needs of Indigenous women and Two-Spirit people living with HIV/STBBIs who use substances. HIV/STBBI Indigenous doula programs can address gaps in care and mitigate drug-related harms perpetuated by colonial inequities in healthcare systems.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Indigenous Communities / Thème : Collectivités autochtones

Abstract #135

Our Ancestors Live in our Blood: Understanding Kinship, Storytelling and Place in Supports for Pregnant Indigenous Women Living with HIV

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Background: The Kotawêw: Indigenous HIV/STBBI Doula Study explored the unique experiences of Indigenous women and birthing people navigating pregnancy while living with human immunodeficiency virus (HIV). This analysis focused on stories, relationships, and land-based cultural connections, recognizing their transformative power in improving health outcomes and wellbeing for pregnant Indigenous women and birthing people living with HIV.

Method: Data were drawn from community-based participatory research that focused on the unique ways that stories, kinship and land played a role in pregnancy and HIV care continuum in Manitoba. Recruited using word of mouth, peer networks, and a community agency serving Indigenous people (Ka Ni Kanichihk Inc), a total of 40 participants were interviewed, with 6 individuals who navigated pregnancy while living with HIV. Data were analyzed using Indigenous storywork and thematic analysis.

Results: The main themes focused on: 1) the importance of supportive, non-judgmental relationships in caring for pregnant Indigenous women living with HIV, 2) the need for HIV/STBBI specific pregnancy and parenting supports, 3) knowledge and skills necessary to perform HIV doula work, 4) importance of harm reduction principles and practices in HIV/STBBI pregnancy care. Considerations of the roles kinship, storytelling, and land, played in the pregnancy experiences were central. Interviews revealed the important role of doulas in HIV prevention and care, sexual health management, reproductive health, pregnancy and childbirth, and service navigation. Additional benefits of HIV doula work included lessening of stigma and isolation surrounding HIV and the ability to embed cultural space into systems of care.

Conclusion: The stories are powerful and provide invaluable insights into ways health and social care providers can support the needs of Indigenous women and birthing people living with HIV who are pregnant. These findings underscore the critical role of culturally grounded, relationship-centred care in improving health outcomes.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrégés

Theme: People who use drugs / Thème : Utilisateurs de drogues

Abstract #106

Targeting Harm Reduction: Insights from a Geospatial Needle Mapping and Naloxone Training Initiative in Regina, Saskatchewan

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Background: The opioid crisis is a significant public health issue in Canada, with prairie provinces like Saskatchewan facing high levels of opioid-related harm. Factors driving this crisis include a volatile drug supply, limited access to harm reduction services, and systemic challenges like poverty and housing instability. The increasing prevalence of fentanyl has further exacerbated overdose risks for individuals who use drugs. Harm reduction initiatives such as opioid overdose education and naloxone distribution programs have demonstrated efficacy in reducing overdose fatalities and improving community health. Geospatial analysis is increasingly being used to target harm reduction efforts by mapping high-need areas, but its application into harm reduction strategies remains underexplored.

Methods: This study utilized data from 44 participants who completed pop-up naloxone trainings in Regina, Saskatchewan, between August 2023 and September 2024. Data sources include geospatial information on discarded needle locations from ReportNeedles.ca and survey responses using a modified Opioid Overdose Knowledge Scale. Naloxone trainings targeted areas with high needle counts. Geospatial analyses used ArcGIS to map needle prevalence and assess harm reduction service accessibility based on walk-time buffers..

Results: Between August 2023 and August 2024, 315 reports of discarded needles were made on ReportNeedles.ca leading to the disposal of 2,836 needles. Geospatial analysis revealed clustering of discarded needles in Regina's city center, with some seasonal variation. Pop-up trainings expanded the accessibility of naloxone services, with 70% of participants reporting living within a 15-minute walk to pop-up Naloxone trainings. However, geospatial analysis revealed gaps in service accessibility specifically in suburban areas. After trainings participants demonstrated strong knowledge of overdose recognition and naloxone administration.

Conclusions: This study demonstrates promise to the integration of geospatial analysis with harm reduction interventions to address the opioid crisis. By identifying needle prevalence hotspots having pop-up naloxone training can improve service accessibility.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: People who use drugs / Thème : Utilisateurs de drogues

Abstract #38

Improving uptake of the Prison Needle Exchange Program in Canadian federal prisons to prevent blood-borne virus transmission: Lessons learned using nominal group technique

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Background: High coverage prison-based harm reduction services, including needle and syringe programs, are needed to prevent transmission of HIV and hepatitis C virus (HCV). Canada launched a Prison Needle Exchange Program (PNEP) in nine federal prisons in 2018; however, uptake among people who inject drugs in prison remains low. We aimed to explore barriers and facilitators to improving PNEP uptake among key carceral stakeholder groups.

Methods: Participants from nine federal prisons with PNEP completed focus groups using nominal group technique, a rapid mixed-method consensus strategy. Responses were generated, rank-ordered, and prioritized by each stakeholder group (correctional officers, healthcare workers, and people in prison). We identified the highest-ranking responses (>10% of the overall votes per stakeholder group) to questions about barriers and solutions to PNEP uptake and described them using the six levels of the Socio-Ecological Model: individual, peers, healthcare workers, correctional officers, prison leadership, and structural.

Results: Between September 2023 and February 2024, 34 focus groups were conducted with 215 participants (n=51 correctional officers; 67 healthcare workers; n=97 people in prison). The top three barriers were lack of confidentiality/privacy (all levels), fear of being targeted (individual), and fear of repercussion from drug use (individual). The top three solutions were the provision of education (all levels), supervised/safe injection sites (structural), and external program delivery, including by peers (structural). While there was significant overlap in identified barriers and solutions between stakeholder groups, important differences in ranking emerged.

Conclusion: Several multi-level modifiable barriers to improving PNEP uptake in Canadian federal prisons were shared among all key stakeholders. Structural changes to PNEP delivery including supervised/safe injecting sites and a peer-led program were proposed as solution-driven enablers to increasing PNEP uptake among people who inject drugs in prison. These data will inform Canadian efforts to expand PNEP provision and contribute to Canada's HIV/HCV elimination efforts.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: People who use drugs / Thème : Utilisateurs de drogues

Abstract #117

Impacts of Receiving Prescribed Alternatives to Unregulated Drugs Among People Living with HIV in Vancouver, British Columbia

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Background:

North America is experiencing an overdose crisis which is disproportionately affecting structurally vulnerable people living with HIV (PLHIV) who use drugs. In response, innovative programs providing prescribed “safer supply” medications (e.g., diacetylmorphine, tablet hydromorphone) as alternatives to the unregulated drug supply have been established to reduce overdose risk. Program models vary, with some involving coordinated daily dispensed or witnessed consumption of safer supply and other medications (e.g., antiretroviral therapy; ART), positioning them to support the management of HIV care. We explored how engagement with safer supply interventions influence the management of HIV and other comorbid conditions.

Methods:

We conducted baseline, semi-structured interviews from April-November 2023 with 53 PLHIV who were receiving safer supply medications. One-year follow-up interview were conducted with 36 participants in 2024. Using a team-based approach, data were analysed thematically to identify experiences and impacts of receiving safer supply medications on HIV and other healthcare.

Results:

Most participants received daily coordinated dispensing (home delivery or program-based witnessed consumption) of ART with safer supply. Thirty-two participants were receiving tablet hydromorphone, thirteen a fentanyl formulation (powder, transdermal, or sublingual fentanyl), and eight diacetylmorphine. Positive impacts of receiving safer supply included: reduced unregulated drug use, financial improvements, and positive impacts to health and wellbeing. While some participants described daily dispensing, and especially witnessed consumption, as onerous and stigmatizing, coordinated dispensing facilitated HIV treatment adherence and supported efforts to reduce overdose risk.

Conclusions:

Our study demonstrates how innovations in harm reduction and drug treatment can potentially enhance HIV treatment and care. Integrating safer supply and HIV care has significant potential to impact treatment engagement and the management of other health concerns including overdose risk, and improve the lives of PLHIV who use drugs.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: People who use drugs / Thème : Utilisateurs de drogues

Abstract #287

Cocaine use, unhealthy alcohol use, and chronic pain interference among people with HIV.

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Background: There is an important intersection between pain and substance use in people with HIV (PWH). While cocaine use and cocaine and alcohol co-use are prevalent in this population, the effects of cocaine use on pain in PWH are unknown, as are the effects of cocaethylene, the by-product of cocaine and alcohol co-use. Objective: In this study, we aimed to investigate the impact of cocaine use and co-use of cocaine and alcohol on pain among PWH.

Methods: We completed a secondary analysis of data from the Boston Alcohol Research Collaboration on HIV/AIDS (ARCH) study, a longitudinal cohort study including PWH who use substances. The primary outcome was self-reported pain interference, defined as the extent to which pain impairs daily activities. Primary exposures were self-reported (a) cocaine use in the past 30 days, and (b) unhealthy alcohol use in the past 14 days. Adjusted generalized Estimating Equation (GEE) ordinal logistic regression models were employed.

Results: Among 251 participants, 22.3% reported unhealthy alcohol use only, 11.1% reported cocaine use only, and 13.2% reported use of both. More than half the sample (55.4%) reported some degree of pain interference in the last seven days. In adjusted regression models, greater pain interference was associated with cocaine use alone (aOR 1.73, 95% confidence interval [CI] 1.15-2.60) but not with unhealthy alcohol use alone. Participants reporting both cocaine and unhealthy alcohol use had greater pain interference than participants reporting neither (aOR: 2.27, 95%CI: 1.35-3.79).

Conclusions: Pain interference was common among this sample of PWH who use substances. Greater pain interference was associated with cocaine use, and with cocaine and unhealthy alcohol use, but not with unhealthy alcohol use alone. Cocaine may worsen pain interference or PWH may use cocaine for pain interference.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: People who use drugs / Thème : Utilisateurs de drogues

Abstract #313

“Women need this space for themselves to feel safe.” a call for women’s-specific supports in an exploration of overdose risk among people living with and without HIV in Vancouver, BC.

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Background: Understanding the risks and long-term health impacts of overdose among People Living with HIV (PLWH) is critical, as this population faces compounded vulnerabilities. Additionally, women who use drugs (WWUD) experience disproportionately high risks of overdose driven by socio-structural factors (e.g., gender norms, drug policies, criminalization, stigma, and gender-based violence). This study explored the risks and health outcomes of overdose among PLWH and those without HIV in Vancouver, British Columbia, during COVID-19, with a particular focus on the experiences of WWUD and Women Living with HIV (WLWH).

Approach: We conducted semi-structured focus groups and one-on-one interviews with 74 people who use drugs (PWUD), including 38 (51.4%) PLWH, and 19 healthcare providers representing diverse professional backgrounds. This analysis focuses on three focus groups that were exclusive to people who identified as women and gender-diverse (n=18, 24%). Participants were recruited from organizations and care centers in Vancouver supporting PLWH and PWUD. Based on community consultation, we omitted demographic data collection, making participant gender breakdown indeterminate. Sessions were audio-recorded, transcribed verbatim, and analyzed using NVivo 14.0.

Findings: Themes of feeling unsafe and anxious were pervasive in the women-only focus groups. Pandemic-related public health guidance to self-isolate intensified overdose risks, as women often already used drugs in isolation to avoid violence and predation. Participants emphasized the critical need for women-only spaces, such as change rooms, showers, housing, clinics, and a standalone women’s AIDS organization. They also expressed the need for more advocates and outreach workers to assist with securing housing, and access to skills training to improve employment opportunities.

Conclusion: Despite wide-spread recognition of the unique risk environment WWUD navigate, significant service gaps persist, further increasing overdose risks among this population. These findings highlight the urgent need for gender-specific and trauma-informed policies and services, as well as dedicated safer spaces for WWUD, including WLWH.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Sexual and Gender Minorities / Thème : Minorités sexuelles et de genre

Abstract #14

Factors Associated With Knowing One's HIV Status Among a Community Sample of Trans Women/Transfeminine Persons Taking Gender-affirming Hormone Therapy: Implications for Meeting The UNAIDS 95-95-95 Targets

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Background: The UNAIDS 95-95-95 goals cannot be reached without attention to key populations who experience intersecting oppressions, including trans women/transfeminine persons, who have a disproportionate prevalence of HIV and population-specific barriers (e.g., anti-trans stigma) and facilitators (e.g., access to gender-affirming hormone therapy [GAHT] and gender-affirming surgeries [GAS]) to uptake of HIV prevention/care. We sought to: a) characterize the prevalence of knowing vs. not knowing one's HIV status; and, b) examine factors hypothesized to be associated with knowing one's status, among this community.

Methods: Utilizing secondary cross-sectional survey data collected 2023 from a community sample of trans women/transfeminine persons aged 18+ across Canada taking GAHT for ≥ 3 months (n=213), we assessed the prevalence of knowing vs. not knowing one's status then compared knowing vs. not knowing one's status across sociodemographic (e.g., race), clinical (e.g., completed GAS), and psychosocial factors (e.g., depression) using bivariate and multivariate binary logistic regressions.

Results: Among this sample (mean age: 32.43 years, SD: 10.84; mean time on estradiol: 3.62 years, SD: 4.39), 33.80% reported not knowing their HIV status. In bivariable analyses, only clinical factors (having completed GAS, having planned GAS, and years since first taking estradiol) were significantly associated with HIV status knowledge ($p < 0.05$). In a multivariable model including these three variables, both planned and completed GAS remained significantly associated with knowing one's HIV status (planned GAS adjusted odds ratio (aOR) 2.90, 95% confidence interval (CI): 1.49, 5.63; completed GAS aOR 2.32, 95% CI: 1.02, 5.27).

Conclusions/Implications: Over one-third of trans women/transfeminine persons did not know their HIV status, falling far below the UNAIDS 95-95-95 targets. Findings suggest that gender-affirming healthcare is a singularly important facilitator for HIV testing. Future research should explore this intersection and consider how integrated GAH and HIV testing may promote equitable access to sexual health for trans women/transfeminine persons in Canada.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Sexual and Gender Minorities / Thème : Minorités sexuelles et de genre

Abstract #57

Is it Partner Number or Group Sex? STI Risk Among Urban Gay, Bisexual, and Other Men Who Have Sex with Men in Montreal, Toronto, and Vancouver: A Matched Comparison Analysis

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Background: Group sex is associated with acquisition of bacterial sexually transmitted infections (B-STI) among gay, bisexual, and other men who have sex with men (GBM). However, whether this is driven by increased numbers of sexual partners alone or other factors is unclear. We compared B-STI diagnoses among GBM with group sex participation to non-group sex controls matched on partner number.

Methods: We recruited sexually-active GBM aged 16+ in Vancouver, Toronto, and Montreal through respondent-driven sampling from 02/2017-08/2019. Participants completed computer-assisted self-interviews and nurse-led B-STI tests (chlamydia, gonorrhea, syphilis) at enrolment and every 6-12 months through 08/2023. B-STI period prevalence included any diagnoses at study visits or self-reported in the previous six months (P6M). We created a matched control group with no group sex but similar P6M sexual partner number and other key characteristics (e.g., HIV status; substance use) using "nearest neighbour" propensity score matching (Rosenbaum & Rubin, 1985). We used generalized linear-mixed effects models to compare B-STIs among three groups of GBM: 1) any self-reported bareback/Party-and-Play (PnP) group sex, 2) other group sex, and 3) matched controls.

Results: We matched 767 group sex participants (median=10 P6M sex partners; 15.6% HIV+) to 767 controls (median=7 P6M sex partners; 12.7% HIV+). The proportion of GBM who had a B-STI in groups 1, 2, and 3 across all visits were: 76.4% (95% CI: 72.0-80.9), 45.1% (40.3-49.9), and 41.6% (38.1-45.1), respectively. P6M odds of B-STIs were higher among bareback/PnP group sex participants than controls, aOR=1.89 (95% CI: 1.51-2.37). Odds were similar among other group sex participants and controls, aOR=.97 (0.78-1.21).

Conclusions: Only bareback/PnP group sex participants had higher B-STIs independent of partner number, and should be supported with emerging/novel STI prevention. Future research should examine how norms facilitating condom use and limiting substance use may ameliorate the impacts of group sex on B-STI transmission.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Sexual and Gender Minorities / Thème : Minorités sexuelles et de genre

Abstract #118

HIV Pre-exposure Prophylaxis (PrEP) and HIV Treatment Attitudes Predict Bacterial Sexually Transmitted Infections Among Urban Gay and Bisexual Men (GBM)

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Background: Cross-sectional differences in HIV-treatment attitudes (i.e., beliefs in whether treatment is effective at reducing transmission) and PrEP use are associated with differences in condomless anal sex (CAS) and STI acquisition. It is unclear, however, how these factors change within-persons over time, and whether these drive STI outcomes.

Methods: We analyzed longitudinal data from 2007 sexually-active HIV-negative GBM recruited using respondent-driven sampling from the Engage Cohort study (2017-2022) to examine the direct and indirect effects of PrEP use and HIV-treatment attitudes on CAS and acquisition of any bacterial STI (syphilis, gonorrhea, chlamydia) diagnoses (through self-report and lab-testing) between individuals and within individuals over time, using multilevel mediation (see Table 1).

Results: PrEP use was positively associated with any bacterial STI diagnosis between ($\beta=0.174$, $p<0.001$) and within ($\beta=0.294$, $p<0.001$) individuals over time. In contrast, HIV attitudes that were supportive of HIV treatment effectiveness were negatively associated with STIs within individuals ($\beta=-0.256$, $p=0.001$), but positively associated between individuals ($\beta=0.093$, $p=0.008$). CAS only predicted STI outcomes between individuals ($\beta=0.209$, $p<0.001$). Variation in STI outcomes was slightly more strongly accounted for by within-person rather than between-person effects (ICC=0.406).

Conclusions: Over four years, we found that variation in STI outcomes was accounted for by both within-person changes over time and between-person variance. PrEP use and CAS differences among participants predicted STIs, which underlines the importance of targeted treatment and prevention support for PrEP users.

Supporting Document

Table 1. Multi-level model main effects of PrEP use and treatment attitudes on STIs.

Within-Participants				
Direct effects				
Predictor	Outcome	β	95% CI	P
PrEP	CAS	0.427	0.317, 0.538	<0.001
	STI	0.294	0.194, 0.393	<0.001
Treatment attitudes	CAS	-0.256	-0.468, -0.045	0.017
	STI	-0.453	-0.649, -0.257	<0.001
CAS	STI	0.048	-0.047, 0.143	0.322
Indirect effects				
Predictor	Outcome	β	95% CI	P
PrEP	STI	0.021	-0.019, 0.061	0.315
Treatment attitudes	STI	-0.012	-0.037, 0.013	0.335
Total effects				
Predictor	Outcome	β	95% CI	P
PrEP	STI	0.314	0.231, 0.397	<0.001
Treatment attitudes	STI	-0.465	-0.658, -0.273	<0.001
Between-Participants				
Direct effects				
Predictor	Outcome	β	95% CI	P
PrEP	CAS	0.459	0.365, 0.553	<0.001
	STI	0.174	0.11, 0.239	<0.001
Treatment attitudes	CAS	1.185	0.784, 1.585	<0.001
	STI	0.093	-0.171, 0.356	0.491
CAS	STI	0.209	0.134, 0.284	<0.001
Indirect effects				
Predictor	Outcome	β	95% CI	P
PrEP	STI	0.096	0.057, 0.135	<0.001
Treatment attitudes	STI	0.248	0.122, 0.373	<0.001
Total effects				
Predictor	Outcome	β	95% CI	P
PrEP	STI	0.270	0.214, 0.326	<0.001
Treatment attitudes	STI	0.340	0.090, 0.590	0.008

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Sexual and Gender Minorities / Thème : Minorités sexuelles et de genre

Abstract #126

Assessing Availability of HIV/STBBI Prevention and Care Services in Ontario, Canada for Trans Women and Gender Diverse People: An Environmental Scan

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Introduction:

Trans and gender diverse (TGD) people face inequities that heighten their risk of HIV/sexually transmitted and blood-borne infections (STBBIs), creating barriers to equitable care. Integrating gender-affirming healthcare (GAH) with HIV/STBBI prevention/care could enhance access and uptake of HIV/STBBI prevention/care. We conducted an environmental scan of the websites of sexual health and HIV/STBBI clinics in Ontario to determine indicators of TGD inclusion and what, if any, GAH services they provided.

Methods:

This environmental scan of HIV/STBBI clinic websites in Ontario, Canada was conducted between June-September 2024 following five steps developed by Turin and Shahid (2018): 1) identifying the purpose/objectives; 2) engaging relevant stakeholders; 3) refining the purpose/objectives; 4) data collection; and 5) dissemination. Websites were included if they were currently active and indicated a focus on HIV/STBBI prevention/care. Descriptive statistics were used to analyze the number of available services for TGD people and whether websites featured indicators signaling trans-inclusive environments.

Results:

Of the final 167 clinics, service descriptions were often ambiguous about HIV/STBBI care and few explicitly promoted services specifically for TGD people. One-quarter (25%) of clinics had visual or textual representations of TGD people on websites, and a smaller proportion (13.2%) of clinic websites explicitly mentioned providing any type of medical GAH. One-third of those clinics (31.8%) were in Toronto, with few integrated GAH and HIV/STBBI prevention/care available in other Ontario health regions, ranging from no clinics available (Central East) to four clinics available (Central West).

Conclusion:

We found significant gaps in availability of specific HIV/STBBI care for TGD people in Ontario and even fewer clinics integrated HIV/STBBI and GAH. Clinics offering GAH were concentrated in Toronto, leaving rural and suburban populations underserved. Findings underscore the importance of strengthening provincial capacity for integrated GAH and HIV/STBBI prevention/care and incorporating inclusivity indicators on websites to enhance TGD sexual health equity.

Key Populations Oral Abstract Session / Populations clés présentation orale d'abrévés

Theme: Sexual and Gender Minorities / Thème : Minorités sexuelles et de genre

Abstract #45

Legacies of the Canadian Blood Ban: Implications of Past HIV Prevention Approaches for Transgender and Gender Diverse Canadians

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Introduction: In response to the HIV epidemic, Canadian blood operators developed blood donor policies which aimed to prevent HIV transmission through the national blood system. These policies, now widely regarded as discriminatory, prohibited men who have sex with men (MSM) from donating blood – and prevented many transgender and gender-diverse (TGD) individuals from donating. After years of advocacy by 2S/LGBTQ+ communities, these policies have been replaced by behaviour-based screening questions asked to all donors, regardless of sexual orientation or gender; however, the legacy of previous policies lingers, as has been well documented among MSM individuals and communities. These impacts on TGD individuals has yet to be examined, specifically in relation to their interest in donating blood or plasma under the updated criteria.

Methods: A diverse sample of 2S/LGBTQ+ participants were recruited across Canada using snowball sampling at a variety of 2S/LGBTQ+ community-based organizations. 15 participants met the inclusion criteria and participated in online semi-structured interviews. Each interview covered topics related to blood and plasma donations, recommendations for donor policies, and repair efforts required by blood operators. All responses were transcribed verbatim and analyzed by two researchers using a thematic analytic approach.

Results: Analysis focused on the 12 participants who identified as transgender (7 transgender men, 2 transgender women, and 3 non-binary/agender). These participants all identified as queer, gay or bisexual, and all but one participant was between aged 18-40. Key implications for blood operators included the need for greater dissemination of current donor policies; improved respect of and responsiveness to the experiences of TGD donors; and TGD-specific donor recruitment efforts.

Conclusions: Ongoing reparative efforts are required by blood operators to build trust with TGD communities. Specifically, improved efforts to include, respect, and recruit TGD donors are warranted at the national, community and individual levels for blood operator.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #13

The Sexfluent Evaluation: One Size Doesn't Fit All

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Youth face diverse barriers to accessing comprehensive sexual health information. In 2021, the Canadian Foundation for AIDS Research (CANFAR) launched Sexfluent, an online HIV prevention resource providing information about sexual and mental health and substance use. This study evaluates its differential impact across priority groups, including 2SLGBTQIA+, Indigenous, newcomer, and street-involved or substance-using youth.

Using a mixed-methods approach, quantitative survey data from 442 site users were paired with qualitative insights from 10 focus groups (n=75) facilitated by peer researchers to assess usability, relevance, and inclusivity.

Survey participants reported a high level of satisfaction: 89% rated the website positively, 85% were likely to return to the site; 85% would recommend the site to others, and 84% said they learned something new about safer sex practices from the site.

Findings revealed significant variability in how different groups accessed and engaged with Sexfluent. 2SLGBTQIA+ participants highlighted the platform's inclusivity and representation, while Indigenous participants appreciated its culturally relevant designs and less sterile approach than government websites. Similarly, street-involved and substance-using youth valued the platform's less biomedical tone and its harm-reduction approach.

Challenges included the need for greater culturally appropriate alignment with newcomer youth, who sought resources addressing cultural taboos and intergenerational dynamics. Street-involved youth emphasized the importance of relevant outreach methods to ensure awareness of the platform. 2SLGBTQIA+ recommended more trans-specific and pleasure-focused material and resources. These findings underscore the limitations of a singular brand meeting the needs of diverse youth and reaffirm the need for tailored resources that reflect the intersecting identities and lived realities of priority groups.

This study highlights the need for iterative, community-driven approaches to online sexual health education. By integrating nuanced, ongoing feedback, platforms like Sexfluent can evolve to better meet the complex, varied needs of youth and foster partnerships with others to promote sexual health education.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #136

Kinship and Community as Care: The Foundational Role of HIV/STBBI Doulas

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Background: The Kotawêw Indigenous HIV/STBBI Doula Study examined how kinship serves as a foundation for the role of Indigenous doulas in providing culturally grounded care, support, and system navigation for Indigenous women and Two-Spirit people living with or at risk of HIV in Manitoba. Our core team is made up of Indigenous women and Two-Spirit researchers with lived experience, allies, and deep community connections. This work is personal and guided by a collective understanding that HIV/STBBIs affect not just individuals but entire kinship networks.

Method: Data were drawn from community-based participatory research that used Indigenous storywork. Participants (n=40) were recruited using word of mouth, peer networks, and a community agency serving Indigenous people. Data were analyzed using Indigenous storywork and thematic analyses.

Results: Kinship was foundational to participants' experiences of HIV/STBBI care and connection. Community, relatives, and friends are central to participants' sense of belonging and well-being in Treaty 1 territory. Connections to community agencies, described as lifelines of support, offer spaces for cultural connection and care. Hearing stories from people with lived experience of HIV/STBBI was consistently identified as transformational and healing, reinforcing the importance of storytelling within kinship networks. Community connections also fostered a sense of solidarity, helping to reduce the stigma and isolation often associated with an HIV/STBBI diagnosis. Kinship connections shaped participants' experiences of prevention, sexual health management, reproductive health, pregnancy, childbirth, and service navigation. The presence of doulas, who offered culturally safe, non-judgmental support, further strengthened these connections.

Conclusion: The findings emphasize that meaningful, authentic, and consistent relationships with community, culture, and land are essential in the care of Indigenous women and Two-Spirit people living with or at risk of HIV/STBBI. By embedding cultural practices and relational care into their work, doulas play a critical role in fostering resilience and reinforcing spiritual and cultural connections.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #224

Sermons, carrots and sticks: examining perspectives of public health authorities towards the use of coercive practices targeting people living with HIV in Ontario, Canada

Maureen Owino, Andrea Krüsi, Amy Wah, Colin Hastings, Emerich Daroya, Martin French, Michael Burch, Ryan Peck, Stephen Mollidrem, Alexander McClelland

Background: Public health authorities' HIV response has been characterized as involving "sermons" (information, education), "carrots" (incentives) and "sticks" (coercion, enforcement). Despite significant scientific advancements, HIV remains a reportable communicable disease leading to public health investigation, including coercion (e.g., issuance of public health orders requiring certain behaviour). Our objective was to examine public health surveillance and investigative practices that classify people as "risks" to the public that require containment.

Methods: This community-based research project is led by people living with HIV, legal experts, and researchers, and uses Institutional Ethnography. We performed a scan of public health policies and grey literature and conducted 18 qualitative interviews with public health professionals, including laboratory technicians, nurses, management and policy actors, along those who undertake public health investigation and enact legal orders. Interviews were thematically coded, and documentary analysis was used to map aspects of the public health system.

Results: Public health professionals described a patchwork of diverse and sometimes divergent practice. They noted that the use of public health orders has become increasingly rare, as they undermine trust and do not reflect evidence-based best practice. However, it is clear that the science of undetectability has profoundly altered the focus from certain behavioural interventions (e.g., disclosure, condom use) to viral load suppression. Simultaneously, public health authorities' increased access to electronic medical records (including viral load and other diagnostics) - without patient consent - has led to a shift towards less coercive public health practices in HIV programs in some jurisdictions.

Conclusions: Outcomes of this project illustrate that potential human rights benefits of decreased uses of coercive measures comes with other deep concerns such as the use of data without individuals' knowledge or consent.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #271

Stories from the Land: Land-based Learning with the Feast Centre for Indigenous STBBI Research

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Objectives: In 2022 and 2023, The Feast Centre for Indigenous STBBI Research held Smy'May' and Inuit Illiquhii, our first two land-based learning retreats. The two retreats aimed to teach researchers about Sylix and Inuit ways of knowing holistically and experientially. This presentation focuses on findings about the importance of land-based pedagogy and learning in Indigenous STBBI research and best practices regarding creating land-based learning retreats.

Methods: Relationships with Elders and Knowledge Holders from each territory guided the creation of two distinct land-based learning retreats from the point of conception to evaluation. Researchers engaged in First Nations and Inuit STBBI research were invited to attend the retreats. Guided by Feast Centre Elders and team members, the retreats highlighted Sylix and Inuit knowledge systems through a holistic framework grounded in the territory from which the knowledges originate.

Findings: Connections with the land are critical to Indigenous ways of knowing and thus central to research with Indigenous communities. Land-based learning must be community-led with meaningful guidance from Elders from the territory. Best practices include highlighting experiential learning, storytelling, providing time and space to develop relationships with Elders and knowledge holders, engaging in ceremony, and visiting sites that hold cultural and spiritual significance.

Implications: Land-based pedagogy is critical to shaping STBBI research that involves Indigenous peoples. Involving local Knowledge Holders in the planning and implementation of a land-based gathering is essential and requires adequate engagement of local communities. Land-based teaching is both a methodology of inquiry and a way to frame Indigenous community-led research. It pushes back at the way in which we learn about research in academic institutions by grounding teaching in Indigenous pedagogy. In this way there is a recognition of the process and an embrace of the possibility that the impact of being on the land is both personal and communal.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #294

Indigenous Perspectives on Infant Feeding in Women Living with HIV: Developing Community-Driven Consensus in Canada

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Infant feeding for women living with HIV (WLWH) is a challenging issue. It is even more difficult for Indigenous women living with HIV (IWLWH), who must rely on a colonial system of healthcare that fails to recognize First Nations, Inuit, and Métis cultural practices connected to childbirth and infant feeding. The Canadian guidelines recommend formula feeding to reduce the risk of vertical transmission through breast milk. However, for many cultural communities, the loss of choice regarding how to feed one's infant can be laden with sociocultural taboos and fear of involuntary HIV disclosure, as well as concerns about the potential long-term impacts on infant bonding. There is a lack of literature on the perspectives of First Nations, Inuit, and Métis WLWH. Literature in this area does not explore the perspectives of IWLWH, many of whom have learned cultural traditions and teachings about breastfeeding despite the attempted erasure of their cultural practices through colonial genocidal policies and practices. IWLWH have experienced a myriad of reproductive injustices, and their voices must be front and centre in the evolving guidelines around pregnancy and infant feeding. The primary purpose of this study was to gain a deeper understanding of the experiences and challenges faced by IWLWH and infant feeding. This study explored the knowledge, experience, and values of Indigenous mothers living with HIV through an online Sharing Circle, where participants shared their personal stories and offered guidance on issues connected to infant feeding. This presentation draws on four overarching themes that emerged from this Sharing Circle from the meaningful stories of the participants—providing us with profound insights from IWLWH to address current gaps in healthcare practices and to inform the development of culturally relevant knowledge translation tools for First Nations, Inuit and Métis women.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrévés

Theme : Impactful Community Approaches / Thème : Approches communautaires percutantes

Abstract #32

Village Lab: Evaluating Community-Based Research and Capacity Building for Key and Priority Populations in HIV

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Introduction: The Village Lab, established in 2021 at the University of Manitoba, is an interdisciplinary community-led research hub addressing health and social disparities among key and priority populations in HIV. Using Indigenous, decolonizing, and participatory approaches, the Lab's projects are guided by community guiding circles and individuals with lived experience. This evaluation assesses its impact on community-based research, implementation science, capacity-building, and policy influence to improve health and social equity for key populations.

Methods: The evaluation employs a mixed-methods approach, combining quantitative and qualitative data to comprehensively assess the Lab's outcomes. Data sources include survey findings to capture quantitative metrics on community engagement and intervention reach, stakeholder interviews to provide qualitative insights into the Lab's impact and effectiveness, and analyses of capacity-building programs.

Findings: The Lab's research initiatives have catalyzed culturally responsive HIV interventions co-designed with individuals with lived experience. Notably, the Gijii-Bapiimin project, the Kotawêw study, and the Ubuntu-Pamoja project have fostered cross-community collaboration and improved HIV service navigation for Indigenous and Black communities. Capacity-building programs have empowered 2SLGBTQIA+ trainees and community members by enhancing skills, fostering leadership, and promoting meaningful participation in research and advocacy. The Lab's knowledge translation and exchange activities have effectively bridged the gap between research and practice, resulting in actionable policy recommendations. Additionally, the Lab has cultivated a robust stakeholder network, reinforcing its transformative role in community-led HIV interventions.

Conclusions: The Village Lab demonstrates the transformative potential of community-led HIV research, interventions, and capacity building. By prioritizing social justice, decolonization, and community engagement, the Lab serves as a model for integrating research into actionable solutions. Through sustained relationship building with communities and innovative approaches, the Village Lab is a catalyst for advancing health and social equity for key and priority populations in HIV in Canada.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrévés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #61

Rupturing Anti-Black Racism: Planning & Facilitation Guide

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This presentation will provide an overview of the Women and HIV/AIDS Initiative (WHAI)'s Rupturing Anti-Black Racism: Planning and Facilitation Guide, developed in 2024.

WHAI is a community-based response to HIV amongst cis and Trans women, 2-Spirit and Non-Binary people in Ontario, working 16 communities across the province. WHAI aims to

- Reduce HIV risk for women disproportionately impacted
- Enhance local community capacity to address HIV
- Build safer environments to support women's HIV related needs.

WHAI embarked on this work recognizing the harmful and debilitating impacts of white supremacy culture on AIDS service / community organizations and with an aim of strengthening our collective work to dismantle structural realities of white supremacy. With this foundation, WHAI committed to intentional, collective action that helps rupture these systems, with a belief that anti-Black racism (ABR) work in organizations must go beyond one-time training sessions or reactionary policies. Embedded in this work is an effort to recognize and dismantle practices contributing to Black fatigue, Black burnout, and to support allyship with white colleagues. The work must translate into sustainable and meaningful action that is ongoing and grounded in transparency, self-reflection and structural change work.

Building on Tema Okun's work on white supremacy culture in the workplace and many other wisdom holders, this guide provides a road map outlining WHAI's efforts to meaningfully recognize and rupture white supremacist structures that impact AIDS-service organizations and their respective communities. The guide provides an overview of WHAI's journey to arrive at this work, key documents, session outlines and processes used to implement the work, as well as tips for adapting the work to local contexts. The resource also includes resources for continued learning and to build further capacity building within local and structural contexts.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrévés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #121

Inequities in Access to PrEP Care: Findings from the ON-PrEP Cohort Study

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Background: Barriers attending PrEP-related appointments impact users' engagement in the HIV prevention cascade. We characterized access to PrEP care in the Ontario PrEP Cohort Study (ON-PrEP).

Methods: ON-PrEP recruited adults using any form of PrEP via ten clinics and community recruiters in six Ontario cities from 2018-2024. At baseline, participants completed questionnaires on sociodemographic factors and access to and quality of PrEP care. We computed descriptive statistics of care access variables, and performed non-parametric tests of differences comparing by race (White/non-White), gender (men/women & other genders), and income (above/below \$60,000).

Results: White and higher-income participants were more likely to drive and less likely to take transit to appointments ($p < 0.001$, $p = 0.013$; Table). Higher-income transit users reported taking less transfers ($p = 0.002$). White and higher-income participants reported shorter travel times to appointments ($p < 0.001$, $p = 0.016$). Higher-income participants were more likely to report other barriers (e.g. missing work) attending appointments ($p = 0.01$). Non-White and lower-income participants reported greater difficulty traveling to ($p = 0.004$, $p = 0.005$) and finding time for ($p = 0.01$, $p = 0.003$) PrEP appointments. Most participants reported no other difficulties accessing appointments. Participants reported high trust overall in their PrEP provider (mean 9.25/10). non-men, non-White, and lower-income participants were more likely to report having ever experienced some form of discrimination in medical settings ($p = 0.01$ for all), which they most-commonly attributed to their sexual orientation (47%).

Discussion: While many ON-PrEP participants reported satisfactory PrEP access, racialized, lower-income and gender-diverse groups face inequities. Targeted interventions including telehealth, subsidized transit and cultural competency training are essential to improve access and reduce barriers.

Supporting Document

Table 1: Healthcare Access and Quality

	Overall (N=730)	Race		p	Gender		p	Income		p
		White (N=432)	Non-White ^a (N=232)		Men (N=693)	Women/GNC ^b (N=37)		>\$60,000 (N=406)	<\$60,000 (N=225)	
Transport to appointments										
Drove/ride from friend/taxi	283 (44.8%)	211 (50.5%)	72 (34.1%)	< 0.001	270 (45.1%)	13 (40.6%)	0.017	190 (48.1%)	84 (40.4%)	0.013
Public transit	177 (28.1%)	94 (22.5%)	81 (38.4%)		165 (27.5%)	12 (37.5%)		92 (23.3%)	70 (33.7%)	
Biked/walked	148 (23.5%)	95 (22.7%)	53 (25.1%)		142 (23.7%)	6 (18.8%)		94 (23.8%)	50 (24.0%)	
Other/remote	23 (3.6%)	18 (4.3%)	5 (2.4%)		22 (3.7%)	1 (3.1%)		19 (4.8%)	4 (1.9%)	
Transit users: Transfers taken										

	Overall (N=730)	Race		p	Gender		p	Income		p
		White (N=432)	Non- White ^a (N=232)		Men (N=693)	Women/GNC ^b (N=37)		>\$60,000 (N=406)	<\$60,000 (N=225)	
0	73 (42.2%)	45 (47.9%)	27 (34.6%)	0.077	70 (43.5%)	3 (25.0%)	0.26	48 (52.2%)	22 (31.9%)	0.002
1	55 (31.8%)	28 (29.8%)	27 (34.6%)		50 (31.1%)	5 (41.7%)		28 (30.4%)	21 (30.4%)	
2+	45 (26.0%)	21 (22.3%)	24 (30.8%)		41 (25.5%)	4 (33.3%)		16 (17.4%)	26 (37.7%)	
Travel time to appointment										
0-30 minutes	150 (25.2%)	116 (28.9%)	34 (17.6%)	<0.001	142 (25.0%)	8 (29.6%)	0.999	103 (26.8%)	42 (21.9%)	0.016
30-60 minutes	267 (44.8%)	179 (44.5%)	87 (45.1%)		257 (45.2%)	10 (37.0%)		179 (46.6%)	79 (41.1%)	
1-2 hours	148 (24.8%)	91 (22.6%)	57 (29.5%)		141 (24.8%)	7 (25.9%)		85 (22.1%)	57 (29.7%)	
>2 hours	31 (5.2%)	16 (4.0%)	15 (7.8%)		29 (5.1%)	2 (7.4%)		17 (4.4%)	14 (7.3%)	
Barriers Attending Last Appt.^c										
Yes	295 (46.8%)	198 (47.4%)	97 (46.0%)	0.8	282 (47.1%)	13 (40.6%)	0.59	202 (51.1%)	83 (39.9%)	0.01
No	336 (53.2%)	220 (52.6%)	114 (54.0%)		317 (52.9%)	19 (59.4%)		193 (48.9%)	125 (60.1%)	
Difficulty of travel to PrEP care										
Very easy	239 (38.2%)	182 (44.0%)	57 (27.1%)	0.004	228 (38.4%)	11 (34.4%)	0.18	166 (42.3%)	67 (32.5%)	0.005
Easy	186 (29.7%)	104 (25.1%)	81 (38.6%)		179 (30.1%)	7 (21.9%)		115 (29.3%)	59 (28.6%)	
Neutral	111 (17.7%)	69 (16.7%)	41 (19.5%)		106 (17.8%)	5 (15.6%)		60 (15.3%)	43 (20.9%)	
Somewhat difficult	83 (13.3%)	56 (13.5%)	27 (12.9%)		75 (12.6%)	8 (25.0%)		49 (12.5%)	32 (15.5%)	
Very difficult	7 (1.1%)	3 (0.7%)	4 (1.9%)		6 (1.0%)	1 (3.1%)		2 (0.5%)	5 (2.4%)	
Difficulty taking time for appointments										
Very easy	182 (29.1%)	138 (33.3%)	44 (21.2%)	0.01	170 (28.6%)	12 (38.7%)	0.76	125 (31.9%)	51 (24.9%)	0.003
Easy	182 (29.1%)	117 (28.2%)	64 (30.8%)		179 (30.1%)	3 (9.7%)		123 (31.4%)	50 (24.4%)	
Neutral	129 (20.6%)	74 (17.8%)	54 (26.0%)		123 (20.7%)	6 (19.4%)		70 (17.9%)	50 (24.4%)	
Somewhat difficult	112 (17.9%)	72 (17.3%)	40 (19.2%)		102 (17.2%)	10 (32.3%)		64 (16.3%)	44 (21.5%)	
Very difficult	20 (3.2%)	14 (3.4%)	6 (2.9%)		20 (3.4%)	0 (0%)		10 (2.6%)	10 (4.9%)	
Other difficulties attending appointments										
No issues	555 (88.1%)	373 (89.2%)	180 (85.7%)	0.24	528 (88.3%)	27 (84.4%)	0.57	350 (88.6%)	181 (87.4%)	0.69
Worried about being seen	16 (2.5%)	10 (2.4%)	6 (2.9%)		16 (2.7%)	0 (0%)		14 (3.5%)	2 (1.0%)	
Other difficulties ^d	34 (5.4%)	22 (5.3%)	12 (5.7%)		32 (5.4%)	2 (6.3%)		20 (5.1%)	12 (5.8%)	
Self-rated trust in PrEP HCP (0-10)^e										

	Overall (N=730)	Race		p	Gender		p	Income		p
		White (N=432)	Non-White ^a (N=232)		Men (N=693)	Women/GNC ^b (N=37)		>\$60,000 (N=406)	<\$60,000 (N=225)	
Mean (SD)	9.24 (1.28)	9.31 (1.29)	9.13 (1.26)	0.10	9.27 (1.25)	8.75 (1.65)	0.15	9.33 (0.972)	9.15 (1.68)	0.79
Discrimination in Medical Settings Scale										
Mean (SD)	1.72 (1.49)	1.61 (1.37)	1.91 (1.67)	0.01	1.65 (1.37)	2.97 (2.59)	0.01	1.54 (1.24)	1.96 (1.72)	0.01
Perceived Reasons for Discrimination										
Ancestry/national origins	17 (10.0%)	1 (1.0%)	16 (22.5%)		15 (9.6%)	2 (14.3%)		5 (5.5%)	11 (16.2%)	
Gender	21 (12.4%)	13 (13.4%)	8 (11.3%)		13 (8.3%)	8 (57.1%)		4 (4.4%)	15 (22.1%)	
Gender expression	13 (7.6%)	11 (11.3%)	2 (2.8%)		10 (6.4%)	3 (21.4%)		3 (3.3%)	9 (13.2%)	
Race	33 (19.4%)	2 (2.1%)	31 (43.7%)		30 (19.2%)	3 (21.4%)		19 (20.9%)	11 (16.2%)	
Age	40 (23.5%)	17 (17.5%)	23 (32.4%)		37 (23.7%)	3 (21.4%)		17 (18.7%)	21 (30.9%)	
Religion	3 (1.8%)	1 (1.0%)	2 (2.8%)		3 (1.9%)	0 (0%)		0 (0%)	3 (4.4%)	
Height	7 (4.1%)	5 (5.2%)	2 (2.8%)		6 (3.8%)	1 (7.1%)		0 (0%)	5 (7.4%)	
Weight	16 (9.4%)	14 (14.4%)	2 (2.8%)		15 (9.6%)	1 (7.1%)		7 (7.7%)	8 (11.8%)	
Physical appearance	21 (12.4%)	12 (12.4%)	9 (12.7%)		20 (12.8%)	1 (7.1%)		10 (11.0%)	10 (14.7%)	
Sexual orientation	80 (47.1%)	52 (53.6%)	27 (38.0%)		75 (48.1%)	5 (35.7%)		41 (45.1%)	36 (52.9%)	
Education/income	21 (12.4%)	12 (12.4%)	8 (11.3%)		20 (12.8%)	1 (7.1%)		8 (8.8%)	12 (17.6%)	
Accent/language	22 (12.9%)	5 (5.2%)	17 (23.9%)		21 (13.5%)	1 (7.1%)		10 (11.0%)	12 (17.6%)	
Other ^f	39 (22.9%)	27 (27.8%)	12 (16.9%)		31 (19.9%)	8 (57.1%)		23 (25.3%)	15 (22.1%)	

^a Participants classified as “non-White” identified as East/Southeast Asian (56), Latino (41), multi-racial (39), Black (35), South Asian (20), Middle Eastern (10), and Indigenous (10). ^b Participants not identifying as men included 11 cis women, 10 trans women, 15 identifying as “something else (e.g. nonbinary)” and 1 identifying as “[another] cultural gender minority (e.g. Indigenous Two-Spirit)” ^c Reported barriers were missing work or school (n=291) and needing to find care for children or other dependents (n=10). ^d Other reasons given include poor location (n=12), poor parking (n=7), lack of provider availability (n=3), COVID and worries about getting sick (n=3), lab wait times (n=2), and rude/stigmatizing providers and staff (n=3). ^e Assessed at participants’ 6-month study visit. ^f Common other perceived reasons for discrimination (across all visits) were feeling that HCPs dismissed their concerns/knowledge, or were too busy to properly treat them (n=16), mental illness/neurodivergence (n=6), a history of drug use/addiction (n=4), and sexual practices/PrEP stigma/sex work (n=5). Statistical comparisons were performed using Fisher’s exact test for categorical variables and Wilcoxon rank-sum test for ordinal and continuous variables.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #214

Everyday Discrimination Associated with Suboptimal Healthcare Access, including Antiretroviral Therapy Use and Consistency among Women living with HIV in Metro Vancouver

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Background: Women living with HIV face gendered social and structural inequities that increase exposure to discrimination. While HIV-related stigma is well-studied, the role of Everyday Discrimination—mistreatment based on stigmatized identities—on healthcare access remains underexplored. This study investigated relationships between Everyday Discrimination and healthcare access, including antiretroviral therapy (ART) use and consistency among women with HIV in Vancouver, Canada.

Methods: Data were drawn from the Sexual Health and HIV/AIDS: Women's Longitudinal Needs Assessment Project, a community-based study including 392 women with HIV in Metro Vancouver (2014-2025). Discrimination was measured using the validated Everyday Discrimination Scale (range:9-45). Healthcare access outcomes included: seeking healthcare, barriers to and unmet needs in healthcare over the last 6 months, ART use and consistency of use over the last 3-4 weeks. Associations between Everyday Discrimination and seven healthcare access outcomes were assessed through multivariable analysis with generalised linear mixed models, adjusting for confounders.

Results: The sample included 325 participants and 2442 observations between September/2015-March/2023. Among participants, 53.2%(n=137) were Indigenous, 35.4%(n=115) white, and 11.4%(n=37) other racialized women. 25.5%(n=83) reported minoritised sexual identities, and 8.0%(n=26) minoritised gender identities. The median Everyday Discrimination score was 16 (IQR:11-24). In multivariable analysis, higher per-point Everyday Discrimination scores were significantly associated with reporting healthcare barriers (Adjusted Odds Ratio (AOR):1.04[1.03-1.07]), unmet primary care needs (AOR:1.04[1.02-1.06]), and seeking care for any health concerns (AOR:1.02[1.01-1.04]). Everyday Discrimination was significantly associated with reduced likelihood of being on ART (AOR:0.96[0.92-0.99]) and sub-optimal ART use consistency thresholds (<95%: AOR:1.03[1.01-1.06];<90%: AOR:1.04[1.02-1.07];<80%: AOR:1.04[1.01-1.08]).

Conclusion: Addressing Everyday Discrimination is critical to improving healthcare access and advancing health equity for women with HIV. Tailored interventions to address the systemic impact of Everyday Discrimination, including inclusive care pathways, accessible ART avenues and anti-discrimination practices at the policy and programming levels, are central to improving both HIV and broader health outcomes among women living with HIV.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #269

Barriers to HIV Prevention and Care Among Indigenous Populations: A Systematic Review

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Background:

Indigenous populations face disproportionate rates of HIV compared to non-Indigenous groups, driven by systemic, socio-economic, and cultural barriers exacerbated by colonial legacies. This review examines the intersection of these factors and their influence on the prevalence, prevention, and treatment of HIV within Canadian Indigenous communities.

Methods:

Electronic searches were conducted on MEDLINE, EMBASE, iPortal from inception to October 2024, supplemented with manual citation search. The search strategy included forward and backward citation tracking. Two reviewers independently and in duplicate assessed titles, abstracts, and full-text articles, with discrepancies resolved by a third member. Eligible studies consisted of randomized controlled trials (RCTs), cohort studies, cross-sectional research, and qualitative analyses. Data were extracted on key themes, including HIV prevalence, barriers to healthcare access, and cultural influences. Qualitative data were synthesized using thematic analysis.

Results:

Indigenous populations in Canada have HIV prevalence rates 3.6 times higher than non-Indigenous populations, with disproportionate impacts on women (45% of cases) and youth (12–36% HIV-positive). Systemic barriers, including healthcare inaccessibility and stigma, delay HIV diagnosis and treatment. Racism, stereotyping, and distrust in healthcare create significant obstacles. Socioeconomic factors such as poverty, housing instability, and unemployment restrict access to consistent care and drive high-risk behaviours, including substance use and unsafe sex practices. Cultural disconnection from traditional practices and intergenerational trauma stemming from colonial systems, such as residential schools, exacerbate vulnerabilities. Lack of culturally competent care further alienates Indigenous patients, perpetuating disparities and undermining health outcomes.

Conclusion:

Findings highlight the urgent need for culturally competent, community-driven healthcare strategies to address the compounded impact of systemic inequities and socio-economic barriers. Congress attendees will gain insights into integrating Indigenous voices in healthcare planning and implementing tailored interventions to bridge these disparities. These strategies can inform global approaches to reducing HIV disparities among marginalized populations.

Supporting Document

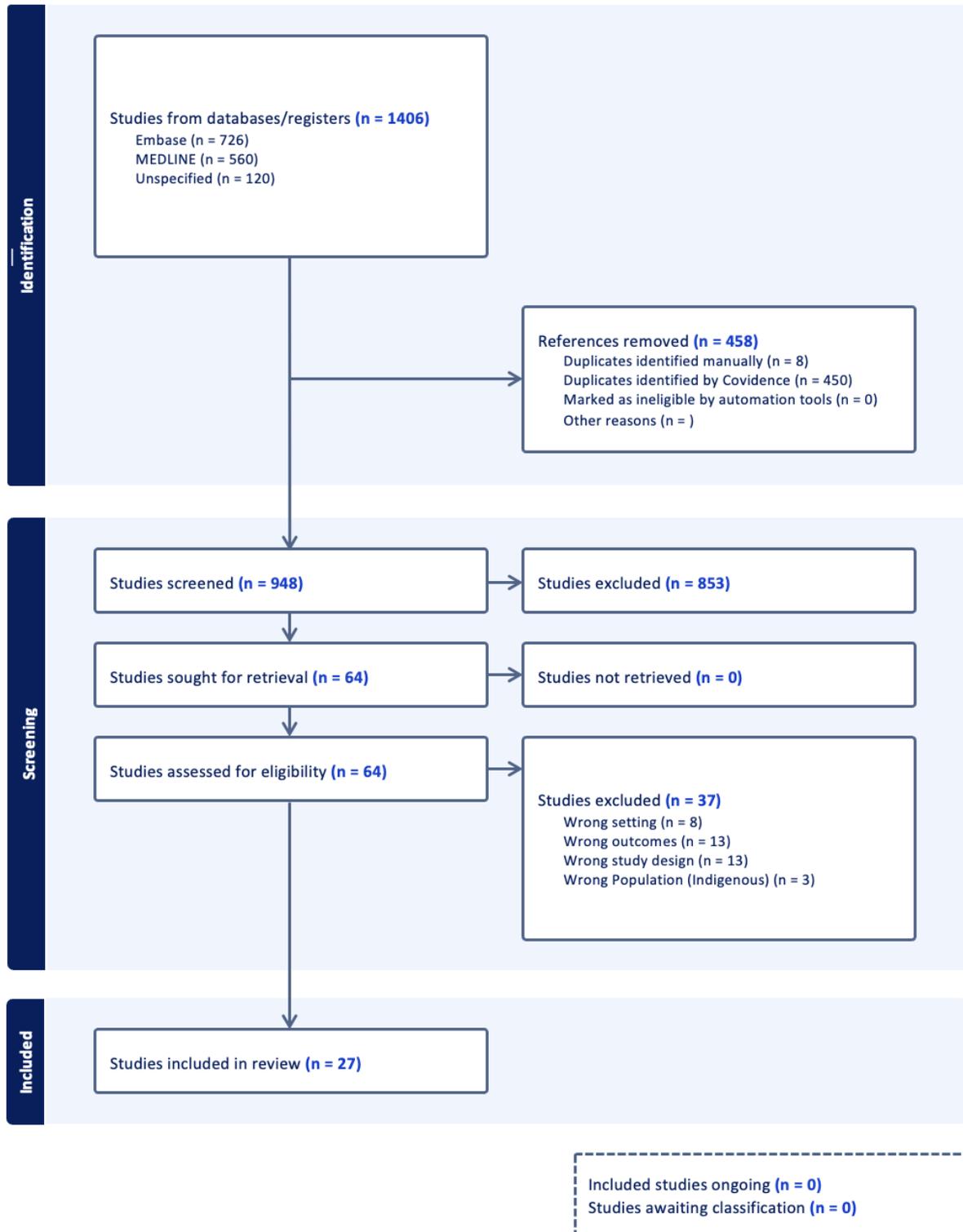


Figure 1: PRISMA Chart

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #275

Intersectional Determinants of Post-Migration HIV Vulnerability Among African, Caribbean, and Black (ACB) Migrants in Ontario

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Background: African, Caribbean, and Black (ACB) migrants in Ontario face unique vulnerabilities to HIV acquisition post-migration. These vulnerabilities are shaped by the intersection of traumatic experiences, social disadvantage, and systemic inequities, which are often underexplored in research and intervention design. This study investigates how these factors influence HIV vulnerability among ACB migrants, contributing to tailored prevention and policy strategies.

Methods: This study utilized the qualitative component of the Msafiri Study, a mixed-methods investigation examining post-migration HIV vulnerability among African, Caribbean, and Black (ACB) migrants in Ontario, Canada. Data were derived from 44 in-depth semi-structured interviews conducted with ACB individuals living with HIV who acquired the infection post-migration. Participants were recruited from the Ontario HIV Treatment Network Cohort Study (OCS) between 2015 and 2017 through purposive sampling. Qualitative content analysis was employed to explore themes related to traumatic experiences, social disadvantage, and systemic inequities shaping HIV vulnerability.

Results: Traumatic experiences—such as intimate partner violence, anti-Black racism, and homophobia—emerged as critical determinants of HIV vulnerability, creating psychological distress and barriers to healthcare access. Social disadvantages, including poverty, precarious employment, and immigration-related challenges, exacerbated these vulnerabilities by limiting access to resources and increasing reliance on informal networks. Participants highlighted systemic inequities, such as racial discrimination within healthcare and housing systems, which further compounded their risks. These intersecting factors created cumulative disadvantages, impacting participants' ability to prioritize health-seeking behaviors, including consistent HIV testing and prevention strategies.

Conclusion: Addressing post-migration HIV vulnerability among ACB migrants requires a multi-level approach that tackles systemic inequities, provides trauma-informed care, and integrates culturally tailored support services. Policies should prioritize reducing structural barriers to healthcare access and economic security, while interventions must address the unique experiences of ACB migrants to enhance prevention efforts and mitigate HIV risks.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #291

Sociostructural determinants of adverse sexual health outcomes among forcibly displaced women seeking asylum in the United States

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Background: Over 122 million people are currently displaced globally owing to conflict, persecution, and violence, 70% of whom are women and children. This study aimed to understand determining factors associated with adverse sexual health outcomes among cis and transgender women intending to seek asylum in the US.

Methods: A community-based approach was used to conduct 28 semi-structured interviews with cisgender (n=20) and transgender (n=8) women attempting to seek asylum in the US. Data were collected in-person in Tijuana, Mexico and online in Spanish or English between March and December 2024. Participants were of reproductive age (18-49), sexually active, and intending to petition for asylum in the US. Data were analyzed using reflexive thematic analysis and a lens of structural violence.

Results: Narratives detailed how structural violence associated with forced displacement (e.g., financial precarity, community disconnect, and a lack of legal protections) interacts with concurrent immigration policy, transphobia, and patriarchal norms to perpetuate gender-based violence and disrupt access to essential sexual health services, violating sexual and reproductive health rights. GBV was extremely prevalent, cited by some as the impetus for fleeing their home country. For others, violence was perpetrated by cartel members or state actors in immigration or policing roles along migration routes. Participants perceived transgender and Black women to be more severely targeted. The sexual health risk associated with GBV was amplified by disrupted contraception access. Participants described issues rooted in cost, sexual stigma, and difficulties navigating novel healthcare systems. Most participants were adamant about continuing to the US, despite enduring repeated traumas. Frequently cited survival strategies included seeking advice on social media, accessing free condoms at health facilities, and personal faith.

Conclusion: Adverse sexual health outcomes impacting asylum-seeking women were rooted in intersecting structural violence. Systemic reform is needed to ensure dignity and safety throughout the migration journey.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #333

Addressing HIV Disparities in Black Communities: Integrating the Social Determinants of Health into Primary Health Care Models for Black Community Members living with HIV

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Black communities in Canada experience disproportionate rates of HIV, at times comprising 25.3% of reported cases while representing only 4.3% of the national population. This alarming disparity underscores the urgent need to design and implement more effective HIV care programs for Black community members, focusing on structural barriers created by the Social Determinants of Health (SDH). Our study investigates how SDH shapes healthcare experiences and outcomes for Black individuals living with HIV and identifies strategies for culturally appropriate service delivery models.

Objectives: (1) To understand how SDH shapes healthcare choices and experiences for Black community members living with HIV. (2) To develop more effective HIV service delivery models addressing the structural barriers caused by SDH.

Methods: We conducted a descriptive qualitative study, collecting data through 8 semi-structured focus groups (N=30) with a diverse group of Black community members aged 25 to 74 living with HIV in Ontario. The data was analyzed using conventional content analysis to uncover the intersection of systemic inequities and primary health care access.

Results: The findings reveal that participants prioritized multifaceted barriers, including HIV-related stigma, housing instability, reduced social capital, economic and social marginalization, anti-Black racism, insecure work conditions, and gender-based violence. These structural challenges significantly constrained health outcomes, underscoring the limitations of current health service delivery models. Participants emphasized the importance of integrated care approaches that equally combined primary HIV healthcare with interventions addressing SDH.

Conclusions: Implementing collaborative care models tailored to Black community members living with HIV should prioritize partnerships among healthcare providers, community organizations, policymakers, and researchers to address systemic inequities while simultaneously meeting primary healthcare needs. This research highlights the necessity of shifting beyond traditional clinical approaches to HIV care. Addressing SDH can drive equity-driven solutions, improving daily living and well-being for Black community members living with HIV in Canada.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Social, Structural and Systemic Drivers / Thème : Facteurs sociaux, structurels et systémiques

Abstract #228

Policy-Driven Approaches to Addressing Structural Barriers in HIV Prevention and PrEP Uptake Among ACB Communities in Canada

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Background: African, Caribbean, and Black (ACB) communities in Canada face disproportionately high HIV risk due to systemic inequities, stigma, and structural barriers that hinder access to prevention and care. Policy-driven interventions are critical to address these challenges and meet UNAIDS 95-95-95 targets. This study synthesizes policy recommendations from HIV prevention and PrEP research to identify actionable strategies for structural change.

Methods: A review of HIV prevention and PrEP studies among ACB populations in Ontario was conducted, drawing on findings from 12 studies published between 2007 and 2022. Key themes include systemic barriers, stigma, and policy gaps, with a focus on actionable policy recommendations to enhance healthcare access and equity.

Results: Systemic Barriers: Racism, economic marginalization, and structural violence were common across studies, limiting access to HIV prevention resources and PrEP services. Policy changes to implement universal healthcare access and national pharmacare plans were identified as critical.

Stigma: Persistent internalized and external stigma exacerbated barriers to care. Recommendations included targeted campaigns addressing homophobia and community stigma, as well as the inclusion of culturally appropriate messaging.

Policy Gaps: Provider knowledge gaps and lack of cultural competency hindered effective service delivery. Policy recommendations emphasized mandatory training for healthcare providers in cultural humility, race-based data collection, and accountability for equitable care.

Facilitators: Community-driven initiatives, such as leveraging Black churches and ethno-specific organizations, were highlighted as effective mechanisms for outreach. Subsidized PrEP programs, tailored education, and participatory approaches were recommended to improve uptake.

Conclusion: Addressing systemic barriers and stigma requires a multi-level policy response, including implementing national pharmacare, integrating HIV prevention and PrEP services, and ensuring equitable healthcare access through cultural competency training. Policy reforms should prioritize inclusive healthcare strategies that engage ACB communities as stakeholders. These interventions are vital to advancing health equity and achieving UNAIDS 95-95-95 goals in Canada.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Treatment, Prevention and Improving Outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #51

2S/GBTQ+ Community Preferences for Doxycycline as Sexually Transmitted Infection PrEP/PEP: A Qualitative Study Across British Columbia

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Background: Doxycycline as prophylaxis (doxy PrEP/PEP) may help ameliorate the impact of some bacterial sexually transmitted infections (STIs), including syphilis and chlamydia, that Two-Spirit, gay, bisexual, trans and queer men and non-binary (2S/GBTQ) people disproportionately face. In December 2023, British Columbia (BC) became the first province in Canada to introduce a public doxy PEP (i.e., post-exposure) program. We sought to understand 2S/GBTQ people's experiences with and preferences for the implementation of doxy PrEP/PEP across BC.

Methods: We conducted semi-structured individual interviews with 2S/GBTQ community members (N=20) across BC from late 2024 to early 2025 to identify key preferences for delivery of doxy PrEP/PEP. We recruited participants through clinics, community-based organizations, and social media. We purposively selected participants to maximize diversity based on race, HIV status, and geography. We recorded, transcribed, and analyzed interviews using reflexive thematic analysis.

Results: Participants had primarily accessed doxy PEP through 2S/GBTQ-friendly sexual health clinics and community-based organizations where they had previously accessed other STI prevention, including HIV PrEP. Experiences were largely positive. Participants described few barriers to access and minimal side effects that were outweighed by the confidence provided by doxyPEP. Participants also reported confusion between doxy PrEP/PEP and HIV PrEP/PEP, concerns around antimicrobial resistance, and existing preference for other STI prevention methods (e.g., condoms, routine testing). Preferences for implementation included building doxy PrEP/PEP into existing online or telehealth HIV PrEP delivery services and ensuring doxy PrEP/PEP accessibility through pharmacies, particularly those in rural regions.

Conclusion: Overall, successful implementation of doxy PrEP/PEP requires tailored and culturally competent health promotion for 2S/GBTQ community members that situate doxy PrEP/PEP within the broader landscape of existing HIV/STI prevention. Key lessons from BC's initial public program implementation, including the importance of leveraging existing 2S/GBTQ-friendly STI prevention and care infrastructure, can enhance rollout across Canada.

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Abstract #149

“Menopause— please, we are here!”- A qualitative study exploring supports for women living with HIV experiencing menopause

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Background: As women living with HIV reach menopause, they face unique biopsychosocial challenges. Menopause affects multiple domains of life, yet research regarding available medical and personal support systems to aid in navigation during this transition is limited. To address this gap, we conducted a qualitative assessment of barriers and facilitators regarding menopause support for women living with HIV.

Methods: Seven semi-structured focus groups were conducted to explore women's menopause experiences in Ontario and British Columbia (January-August 2023) in-person and virtually. Participants were women living with HIV who self-reported being perimenopausal or menopausal at the time of recruitment. Thematic analysis was conducted using NVivo.

Results: Forty women living with HIV with a median age of 52 years (IQR 47, 58) participated. Women highlighted four main barriers to accessing and receiving menopause support: 1) Intersecting stigmas: overlapping menopause, HIV, ageism, and sexism stigmas hindered menopause related health-seeking behaviour and peer support; 2) Knowledge void: Limited access to and understanding of menopause related information contributed to feelings of loss of control and difficulty attributing experienced symptoms to the menopause transition; 3) Negative healthcare experiences: Prior negative healthcare experiences led to reluctance in seeking medical consultation and treatments; 4) Competing priorities: Addressing basic social needs and other health concerns took precedence over menopause care. Two identified supportive care facilitators: 1) Women supporting women: Peers and providers with lived/living experience of menopause were highly valued; 2) Cultural integration: Acknowledgement that menopause experiences are deeply influenced cultural understandings, necessitating culturally competent menopause support.

Conclusion: This study underscores the need for holistic menopause support by, with, and for women living with HIV. Current supports are insufficient, emphasizing the importance of expanding educational resources for women and healthcare providers, adopting a person-centered approach that prioritizes fostering peer-led initiatives, and integrating culturally safe practices into menopause care.

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Theme: Treatment, Prevention and Improving Outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #183

Using the WHO building blocks to describe and appraise health systems in relation to paediatric-adolescent HIV service delivery in sub-Saharan Africa

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Adolescents living with HIV in sub-Saharan Africa experience poorer health outcomes than adults across the HIV cascade of care. Frontline paediatric-adolescent HIV healthcare providers (HCP) have unique insights, but are often not consulted. The World Health Organization health systems building blocks (WHO BB) framework has been instrumental in strengthening health systems, and, catalysing achievement of global health targets such as the Sustainable Development Goals.

Participatory priority-setting and group discussions across twenty-four sites in twelve high HIV-burden African countries in 2022-2023 with 801 multi-occupational paediatric-adolescent HCP. Data were analysed inductively using thematic analysis, and themes mapped onto the six BB domains of service delivery; health workforce; information systems; essential medicines; health system financing and leadership/governance.

Gaps between BB provisions and health system realities included:

- (1) Service delivery (BB1): inadequate space for confidential service delivery, inadequate disclosure support;
- (2) Health workforce (BB2): Difficulties developing and maintaining paediatric-adolescent HIV skills, keeping up with changing guidelines; inadequate facility-level supports;
- (3) Health Information Systems (BB3): Inadequate contact information for case-finding and follow-ups; limited access to integrated electronic health management systems
- (4) Access to essential medicines (BB4): Inadequate availability of formulations of anti-retroviral therapy due to supply chain and funding issues;
- (5) Health systems financing (BB5): inconsistent and/or inadequate remuneration;
- (6) Leadership and governance (BB6): discriminatory age of consent, termination of pregnancy and homophobic laws and/policies.

Findings suggest a need to expand BB2 to include supportive environments for HCP, inclusive of psychosocial support, and to add building blocks to (1) recognize the importance of conducive caregiver/family and community systems, inclusive of caregiver and client supports, community engagement and education; and (2) ensure rights-based services, addressing harmful beliefs.

WHO BBs provide a framework to identify and address paediatric-adolescent HIV health system challenges. Additional building blocks to create supportive family/community systems and environments for HCP merit further consideration.

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Theme: Treatment, Prevention and Improving Outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #190

Exploring sociodemographic and protective factors associated with U=U discussions among people living with HIV and HIV healthcare providers

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Undetectable equals Untransmittable (U=U) is an important message to communicate the impact of HIV treatment, viral suppression, and to reduce HIV stigma. Discussing the U=U message with a primary HIV healthcare provider may be an effective way to learn about U=U. This study aimed to evaluate sociodemographic characteristics and protective factors that may be associated with discussing U=U with a healthcare provider.

Participants (n=1083) completed the People Living with HIV Stigma Index from all provinces across Canada between September 2018–October 2024. The survey contained validated measures capturing protective factors including resilience, social support, self-efficacy, and healthcare empowerment as well as a question assessing if participants had discussed U=U with a primary HIV healthcare provider. Multivariate binary logistic regression was used to determine sociodemographic characteristics and protective factors associated with having discussed U=U with an HIV healthcare provider.

Approximately half (51%) of the participants had discussed U=U with their healthcare provider. Participants aged 18-24 years were more likely to discuss U=U with a healthcare provider than those who were over 24 (OR: 3.94, 95% CI: 1.25, 12.46). Black participants (OR: 2.80, 95% CI: 1.72, 4.57) and transgender/non-binary individuals (OR: 2.61, 95% CI: 1.03, 6.62) were more likely to have discussed U=U than white and cis-men participants respectively. Greater healthcare empowerment (OR: 1.39, 95% CI: 1.04, 1.87) and social support (OR: 1.20, 95% CI: 1.00, 1.43) were associated with having discussions about U=U with a healthcare provider.

Younger individuals and people identifying as certain racial and gender minorities are more likely to discuss U=U with their HIV healthcare provider. Greater healthcare empowerment and increased social support may play a key role in facilitating these discussions. These findings highlight the need for intersectional approaches in healthcare communication, underscoring the importance of empowering patients and fostering supportive communities to promote informed U=U discussions.

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Theme: Treatment, Prevention and Improving Outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #267

The FEAST Centre and Advancing Sexual Health in Indigenous Communities: A Rapid Review of PrEP, PEP, and DOXY-PEP Integration for HIV and STBBI Prevention

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Background:

Indigenous communities in Canada face disproportionately high rates of HIV, syphilis, and other STBBIs, exacerbated by systemic inequities and cultural barriers. While Pre-Exposure Prophylaxis (PrEP) is effective in HIV prevention, its uptake remains limited. This rapid review examines the impact of integrated biomedical interventions, PrEP, Post-Exposure Prophylaxis (PEP), and Doxycycline Post-Exposure Prophylaxis (DOXY-PEP), on awareness, uptake, adherence, clinical outcomes, and health equity in Indigenous communities.

Methods:

A rapid PRISMA-ScR review was conducted. Databases including PubMed, MEDLINE, Embase, CINAHL, and Indigenous repositories like iPortal were searched using the keywords "PrEP," "PEP," "DOXY-PEP," "Indigenous communities," and "HIV prevention." Inclusion criteria targeted studies on Indigenous populations in Canada, focusing on barriers, facilitators, outcomes, and the role of Non-Insured Health Benefits (NIHB). The analysis examined how community-driven perspectives and Indigenous values shaped study designs, engagement, and outcomes, highlighting methodological integration.

Results:

The review identified key barriers such as limited awareness and knowledge among community members and healthcare providers, a lack of culturally tailored outreach, and inequities in NIHB coverage. Systemic discrimination fostered mistrust in healthcare systems, further impeding uptake. Facilitators included culturally competent care models integrating Indigenous knowledge systems, significantly improving trust and engagement. Community-led education initiatives enhanced awareness and adherence, while integrated healthcare delivery models co-managed HIV, syphilis, chlamydia, and gonorrhea, reducing incidence rates and promoting health equity. Embedding these interventions within community-driven frameworks emphasizing Indigenous leadership and intergenerational knowledge-sharing emerged as a promising strategy.

Conclusion:

This review highlights the urgent need for culturally responsive strategies to enhance awareness, uptake, and outcomes of PrEP, PEP, and DOXY-PEP in Indigenous communities. It provides actionable pathways to bridge sexual healthcare gaps and reduce STBBI burdens. The Feast Centre for Indigenous STBBI Research is committed to addressing these gaps through community-driven initiatives, tailored education programs, and collaboration with Indigenous leaders to improve outreach and engagement.

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Abstract #60

Kotawêw: Exploring the Role of Indigenous Doulas in HIV/STBBI Care for Indigenous Women and Two-Spirit People in Manitoba

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Background: The Kotawêw: HIV/STBBI Doula study explored the role of Indigenous (First Nations, Métis, Inuit) doulas in HIV and Sexually Transmitted and Blood Borne Infections (STBBI) care cascade for Indigenous women and Two-Spirit people in Manitoba.

Methods: Community-based participatory research and Indigenous Storywork comprised the research design. An Indigenous Elder, a knowledge holder, and a guiding circle of 6 Indigenous women and Two-Spirit people living with HIV/STBBI guided the project. Using Indigenous storywork principles, stories were collected from people with lived experience of HIV/STBBI (n = 21), relatives of people living with HIV/STBBI (n = 7), Knowledge Holders [Elders (n = 1), kookums (n = 2), uncles (n = 1)], and service providers/helpers (n = 8) recruited through organizations, social media, and peers. Stories were thematically analyzed.

Results: Among people with lived experience, five key themes included: 1) foundational support and relational care, emphasizing trust-building and long-term relationships; 2) cultural practices and holistic healing, using Indigenous traditions like sweat lodges and storytelling to affirm identity and complement HIV/STBBI care; 3) practical support, system navigation, and harm reduction with tangible resources; 4) emotional support and advocacy, reducing isolation during diagnoses and navigating systemic barriers; and 5) combating stigma and colonial violence through education, trauma-informed care, and fostering community well-being. Knowledge holders emphasized cultural humility, spiritual guidance in support roles, and adapting harm reduction to cultural contexts. Relatives emphasized relational care, secondary stigma experiences, and the emotional labor of supporting someone living with HIV/STBBI. Helpers/service providers highlighted systemic challenges and the importance of non-judgmental care, advocacy, and culturally safe, trauma-informed support.

Conclusion: The findings highlight policy implications on how HIV/STBBI doulas can be an integral component of health and social care teams and HIV/STBBI care continuum for Indigenous women and Two-Spirit people living with or at risk of HIV/STBBI.

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Abstract #39

Contextualizing Land and Arts-Based HIV Prevention Experiences within the HIV Prevention Cascade: Qualitative Insights from Northern and Indigenous Youth in the Northwest Territories, Canada

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Background: Youth in the Northwest Territories (NWT) experience social drivers of HIV, including higher STIs and sexual and gender-based violence exposure compared with national counterparts. Knowledge gaps remain regarding how HIV prevention approaches can advance the HIV prevention cascade with NWT adolescents. We explored experiences of participating in HIV prevention Peer Leader Retreats (PLR) in the NWT with Northern and Indigenous adolescents.

Methods: A Northern and Indigenous sexual health program conducted week-long land-based and arts-based PLR with youth aged 13-18 in the NWT. Youth learned leadership, HIV prevention, and sexual health skills with land-and arts-based approaches (e.g., drumming, Elder teachings). We conducted focus groups directly following the PLR and applied framework thematic analysis guided by HIV prevention cascade dimensions of motivation, access, and effective use.

Results: Most participants (N=185; mean age: 14.91, standard deviation: 1.55; gender: cisgender women: N=119, 64.3%; cisgender men: N=46, 24.9%; other: N=20, 10.8%; sexually diverse [lesbian, gay, bisexual, queer, or other]: N=87, 47.0%; Indigenous [Inuit, First Nations, Metis, or other]: N=150, 81.1%) attended the PLR for the first time (N=117, 63.2%), N=40, 21.6% attended once before, and N=28, 15.1% attended ≥ 2 times. Theme 1: Participants discussed how the PLR helped with HIV prevention motivation dimensions of increasing HIV and STI knowledge and risk perception, in turn reducing misconceptions and fear. Theme 2: HIV prevention access included a) PLR addressed gaps in school-based sexual health education, and b) PLR provided youth with confidence and self-efficacy to teach HIV prevention to peers, community, and family members. Theme 3: Effective HIV prevention use was shaped by learning a) practical safer sex skills (e.g. condom use), and b) intersectional stigma reduction.

Conclusions: Land-based and arts-based PLR approaches hold promise in advancing HIV prevention cascade domains of motivation, access, and effective use with Northern and Indigenous youth in the NWT.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Treatment, Prevention and Improving Outcomes / Thème : Traitement, prévention et amélioration des résultats

Abstract #55

CanCURE Survey: Gender-Based Differences in HIV Cure Research Priorities

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Background: The Canadian HIV Cure Enterprise (CanCURE) is a pan-Canadian research collaboratory investigating approaches for achieving sustainable HIV remission. In preparation for the next funding cycle, CanCURE researchers and the Community Advisory Board (CAB) co-designed a web-based survey to identify HIV research priorities from the perspective of people living with HIV in Canada (PWLH). The current study examined gender-based differences in these priorities.

Methods: PWLH across Canada were recruited through community organizations and members between August and December 2024. Data was collected using REDCap electronic data capture tools hosted at The Research Institute of the McGill University Health Centre. The survey included 36 demographic questions and 21 questions ranking research priorities. Participant characteristics were summarized via descriptive statistics, and the research priorities were stratified according to gender.

Results: Of 119 participants, 47.9% self-identified as men, 46.2% as women, and 5.9% as two-spirit, non-binary, agender, or other. Men ranked preventing HIV transmission to partners as first priority, studying where the virus hides as second, and avoiding high comorbidity risks as third, while women prioritized not having to take daily pills as first priority and avoiding higher risks for comorbidities as second. Both genders equally valued expanding community involvement in HIV cure research. However, men focused more on integrating social and behavioural research, while women emphasized the need for diverse ethnic representation in research. Among the 84 participants with prior HIV research experience, women participated in interventional studies involving medication or medical procedures three times less than men (19.0% VS 61.1%, respectively).

Conclusion: While PWLH across Canada share some common priorities regarding HIV cure research, there are notable gender differences in their specific concerns. Furthermore, a significant gender gap in participation in interventional studies, essential for advancing HIV cure research, highlights the importance of aligning research priorities with concerns of all genders.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstract #191

The buffering effect of healthcare empowerment on the impact of HIV stigma on self-rated health in people living with HIV from across Canada

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Healthcare empowerment refers to the process of being engaged, informed, committed, and resilient around one's healthcare. Studies have linked healthcare empowerment to positive health outcomes; however, there is a lack of information around the role that healthcare empowerment plays in the relationship between HIV stigma and self-rated health. This study assessed the moderating effect of healthcare empowerment on the relationship between enacted, internalized, and anticipated stigma and self-rated health.

Participants (n=1318) were recruited from all provinces across Canada from September 2018 – October 2024 to complete the People Living with HIV Stigma Index. The survey contained externally validated quantitative scales measuring stigma, healthcare empowerment, and health. Moderation models were created for each type of stigma as the antecedent, healthcare empowerment as the moderator, and self-rated health as the outcome.

Healthcare empowerment was a significant moderator for the relationship between enacted (b = 0.11, 95% CI: 0.00, 0.23) and internalized (b = 0.23, 95% CI: 0.09, 0.37) stigma and self-rated health. Overall, for those with low levels of healthcare empowerment (-1 SD from the mean), greater enacted and internalized stigma resulted in worse self-rated health; however, high levels of healthcare empowerment (+1 SD from the mean) buffered the negative impact of stigma and participants had consistently high levels of self-rated health. The model with anticipated stigma was not significantly moderated (b = 0.14, 95% CI: -0.01, 0.29).

Stigma can negatively affect an individual's self-rated health; however, these findings show the potential for healthcare empowerment to buffer or mitigate the negative effect of stigma. Understanding how to bolster levels of healthcare empowerment which is driven by a mixture of sociocultural factors, personal resources, and intrapersonal factors that act at different socioecological levels may be important for the development of interventions aiming to reduce the impact of stigma for people living with HIV.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstrac #278

Stigma, Emotional Struggles, and Coping Mechanisms Among African, Caribbean, and Black Migrants Living with Post-Migration HIV in Ontario

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Background: African, Caribbean, and Black (ACB) migrants in Canada face heightened vulnerability to HIV post-migration, shaped by intersecting experiences of stigma, emotional distress, and systemic disadvantage. This study seeks to explore how HIV stigma, emotional and psychological struggles, and coping mechanisms influence HIV vulnerability among ACB migrants living in Ontario, Canada.

Methods: This analysis utilized 44 semi-structured interview transcripts from the Msafiri Study, a mixed-methods investigation into post-migration HIV acquisition among ACB individuals conducted between 2015 and 2017. Participants were purposively sampled from the Ontario HIV Treatment Network Cohort Study (OCS) and included individuals living with HIV who acquired the infection post-migration. Qualitative content analysis identified recurring themes related to HIV stigma, emotional and psychological struggles, and coping.

Results: The results revealed three key themes. Firstly, HIV stigma emerged as a significant issue. Participants described pervasive stigma from family, friends, and community members, often internalizing these attitudes. However, some instances of positive coping were noted, particularly through empathy and support networks. Secondly, emotional and psychological struggles were prominent. They reported distress linked to traumatic experiences and systemic disadvantage, which manifested as depression, anxiety, and substance use. Emotional distress was exacerbated by the stigma surrounding their diagnosis, affecting self-perception and relationships. Lastly, participants highlighted coping mechanisms adopted to navigate challenges, including resilience-building, community reliance, and substance use. Together, these themes illustrate the complex interplay between stigma, psychological distress, and coping strategies within the lived experiences of individuals living with HIV.

Conclusions: Findings highlight the complex interplay of stigma, emotional struggles, and coping mechanisms in shaping HIV vulnerability among ACB migrants. Tailored interventions that address structural inequities, reduce stigma, and provide culturally appropriate mental health and social support are critical to mitigating post-migration HIV risk in this population.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstract #324

Drive for Change: Findings from a qualitative study of healthcare experiences among im/migrant African, Caribbean and Black People living with HIV in British Columbia, Canada.

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Background: African, Caribbean and Black communities in Canada are disproportionately affected by HIV and the adverse health impacts of anti-Black racism, driven by systemic inequities and intersecting social determinants of health. This study explored experiences of HIV stigma, racism and discrimination in the healthcare system, and facilitators to accessing care, among im/migrant African, Caribbean and Black people living with HIV in British Columbia.

Methods: Qualitative data were drawn from the Drive for Change Project, a participatory action research project with im/migrant African, Caribbean and Black people living with HIV in British Columbia. Analysis drew on semi-structured interviews and focus groups (June/2023-April/2024) in English, Amharic and French with adult community experts with lived experience of HIV (n=27). The project drew on collaborative thematic analysis to describe how racism, HIV stigma and discrimination shape healthcare experiences.

Results: Narratives highlighted systemic barriers to health services, including HIV stigma, racism and discrimination, and reduced quality of care within healthcare settings. Negative experiences in healthcare settings, including involuntary disclosure of HIV status and interactions with healthcare personnel perceived as disrespectful or dehumanizing (e.g. denigrating comments, microaggressions, disinterested and differential treatment), were reported by nearly all community experts. They consequently described deeply felt impacts of negative encounters (e.g. feelings of humiliation and exclusion, internalized stigma, anticipated mistreatment and mistrust of the healthcare system), which in turn shaped future decisions about seeking care. Peer navigation services were identified as a key strategy to overcome barriers, build trust, and improve engagement with health services.

Conclusions: Addressing healthcare inequities requires systemic solutions, including culturally responsive peer navigation, and education for healthcare providers on anti-racism, HIV awareness, cultural humility and patient privacy. Sustained community engagement is essential to ensure accountability and foster inclusive, equitable healthcare services.

Keywords: Health services, ACB people living with HIV, im/migrants, HIV stigma, disclosure, racism.

Social Sciences Oral Abstract Session / Sciences sociales présentation orale d'abrégés

Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstract #336

Building Capacity in HIV Stigma Reduction Among Service Providers and Community Leaders: Insights and Lessons Learned from Project ACE

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Background: Project Acceptance and Commitment to Empowerment (ACE) is a multi-phase implementation research with the aim of reducing HIV stigma in racialized communities. Results of Phase One confirmed that HIV stigma intersects with racism, sexism, homophobia and other systemic barriers to impede HIV prevention efforts. Community-wide stigma reduction through capacity building is critical to addressing HIV disparities and eliminating preventable social suffering among people living with and/or affected by HIV.

Description: Phase Two of Project ACE focused on building capacity among service providers and community leaders to become champions of HIV stigma reduction. in six cities: Calgary, Edmonton, Greater Toronto Area, Niagara, London, Ottawa. We implemented the ACE intervention, which consists of six weekly online self-directed learning modules and six Zoom group sessions of collaborative learning and sharing. ACE promotes awareness of the impact of stigma, compassion, psychological flexibility, value-guided action, and collective empowerment.

Lessons Learned: Preliminary findings show that self-guided reflective learning and collective dialogue are effective in building community capacity in stigma reduction: (1) co-creating a safe space enables participants to share stories and experience vulnerability without fear of judgment; (2) integration of mindfulness practice facilitates psychological flexibility; (3) experiential exercises enable participants to connect with their values and formulate committed action; and (4) structured critical dialogue-and-reflection encourages aspiration for collective action toward stigma reduction and social justice. Furthermore, ACE facilitators identified the importance of debriefing after each group session to attend to their own emotional responses to challenging conversations and the emotional needs of the participants.

Conclusions: Implementing the ACE intervention with community leaders and service providers is a critical step in developing and implementing community-wide stigma reduction efforts. Increased collective capacity will facilitate sustainability of programs and services to address stigma and support HIV responses based on cultural needs and contexts of racialized communities in Canada.

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Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstract #297

Implementing harm reduction practices in an acute care hospital in Halifax, Nova Scotia: a qualitative process evaluation

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Introduction: Acute care hospitals can be dangerous environments for patients who are dependent on criminalized drugs, due to stigma and written or unwritten abstinence-based substance use policies forcing patients into withdrawal and increasing risks of new bloodstream infections. Since 2018, a group of health care providers and community partners in Halifax have worked to implement harm reduction practices including oral and intravenous opioid agonist therapy, needle distribution, and naloxone kits. In this study, we sought to understand the experiences of hospital-based health care providers trying to implement harm reduction-oriented care without institutional policy support.

Methods: 10 semi-structured interviews were conducted between October 2024 and January 2025 with purposively selected health care workers at the QEII Hospital in Halifax. This project employed participatory action methods, as hospital staff and people with lived experience using drugs in hospital were engaged throughout the research process. Interview guides were informed by Normalization Process Theory, which considers interventions to be an assemblage of beliefs, behaviours, and practices contingent on context. Data was analyzed using thematic analysis.

Results: To date, we have identified themes related to context, mechanisms, and outcomes affecting implementation of harm reduction practices. Contextual factors included medical paternalism, fear of punishment, environment and resource barriers, and strong community harm reduction resources. Mechanisms included mentorship, provider groups collectively organizing to solve problems, leveraging existing tools, and task shifting to overcome restrictions. Implementation outcomes affecting ongoing practice change include improved awareness, local champions, culture change, and first-hand observation of improved patient outcomes.

Conclusions: We identified several factors that have impacted the partial implementation and normalisation of harm reduction practices in an acute care hospital. Grassroots groups of healthcare providers and community partners identified workaround mechanisms, reflecting contextual barriers and facilitators. Other institutions can learn from this model of enacting change while waiting for institutional support.

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Theme: Stigma and overcoming barriers / Thème : Stigmatisation et levée des obstacles

Abstract #82

Connection, Care, Community: Strengthening Harm Reduction for GBT2Q People who Use Drugs in Canada

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BACKGROUND

Gay, bisexual, trans, two-spirited and queer (“GBT2Q”) people have higher rates of substance use. One aspect of this public health concern is greater risk of acquiring and transmitting HIV and other STIs, particularly in the context of sexualized drug use (chemsex) among GBT2Q people who have sex with men. As a population, men who both have sex with men and use drugs face heightened risk of HIV, HCV, and other STBBIs, and other harms sometimes associated with substance use. Meanwhile, both GBT2Q people and people who use drugs face barriers to health care, including harm reduction services; GBT2Q people who use drugs have particular needs and face additional barriers. Until recently, this public health and human rights issue has received little attention in drug policy discussions or from 2SLGBTQ+ advocacy organizations.

DESCRIPTION

The HIV Legal Network undertook a literature review, key informant interviews, and a scan of services and (federal) strategies and funding in Canada. In 2024, it released *Connection, Care, Community: Strengthening Harm Reduction for GBT2Q People who Use Drugs in Canada*, two companion resources aimed at challenging stigma and protecting the health of GBT2Q people who use drugs.

FINDINGS

The first is a Summary Report reviewing the evidence about substance use — including problematic use — among GBT2Q people and includes insights from GBT2Q people working in harm reduction.

CONCLUSIONS

The second is an Agenda for Action with nearly 30 recommendations for action in multiple areas, including:

- improving data collection;
- challenging stigma through public education;
- making services more accessible, including through enhancing cultural competence of service providers;
- ensuring 2SLGBTQ+ communities are more inclusive and strengthen their advocacy for sensible drug policy;
- enhancing funding for the health of GBT2Q people who use drugs; and
- enacting key legal and policy reforms.

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Abstract #345

Living with HIV and Chronic Pain in Canada: Results from a National Online Bilingual Survey

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Background

Chronic pain affects approximately 60,000 people living with HIV/AIDS (PLHAs) in Canada, impacting their biological, psychological, and social well-being. As defined by the International Association for the Study of Pain (IASP), it is persistent pain lasting over three months, often resulting from HIV or antiretroviral therapy. This pain impacts sleep, mood, cognitive health, and social participation, with PLHAs using a mix of medical, alternative, and body-mind treatments to manage its physical and emotional effects.

Methodology

This study employs an exploratory sequential design mixed-methods approach, starting with a bilingual nationwide online survey, followed by national workshops using Q-sorting to prioritize statements based on participant agreement and relevance. Participants meeting the IASP definition of chronic pain were recruited via a broad network and received a stipend for completing a self-report questionnaire.

Results

The data are derived from a sample of 244 PLHAs, with an average age of 48 years and an average duration of living with HIV of 17 years. Most identified as English-speaking, male, and White, with smaller portions identifying as French-Canadian, female, Black, and Indigenous. Regarding gender identity, many identified as male, some as female, and a smaller group as gender non-conforming. A significant portion earned under \$20,000 annually. Qualitative survey responses expressed gratitude for healthcare providers' care but also frustration with judgment, delays, and lack of solutions. Respondents requested better pain management, more empathy, and improved accessibility, particularly regarding financial barriers and long wait times.

Conclusions

The data primarily originated from Ontario, Alberta, and Quebec, limiting its generalizability. Greater representation from other provinces, such as British Columbia and Manitoba, and more inclusion of women and French-Canadian populations, is needed. This sample of PLHAs was not passive; respondents engaged in complementary and alternative medicines, physical activities, hobbies, and other means, reflecting a group committed to managing their chronic pain.

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Abstract #172

Journey to Wellness: Canadian Hepatitis C Prairie Roadmap – centred on the voices of people with hepatitis C lived/living experience and those who provide services and support

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HIV and hepatitis C (HCV) are contracted through similar routes, making co-infection a living/lived reality for 30% of people living with HIV worldwide. With injection drug use among the top risk factors for both in Canada, there are commonalities in prevention, engagement and harm reduction efforts.

To combat growing rates of HCV in Canada, CanHepC in 2019 launched the Blueprint to inform HCV elimination efforts, offering evidence-based strategies to help Canada meet the World Health Organization goal of eliminating HCV by 2030. Recognizing the unique jurisdictional healthcare structures in Canada, Journeys to Wellness: Prairie Hepatitis C Roadmap was developed to address specific and unique needs of Manitoba, Saskatchewan and Alberta in eliminating HCV.

Aims

- Assess current landscape of HCV prevention, diagnosis and treatment, identifying progress/existing gaps
- Uncover key barriers and enablers to effective HCV care and viral suppression
- Establish consensus on strategic priorities for improving HCV wellness across the Prairies

Methodology

- Community Guidance Circle (18) PLE, clinicians and thought leaders provided oversight and guidance
- Sharing circles in three provinces (18 PLE)
- Engaging 13 community-based organizations to understand stigma and barriers
- Hosted 20 consultations to add to messages of PLE
- PLE validated key messages that were also translated into graphic imagery

Emerging Themes

- HCV must move from a disease to a whole-person wellness lens
- Enhanced prevention and education are critical
- Person-centered care, which recognizes and addresses unique and overlapping challenges faced by many
- Stigma is a massive barrier to addressing HCV
- Access to HCV treatment in incarceration facilities must be improved significantly
- Provincial elimination strategies should be prioritized
- Advocacy and resources needed to increase community capacity

With 2030 only a few years away, identified provincial and collective opportunities for change are vital to galvanize our response.

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Abstract #74

PAN's Organizational Stigma Assessment Cycle (OSAC) Project

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INTRODUCTION: The Organizational Stigma Assessment Cycle (OSAC) is a stigma reduction and capacity-building initiative led by PAN. This initiative was born out of a community-identified need to turn the tide against persistent HIV stigma and discrimination. Designed as a multi-step learning process, OSAC helps organizations identify where HIV/AIDS and other stigma and discrimination may inadvertently occur in their services and supports them in implementing changes for improvement. Organizations can complete the cycle once or revisit it as needed, depending on their capacity and goals. OSAC is rooted in intersectionality, acknowledging how overlapping identities—such as HIV status, race, gender, sexual identity, and substance use—shape individual experiences of stigma and discrimination. It recognizes that stigma is influenced by broader systems, including societal attitudes, policies, and economic structures.

METHODS: We piloted OSAC using a developmental evaluation approach at five sites from two community-based organizations across BC. There was a blend of in-person and virtual data collection through 58 surveys with people with lived/living experiences and 61 with staff. There were also five focus groups for people with lived/living experiences and three for staff. Peer reviewers, including people with lived experience and community workers, provided ongoing support to participating organizations through this pilot phase.

RESULTS: We learned what is working well and how to improve service delivery to reduce stigma in the areas of governance, programs and services, human resources, professional development, communication, finances and physical space. During the pilot, we also integrated adjustments to the process and ensured that people with lived/living experience were at the forefront of the work.

CONCLUSION: OSAC aims to foster more inclusive and equitable services across BC by equipping organizations with practical tools to address HIV/AIDS and other stigma at its roots. This innovative project represents a significant step toward creating stigma-reduced environments within community services.

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Abstract #309

‘Someone like me’: Community perspectives on peer navigation services within the health system among im/migrant African, Caribbean and Black People living with HIV in British Columbia, Canada.

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Background: Evidence suggests that peer navigation services are a critical strategy to address systemic and socio-structural barriers to health services and facilitate engagement in HIV care for people living with HIV. This community based study with im/migrant African, Caribbean and Black people living with HIV aimed to explore: (1) experiences with peer navigation services within the health system; and (2) how to tailor culturally responsive peer navigation support for the community.

Methods: This qualitative study was part of the Drive for Change Project, a community-based participatory action research study with im/migrant African, Caribbean and Black people living with HIV accessing health services in BC. Analysis drew on semi-structured interviews and focus groups in English and Amharic with community experts with lived experience of HIV (n=27, August/2024-December/2025) and peer navigators (n=6, January-February/2025). The project drew on collaborative thematic analysis to describe components of culturally responsive peer navigation support.

Results: Preliminary analysis highlighted that HIV stigma, migration experiences and cultural backgrounds shaped peer navigation service needs of community experts. Participants priorities for culturally responsive peer navigation services included: patient-centred/relational practice, culturally sensitive communication (e.g. respectfully addressing elders, appropriate terminology), service in preferred languages, integration of spiritual practices with HIV care, and support for migration-related concerns. Protection of confidentiality and self-disclosure of HIV status by peer navigators were critical for building trust with community experts. Narratives identified gaps in linkage to peer navigation services for recently arrived im/migrants and others linking to HIV care in BC.

Conclusions: Culturally responsive peer navigation services can facilitate engagement in care and empower African, Caribbean and Black im/migrants living with HIV in healthcare settings. Systemic solutions to scale up and ensure linkage to these services in the BC health system are urgently needed.

Keywords: Health services, peer navigation, African, Caribbean and Black people living with HIV, im/migrants.

Social Sciences - Poster Abstracts / Sciences sociales - Abrégés affiches

Abstract #250

Need for Integrated HIV and STI prevention services among Venezuelan Migrant Gay and Bisexual Men in Lima, Peru

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Background: Over 7.7 million Venezuelans have been displaced since 2014. Venezuelan migrant gay and bisexual men (GBM) in Latin America face significant gaps in HIV and STI prevention. Venezuelan GBM's heightened vulnerabilities stem from the interplay of poverty, violence, and limited healthcare access. Lima, Peru is host to over 1 million Venezuelans and evidence is needed to develop strategies addressing compounding vulnerabilities and to optimize prevention efforts for migrant Venezuelan GBM.

Methods: Between June and October 2024, 307 Venezuelan GBM in Lima participated in a cross-sectional bio-behavioral survey and testing for HIV, syphilis, gonorrhea and chlamydia. We assessed HIV and STI positivity, HIV vulnerability, and PrEP uptake among participants who self-reported their HIV status as negative or unknown.

Results: Among 172 participants not living with HIV, the median age was 31 [IQR: 27-34] and 58% arrived in Lima ≥5 years ago. Only 59% reported formal employment, 55% earned ≤1500 Peruvian soles monthly and 35% had no health insurance. HIV and STI positivity was high, with 10% testing positive for HIV and 26% testing positive for ≥1 STI. Sexual behaviours such as condomless anal sex (54%) and substance use during sex (48%) were common. Additionally, 18% reported sex work, 29% reported intimate partner violence, and 10% reported police violence in the past year. While 84% of participants were aware of PrEP, only 24% were currently using PrEP. Among non-PrEP users, 66% were willing to use PrEP while 21% were unsure.

Discussion: These findings highlight significant health and social vulnerability among Venezuelan GBM in Lima, Peru, exacerbated by high rates of STIs combined with economic precarity. Despite widespread awareness and willingness to use PrEP, low utilization reflects systemic barriers to access. These results underscore the need for targeted public health interventions to address structural inequities and improve prevention services for this population.

Social Sciences - Poster Abstracts / Sciences sociales - Abrégés affiches

Abstract #167

Primary Care Access for gbMSM in a Regional Urban Center: Barriers and Facilitators

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Background: Gay, bisexual, and other men who have sex with men (gbMSM) face unique challenges in accessing primary healthcare, including stigma, confidentiality concerns, and a lack of culturally competent care. This study examines these barriers and facilitators in Hamilton, Ontario, to inform equitable healthcare strategies.

Methods: A quantitative survey was distributed to gbMSM participants through community organizations and a PrEP/HIV clinic. The survey incorporated the validated Primary Care Assessment Tool (PCAT) alongside questions addressing healthcare access, barriers, facilitators, and satisfaction. Descriptive statistics were used to analyze the data.

Results: While all 21 participants reported having a primary healthcare provider, 38% experienced discrimination in healthcare settings. A large proportion of individuals stated they encountered barriers to 2SLGBTQ+ culturally-competent care (47.6%), and almost a quarter of individuals (23.8%) reported encountering stigma or discrimination when accessing primary care services. More than half of participants reported having supportive providers (61.9%) and 2SLGBTQ+-specific services (61.9%) as facilitators to accessing care. Most participants reported satisfaction in their primary care (61.9%), though it was lower among low-income (44.4%) and lower-education participants (55.6%). Additionally, 14% reported unmet healthcare needs in the past year, rising to 33.3% among low-income respondents.

Conclusions: Despite having good access to primary healthcare providers, gbMSM in Hamilton face systemic barriers to equitable care, particularly among low-income and lower-education groups. Enhancing provider competence in LGBTQ+ health, expanding telehealth options, and fostering inclusive care environments are essential steps to improve access and outcomes for gbMSM populations. These findings provide actionable insights to inform targeted healthcare policies and practices.

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Abstract #22

A Narrative Inquiry into the Experiences Related to Pre-Exposure Prophylaxis (PrEP) Access Among Young Men Who Have Sex with Men (YMSM) in Canada

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Young men who have sex with men (YMSM) in Canada and globally are disproportionately impacted by human immunodeficiency virus (HIV). Pre-exposure prophylaxis (PrEP) is an effective strategy for reducing transmission and acquisition of HIV infection among high-risk populations, including YMSM. However, there is a limited number of studies exploring YMSM's PrEP access experiences and the different social, structural, behavioural, and clinical factors that influence their PrEP access and use. The purpose of this narrative inquiry study was to explore and understand the experiences of Canadian YMSM in relation to their PrEP access. In this research, I worked collaboratively with three Canadian YMSM between the ages of 21 and 24 over 24 months. With relational ethics at the center, the participants and I engaged in multiple conversations in person and virtually and collected field texts that provided insights into their experiences across time, places, and social contexts. The intensive and long-term researcher-participant relationships allowed us to co-compose narrative accounts that reflected the participants' unique experiences, especially those that shaped their overall PrEP access. Through the continuous telling and retelling of the participants' stories and by reflecting on and laying their narrative accounts side by side, I identified resonant threads that highlighted their experiences of accessing PrEP in relation to and in the contexts of identity-making and social responsibility. This narrative inquiry research provided new understandings and knowledge of Canadian YMSM's PrEP access experiences. The new knowledge from this research can be utilized to inform PrEP programs, research, education, policies, and practice guidelines that will improve PrEP access and help decrease the rate of new HIV infections among Canadian YMSM.

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Abstract #119

Do I Trust You Because I Know You? Relationship Dynamics and HIV PrEP Inform Condom Use Among Non-Monogamous Sexual Minority Men in Canada.

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Background: For single and non-monogamous gay, bisexual, and other men who have sex with men (GBM), decisions to use condoms may be informed by HIV-PrEP use, and perceived HIV/STI risk (e.g., casual partners may be perceived as higher risk than romantic partners). We examined how PrEP use and relationship dynamics are associated with engaging in condomless anal sex (CAS) among GBM.

Methods: We analyzed longitudinal data (Engage Cohort Study; 2017-2023) on the sexual health and behaviours of sexually active single and non-monogamous GBM recruited using respondent-driven sampling in Vancouver, Toronto, and Montreal (n=2206). Participants completed study visits every 6-12 months, providing information on up to five sexual partners from the past 6 months. Using multilevel logistic regression, we examined how relationship dynamics (casual, close non-romantic, and romantic) and PrEP use were associated with engaging in CAS across partners and study visits.

Results: As summarized in Table 1, HIV-negative participants not using PrEP were more likely to engage in CAS with romantic versus close-non-romantic or casual partners (ORs>4.00, ps <.001)—however, we did not find this association among PrEP users. Participants living with HIV were more likely to engage in CAS with partners who were also living with HIV or on PrEP (ORs>2.00, ps <.05), regardless of their relationship dynamic.

Conclusion: Condom use behaviour among single and non-monogamous GBM varies across relationship dynamics, HIV status, and PrEP use. Sexually active single and non-monogamous HIV-negative GBM reporting CAS with romantic partners should still be encouraged to screen clinically for PrEP eligibility.

Supporting Document

Table 1. Pairwise comparisons of the odds that participants engage in condomless anal sex across relationship dynamics and PrEP use.

Contrast	OR ^A	95% Confidence Interval		p
		LL	UL	
HIV-negative GBM				
Participant on PrEP . . .				
Casual (ref) ^[B]				
Close, non-romantic	1.19	1.03	1.36	.009
Romantic	0.96	0.75	1.23	.928
Close, non-romantic (ref)				
Romantic	0.81	0.64	1.03	.095
Participant NOT on PrEP . . .				
Casual (ref)				
Close, non-romantic	1.95	1.72	2.21	<.001
Romantic	8.04	6.77	9.54	<.001
Close, non-romantic (ref)				
Romantic	4.12	3.53	4.82	<.001

GBM Living with HIV (LWH)

Romantic partner . . .

Not on PrEP (ref)

On PrEP 2.57 1.17 5.64 .014

Partner LWH 2.06 1.02 4.15 .041

On PrEP (ref)

Partner LWH 1.25 0.53 2.91 .816

Close Non-Romantic Partner . . .

Not on PrEP (ref)

On PrEP 4.22 2.95 6.04 <.001

Partner LWH 3.20 2.36 4.32 <.001

On PrEP (ref)

Partner LWH 1.32 0.89 1.95 .220

Casual Partner . . .

Not on PrEP (ref)

On PrEP 4.82 2.85 8.14 <.001

Partner LWH 4.42 2.98 6.55 <.001

On PrEP (ref)

Partner LWH 1.09 0.60 1.98 .938

Note. Results control for age, financial strain, education, immigration, ethnicity, transactional sex (receiving and giving goods, money, and services), and partner PrEP use and HIV status (for HIV-negative individuals).

[A] Significant OR > 1 indicate higher odds of condomless anal sex for comparison, versus reference groups; significant OR < 1 indicate higher odds of condomless anal sex for reference, versus comparison groups; Non-significant OR indicate odds of engaging in condomless anal sex is not statistically significant between groups.

[B] Reference groups denoted by "(ref)"

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Abstract 161

Acceptability, usability, and perceived impact on HIV care of a patient-reported outcomes measurement platform (MyPRO) in a clinic serving racialized women in Toronto, Canada.

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Introduction

Electronic self-administered patient-reported outcome measures (PROs) have improved HIV care in some settings. We sought to understand the acceptability, usability, and impact of a PRO platform among women receiving HIV care in Toronto.

Methods

We invited clients from a health centre serving African, Black, Caribbean, Latin American and South Asian women, particularly immigrant, refugee and non-status women, to take a computer-based PRO assessment (MyPRO) prior to their care visit; this included measures of psychosocial and basic needs, health behaviors, and antiretroviral (ART) adherence and burden. Women completed MyPRO either remotely or on-site, with results delivered to providers ahead of their visit. We conducted semi-structured qualitative gender-concordant individual interviews, querying MyPRO usability, acceptability and impact on communication with providers including ART satisfaction, and acceptability as a tool for improving their care. We used Dedoose qualitative coding software to code transcribed interviews for thematic content. Two coders independently used a qualitative memoing process to summarize themes before meeting to reconcile interpretation differences.

Results

Women (n=15) reported that MyPRO was easy to use and improved recall of health needs to be discussed with the provider during their visit. By extension, this improved patients' sense of preparedness for the appointment. MyPRO helped facilitate and legitimize discussion of sensitive topics including mental health and psychosocial needs, e.g. social support. By addressing previously undiscussed topics, it increased their sense of comprehensiveness of care. MyPRO also facilitated discussion of patients' relationship with ART, increasing their confidence to initiate medication related conversations including adherence in the context of avoiding HIV disclosure. Some women reported that MyPRO led to discussion regarding medication side effects and suitability of injectable ART. These discussions, in some cases, led to a change in medication for the patient.

Conclusion

MyPRO was acceptable and facilitated more open discussion surrounding ART, psychosocial and other needs.

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Abstract #178

Exploring the concepts of spirituality and healing from healthcare providers working with Indigenous people living with HIV.

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This study focused on spirituality and healing in the context of Indigenous people living with HIV. Indigenous people living with HIV are confronted with various obstacles, such as cultural, spiritual, and systemic factors. Healthcare practitioners who provide support to them often struggle with understanding or incorporating spirituality as part of holistic healing. The study aimed to understand the perception of healthcare providers on the role spirituality plays in the lives of Indigenous people living with HIV by engaging and listening to their voices. We adopted a qualitative narrative research design. Participants consisted of 15 healthcare providers who had previously or were at the time currently caring for Indigenous persons living with HIV in Prince Albert, Saskatchewan. These participants were selected using a combination of convenience and snowball sampling. Due to restrictions during the COVID-19 pandemic, telephone interviews were conducted between April 2020 and January 2021 to collect data. Data transcripts were analyzed by developing a coding framework and subsequently engaging in line-by-line coding. The data collected revealed that all 15 participants considered themselves spiritual people who engaged in different spiritual practices and incorporated spiritual activities in caring for Indigenous people living with HIV. Participants' perceptions underscored the importance of incorporating spirituality in client's healing as they recorded significant recovery amongst their clients through spirituality. It also highlighted a lack of access to Indigenous spiritual support (i.e., Elders) as a difficulty faced by healthcare providers. The results suggest that not all individuals living with HIV are spiritually well-positioned, but those that were more spiritual, were often more resilient and healed more holistically. The research helps healthcare providers and policy makers understand the importance of respecting and incorporating spirituality into the care of Indigenous people living with HIV. It is recommended that healthcare providers integrate concepts of spirituality in providing care.

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Abstract #19

Sex-based differences in health outcomes among people living with HIV during the COVID-19 pandemic

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The COVID-19 pandemic intensified sex and gender-based differences in health outcomes through high prevalence of essential work among women, differences in caregiving responsibilities and socioeconomic status. People living with HIV faced unique challenges during the pandemic, impacting their access care and adherence to treatment. However, there is lack of research comparing health outcomes between women and men living with HIV during the pandemic.

We conducted a cross-sectional systematic sampling study with people living with HIV, 18 years of age or older, receiving HIV care at the Toronto General Hospital in Toronto, Canada. Chi-square tests were used to evaluate differences in healthcare access and outcomes, according to sex. Multivariable logistic regression was used to estimate the association between sex and health outcomes, while accounting for age and racial background.

183 individuals participated in the survey (51% female), with a median age of 54 (IQR 45-63) years. During the COVID-19 pandemic, there was a trend towards worse access to HIV care among female participants (no viral load monitoring (14% vs. 9%), attending fewer or no appointments with their HIV care provider (44% vs. 32%), missing doses or stopping antiretroviral therapy (49% vs. 40%)). Interestingly, female participants were less likely to present to the emergency department (15% vs. 30%, $p=0.019$) or experience worsening of a preexisting condition (5% vs. 19%, $p=0.006$). After accounting for age and racial background, male sex was still associated with increased odds of emergency department presentation (OR=2.5, 95% CI 1.2-5.3, $p=0.019$) and deterioration of underlying comorbidities (OR=3.7, 95% CI 1.3-10.6, $p=0.018$). These associations persisted in sensitivity analyses accounting for differences in healthcare access.

We identified sex-based differences in health outcomes among people living with HIV in Canada during the COVID-19 pandemic. Pandemic preparedness efforts need to incorporate strategies that address sex-based determinants of health among people living with HIV.

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Abstract #346

Impacts of the COVID-19 Pandemic on the HIV Care Continuum and Associated Factors in Affluent Nations: A Mixed-Methods Systematic Review

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Introduction: The COVID-19 pandemic has significantly impacted the HIV care continuum (HCC), presenting challenges while also driving positive transformations globally. This study examines the impact of the COVID-19 pandemic on HCC in high-income countries, aiming to identify barriers and facilitators to care delivery amidst global health challenges.

Methods: This study employs JBI mixed-methods systematic review methodology. The search strategy included CINAHL, OVID-Medline, CAB Direct, and OVID-Embase databases and manual citation review. After systematic screening and data extraction, quality assessment was performed, and integrated findings were presented.

Results: The COVID-19 pandemic has disrupted various aspects of the HIV care continuum, posing challenges in testing, prevention, appointments, adherence, linkage to care, viral suppression, and treatment engagement. However, the pandemic has also spurred positive changes, notably through the widespread adoption of telemedicine, enhancing access to care and support services.

Conclusion: Efforts to mitigate structural barriers, enhance access to care, and promote ART adherence are essential to ensure continuity of care and mitigate long-term consequences. Tailored interventions for vulnerable populations and addressing disparities in care access are crucial for fostering equitable HIV care delivery.

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Abstract #203

Access to violence prevention and support services during the COVID-19 pandemic among women living with and without HIV in British Columbia, Canada

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Background: Gender-based violence increased during the COVID-19 pandemic and many services, including violence prevention and support (VPS) services, were disrupted. Women living with HIV experience high levels of violence and are a priority population in the gender-based violence response. We examined access to VPS services during the COVID-19 pandemic in British Columbia among women living with and without HIV.

Methods: Cis and trans women aged ≥ 16 years completed a survey regarding need to access VPS services from March 2020 - March 2022. Data were collected on age, ethnicity, gender identity, sexual orientation, education, relationship status, and household income. Participants reporting needing VPS services were asked whether they accessed services and if they experienced difficulty accessing services. Groups were compared using t-, chi-squared, or Fisher's exact tests.

Results: Our sample consisted of 542 women with a median age of 47.7 years (Interquartile range = 37.4 - 57.2). Among them, 39 reported needing to access VPS services (5.2% of women living with HIV and 8.7% of women not living with HIV, $p=0.152$). Household income was significantly associated with need to access VPS services, as 12.4% of women with $< \$20,000$ needed services compared to 4.1% of women with $\geq \$20,000$ ($p=0.002$). Among those who needed VPS services, 29 reported accessing services (74.3%) and 12 reported difficulty accessing services (30.8%). HIV status was not significantly associated with needing VPS services, accessing services, nor difficulty accessing services (all $p>0.10$).

Conclusion: Our findings indicate that household income but not HIV status was associated with need to access VPS services, suggesting the importance of social determinants of health in needing VPS services. Furthermore, one-quarter of women needing VPS services did not access them, and nearly one-third experienced difficulty accessing services. Additional research should explore factors impacting VPS service accessibility during pandemic responses to inform future gender-based violence-related policy.

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Abstract #335

Does Survey Recruitment Channel Influence Evaluation of Awareness and Use of Digital STBBI Testing Services? Insights From Getcheckedonline's 2022 Community Survey in British Columbia, Canada

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Background: Online surveys are often used to evaluate digital sexually transmitted and bloodborne infections (STBBI) care services but risk selection bias towards respondents with better digital access and literacy. We compared awareness and use of GetCheckedOnline, BC's online testing service, between participants recruited digitally vs. in-person.

Methods: Between June and September 2022, we recruited English-speaking, sexually active BC residents (≥16 years, ≥1 partner in the past year), using two modalities: (1) digitally mediated recruitment using social media ads and digital survey links at sexual health clinics and community sites, and (2) in-person paper surveys at community events/sites (e.g. Pride festivals, colleges), targeting populations facing STBBI testing barriers (e.g., low-income earners, gay men). We assessed awareness and use of GetCheckedOnline (Yes/No), recruitment modality (digital/in-person), socio-demographics, e-health literacy, digital access, and sexual health characteristics. Differences in awareness and use were analyzed using bivariable and multivariable logistic regression models, accounting for plausible confounders. Intersectionality theory informed testing and inclusion of significant interaction terms.

Results: Among 1,657 participants (mean age: 33.0 years, SD: 11.77), 52.5% (784) were women, 36.2% (600) were recruited digitally, and 35.8% (584) were aware of GetCheckedOnline, of whom 57.4% (324) had used it (Table 1). Digitally-recruited participants had higher odds of awareness (OR: 5.27, 95%CI: 4.23–6.57) and use (OR: 3.13, 95%CI: 2.20–4.45) compared with participants recruited in-person. Differences persisted after adjusting for socio-demographics, digital literacy and access, region, STBBI testing history and previous experience of testing barriers: awareness (aOR: 3.17, 95%CI: 2.18–4.60) and use (aOR: 2.47, 95%CI: 1.43–4.26). Covariate interactions were not significant.

Conclusion: Digitally recruited participants had greater awareness and use of GetCheckedOnline. Recruitment modalities strongly influence survey evaluations of awareness and use of digital STBBI services like GetCheckedOnline. Combined recruitment strategies are therefore essential for more inclusive and accurate evaluations of awareness and use of these services.

Supporting Document

Table 1: Study sample characteristics stratified by survey recruitment channel, In-person paper-based or online.

Variable*	In-person survey N (%)	Online survey N (%)	p-value
	1057	600	
Aware of GetCheckedOnline			
No	812 (77.9)	237 (40.1)	<0.001
Yes	230 (22.1)	354 (59.9)	
Used GetCheckedOnline			
No	132 (59.2)	108 (31.7)	<0.001
Yes	91 (40.8)	233 (68.3)	
Age in years (mean (SD))	34.74 (13.08)	29.49 (7.42)	<0.001
Gender			
Gender minority	134 (13.3)	106 (21.6)	<0.001
Men	319 (31.8)	151 (30.8)	
Women	551 (54.9)	233 (47.6)	
Sexuality			
Sexual minority	514 (52.1)	306 (63.0)	<0.001
Straight	473 (47.9)	180 (37.0)	

Ethnicity			
Racialized minority	331 (29.8)	769 (60.2)	<0.001
White	780 (70.2)	508 (39.8)	
Annual income			
<\$20,000	303 (34.1)	86 (18.9)	<0.001
\$20,000-\$39,999	206 (23.2)	112 (24.6)	
\$40,000-\$59,999	152 (17.1)	132 (28.9)	
\$60,000-\$79,999	92 (10.4)	86 (18.9)	
\$80,000 or more	135 (15.2)	40 (8.8)	
Education			
High school or less	292 (30.4)	123 (25.4)	0.138
Post-Secondary School	320 (33.3)	175 (36.2)	
Bachelor or higher	348 (36.2)	186 (38.4)	
eHeals Score (mean (SD))	30.34 (5.79)	31.07 (5.04)	0.023
Ease of going online (Digital access)			
Easy	904 (90.2)	430 (92.9)	0.154
Neither easy nor difficult	58 (5.8)	23 (5.0)	
Difficult	40 (4.0)	10 (2.2)	
Health Authority			
Fraser Health	183 (22.6)	46 (14.8)	<0.001
Interior Health	348 (43.1)	97 (31.3)	
Island Health	245 (30.3)	133 (42.9)	
Vancouver Coastal Health/Northern Health	32 (4.0)	34 (11.0)	
Previous STBBI diagnosis			
No	691 (71.2)	268 (52.7)	<0.001
Yes	279 (28.8)	241 (47.3)	
Previous experience of STBBI testing barriers			
No	380 (40.0)	113 (21.2)	<0.001
Yes	569 (60.0)	421 (78.8)	

*Percentages exclude missing values.

STBBI: Sexually transmitted and blood-borne infection; SD: Standard Deviation.

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Abstract #306

'Yes, I said No to PrEP because I would like to know more about the medication': Facilitators and Barriers to acceptance of HIV Pre-exposure prophylaxis in Black communities in Canada

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Introduction:

HIV pre-exposure prophylaxis (PrEP) is recommended for individuals with high ongoing risk of HIV infection. However, PrEP acceptance in Black communities is low. Previous research has failed to establish the reasons why Black Canadians accept or reject PrEP for HIV prevention. This study explores the facilitators and barriers to PrEP acceptance. Understanding these facilitators and barriers will enhance the development of targeted interventions to increase PrEP acceptance in Black communities in Canada.

Method:

PrEP-eligible clients were recruited from various PrEP providers in the Greater Toronto Area for key informant interviews. In partnership with the providers, we used purposive sampling to recruit three categories of PrEP-eligible clients based on their decision stage regarding PrEP: a) accepted to use or currently using PrEP, b) rejected PrEP, c) undecided about PrEP. Participants who enrolled in the study were interviewed by trained research staff using standardized key informant interview guide. Transcripts of the interviews were analyzed (content analysis) to identify emerging themes on facilitators and barriers to PrEP acceptance.

Result:

Twenty-nine patients participated in the key informant interview (accepted to use or currently using PrEP – 12; rejected PrEP - 7; undecided about PrEP -10). Emerging themes for facilitators of PrEP acceptance included: self-perceived HIV risk, adequate PrEP knowledge, discomfort with condoms, and supportive healthcare interaction. Barriers to PrEP acceptance included insufficient information about PrEP, concerns about side effects of PrEP, stigma surrounding medication for HIV prevention, burden of taking medication daily, cost of PrEP, and gaps in healthcare providers' information.

Conclusion:

Factors influencing PrEP acceptance among eligible Black people are multi-dimensional; spanning across individual-level factors, provider-level factors and structural-level factors. Interventions that targets these multiple barriers will be required to increase PrEP acceptance in Black communities in Canada.

Social Sciences - Poster Abstracts / Sciences sociales - Abrégés affiches

Abstract #334

Digital Health Literacy and its impact on awareness and use of digital interventions for sexually transmitted infection testing: Scale revision and structural equation modelling of GetCheckedOnline's 2022 Community Survey

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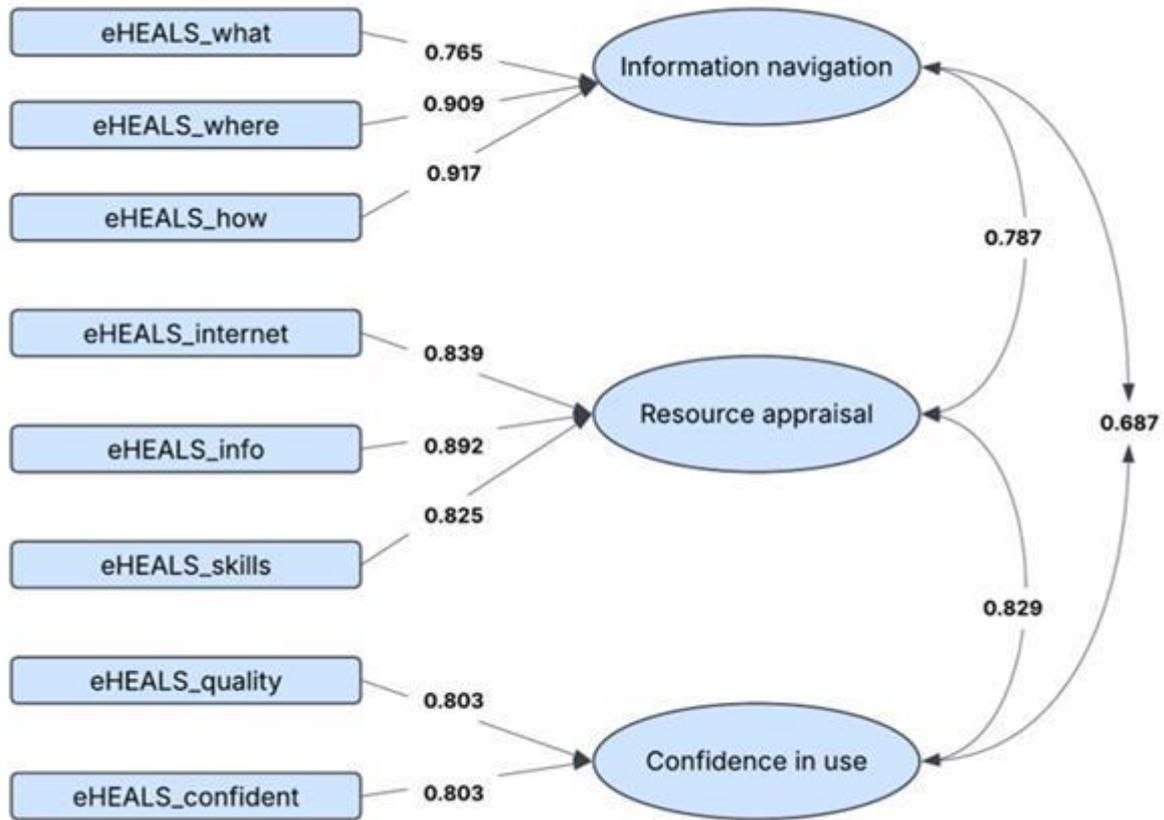
Background: Digital health literacy (DHL) influences access to digital STI testing services. Popular DHL tools, including the eHealth Literacy Scale (eHEALS), are often unidimensional and insufficient for guiding programs. This study examined how refined DHL measures based on eHEALS influence disparities in awareness and use of GetCheckedOnline, British Columbia's publicly funded digital STI testing service.

Methods: We analyzed data from GetCheckedOnline's 2022 community survey of English-speaking BC residents aged ≥ 16 years and sexually active in the past year. Outcomes were awareness and use of GetCheckedOnline (both yes/no). Latent DHL factors were identified using exploratory factor analyses from the eHEALS questionnaire, followed by confirmatory factor analysis using weighted least squares mean variance-adjusted models. Factor models were evaluated using standard indices. Structural equation modeling assessed associations between latent DHL factors, sociodemographic characteristics and main outcomes.

Results: Among 1,657 respondents (mean age: 33.0 years, SD: 11.77), 52.5% (784) were women. Three latent DHL factors were identified: Factors 1 (information navigation), two (resource appraisal) and three (confidence in use). Information navigation ($\beta = 0.162$, $p < 0.001$ and $\beta = 0.063$, $p = 0.020$) and confidence in use ($\beta = 0.206$, $p = 0.014$ and $\beta = 0.115$, $p = 0.020$) were positively associated with awareness and use of GetCheckedOnline. Resource appraisal was negatively associated with awareness and use of GetCheckedOnline ($\beta = -0.263$, $p = 0.006$ and $\beta = -0.150$, $p = 0.010$). DHL factors mediated the effect of age, income, education and digital access on awareness and use of GetCheckedOnline.

Conclusions: Findings suggest that users' information navigation and confidence in use DHLs are positively associated with awareness and use of GetCheckedOnline. In contrast, resource appraisal DHL may constrain awareness and use, potentially due to heightened criticality, skepticism, or concern about online stigma. Findings highlight the role of DHLs in existing inequities in uptake of digital STI testing. Future research should explore how DHLs interact with trust, stigma, and service design to influence use, particularly among marginalized populations.

Supporting Document



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Abstract #137

Indigenous Population and HIV Diagnosis Rate in the Canadian Provinces: A Tale of Growing Inequities

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Background: Global control of HIV epidemic with advancements in antiretroviral therapies is hailed an important public health success. However, challenges remain owing to pre-existing health inequities in the context of Canada's settler-colonial policies and practices. Along these lines, Indigenous Populations suffer from intergenerational trauma, structural racism, and ongoing health disparities, such as the disproportionate burdens of HIV and substance use. Herein, we analyzed HIV diagnosis rates in the context of per-capita Indigenous Populations across the Canadian provinces.

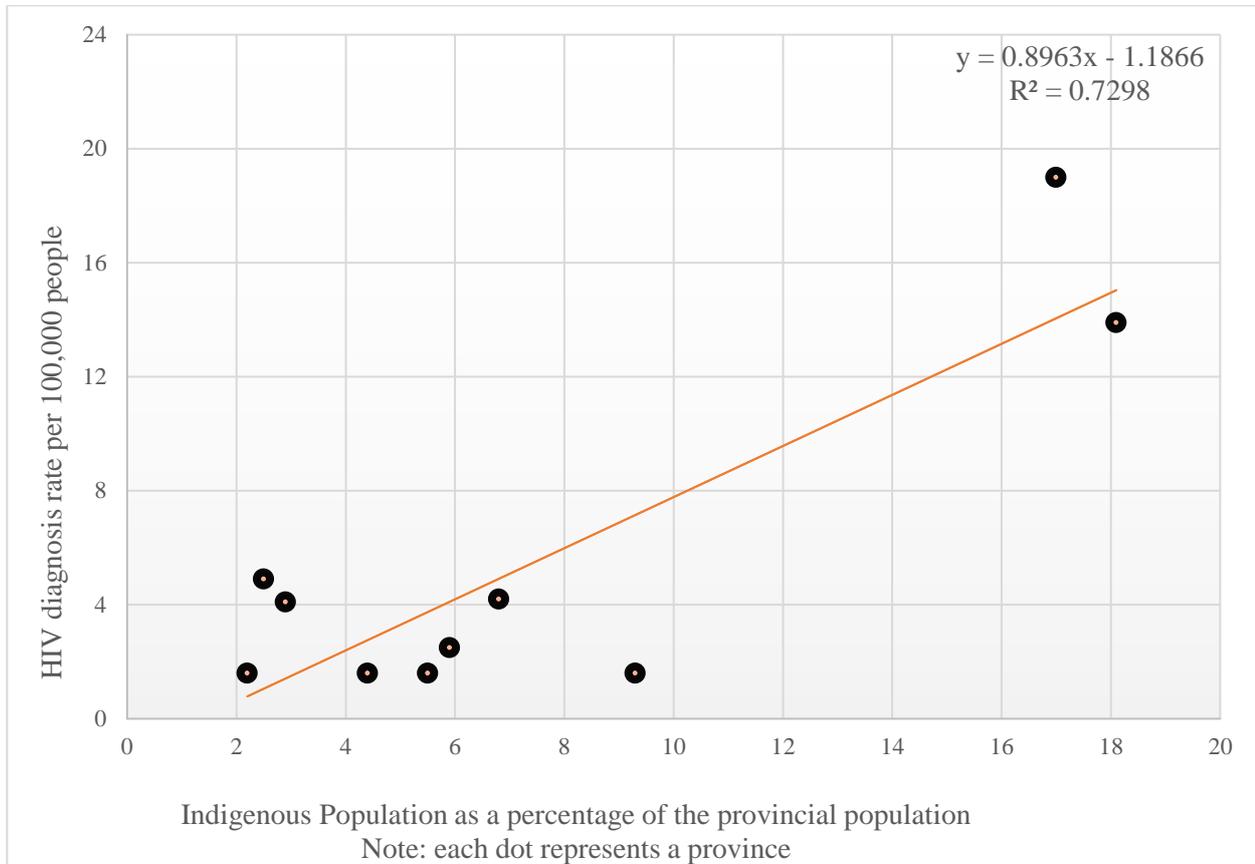
Methods: Using publicly available data, we conducted a correlational study of percentage of Indigenous Population (source: Canadian-Census) and the HIV diagnosis rate (Public Health Agency of Canada-2023) in the province. Pearson correlation test determined the statistical significance at 5%- α .

Results: The two parameters showed a strong and significant positive correlation with an r-value of 0.855 and a p-value of 0.002 (Figure-1). In simple terms this means that the diagnoses rate of HIV strongly correlates with the percentage of Indigenous Population in the province. Further assessment of outliers showed that Saskatchewan and Manitoba with the highest per-capita Indigenous Populations among the provinces (18.1% and 17.0% respectively) also happen to be the only two provinces with HIV diagnosis rates several times the national average (about 4 and 3 times, respectively).

Conclusions: Overall, by shedding light on such disparity in HIV burden in the Indigenous Canadian Populations, the current study highlights the opportunity for focused interventions to lessen the burden of HIV and to improve the health outcomes of the marginalized populations in an equitable way.

Supporting Document

Figure 1. Correlation between HIV diagnosis rate and percent Indigenous Population in the province



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Abstract #239

Azho ahsii ets'edichch'a (Respect All, Dene Yatie translation)

Alana LaMalice¹

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In 1981, the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) became substantial global health concerns as this was unheard of across Turtle Island up until that point (Frideres, 2020). Today, Indigenous peoples (IP) (First Nations, Métis, or Inuit) living with HIV/AIDS (IPHA) in Canada have, on average, higher HIV rates compared to non-Indigenous Canadians. Thus, colonization has significantly impacted Indigenous life with foreign ideologies and left a legacy of oppression and marginalization, as IPs were never seen as equals (Hillier et al., 2020). Additionally, Indigenous communities experience the highest levels of social determinants of health due to historical trauma, as Dr. Duran refers to trauma as the “soul wound” (Duran, 2019, p.10), which in turn leads to higher instances of IPHA (Jongbloed, 2019). This interpretive qualitative study focuses on the prevalence and experience of stigma surrounding HIV/AIDS in the healthcare of Indigenous populations, particularly Indigenous heterosexual women.

My study is enriched with an autoethnographic focus on HIV/AIDS stigma in healthcare for IPs includes participant recruitment of five IPHA females who are heterosexual and over 19 years of age. As an IPH, I am the sixth participant, integrating my voice. The semi-structured interviews consist of twelve open-ended questions. My research focuses on the stigma surrounding HIV/AIDS in healthcare settings experienced by Indigenous Peoples. This dual role enriches my perspective on the challenges our community faces. I will analyze their responses using Thematic Analysis within an Indigenous Methodology, aiming to amplify the voices of these women, reduce stigma, and enhance healthcare outcomes. An Indigenous research methodology will honour participants' voices and narratives by approaching ‘research as a ceremony’ rather than merely as an academic clinical endeavour (Wilson, 2008). I aspire to inform healthcare practices that inadequately support Indigenous individuals affected by HIV/AIDS.

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Abstract #29

Understanding Facilitators and Barriers to PrEP Access, Use and Adherence in Urban Indigenous Peoples in Toronto.

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Introduction: Indigenous Peoples experience disproportionately higher incidences of HIV infection compared to settler Canadians. With higher rates of new HIV infections in Indigenous Peoples, PrEP is a plausible solution to decrease transmission. However, PrEP remains poorly adopted among Indigenous Peoples in Canada, and minimal research seeks to understand what Indigenous Peoples know, or do not know, about PrEP.

Methods: Indigenous methodologies were used to describe the experiences of PrEP in Indigenous Peoples in Toronto. A community-based advisory board consisting of a Two-Spirit Elder Advisor, HIV community champions, knowledge users, and the research team was established to help execute four Talking Circles alongside 2-Spirited People of the 1st Nations in Toronto. Talking Circles were audio recorded, transcribed, and analyzed using Indigenous Theorizing.

Results: Thirty people participated in the Talking Circles. No participant was currently on or had ever taken PrEP. Queer men and participants working for non-profit organizations had an in-depth understanding of PrEP, while women and straight men tended to have minimal to no understanding of PrEP. Considerations for taking PrEP included allergies, pregnancy compatibility, side effects, drug interactions, dosing frequency and cost. Patient-level facilitators to PrEP included mail delivery options, coverage through Non-Insured Health Benefits, and incorporation of cultural and Indigenous ways of understanding health in PrEP care delivery. Barriers included the near-exclusive promotion of PrEP to the gay community, bloodwork frequency and mistrust in healthcare systems, pharmaceutical industry and Western medicines. The patriarchy, racism and stigma were identified as determinants for the lack of PrEP awareness in Indigenous communities - especially womxn. Intramuscular PrEP was favored over oral. Suggestions to improve PrEP awareness included educating outreach workers, attending community events like Powwows, and education through First Nations high schools, Elders and social media.

Conclusion: Talking Circles were effective and culturally appropriate to understand Indigenous Peoples' conceptualization of PrEP.

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Abstract #20

Mobilizing Indigenous Community-Led STBBI Research to Increase Impact and Advance New Knowledge

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Introduction: CAAN Communities, Alliances, and Networks (CAAN) has successfully led many community-based research projects focused on sexually transmitted and blood-borne infections (STBBIs), significantly enhancing the landscape of Indigenous health research. This initiative aims to mobilize STBBI research findings to develop and implement effective Indigenous knowledge translation (KT) strategies that not only disseminate research findings but also resonate with Indigenous communities. By incorporating the lived experiences and narratives of these communities into broader discussions, the initiative seeks to promote healing and advance reconciliation efforts.

Methods: CAAN is currently undertaking a comprehensive review of its prior projects to identify successful knowledge translation strategies and the challenges encountered in their execution. By analyzing various Indigenous KT methodologies across diverse cultural contexts, the initiative aims to deepen its understanding and enhance the practical application of these critical approaches. Valuable insights have been extracted and synthesized from previous research endeavours to illuminate health experiences related to HIV and STBBIs. Emphasizing the interconnectedness of mental, physical, and spiritual health, CAAN advocates for a holistic approach to well-being that empowers Indigenous Peoples in their pursuit of health and healing. An Indigenous-grounded data analysis process has been adopted that respects the contextual integrity of the narratives, ideas, and dialogues captured in CAAN's past research. The resulting findings will be disseminated in community-centric formats and peer-reviewed academic journals, reflecting CAAN's commitment to integrating both Indigenous and Western epistemologies.

Preliminary Results: Recent investigations have highlighted the critical role of social determinants of health and underscored the necessity for improved dissemination of research findings. CAAN's mobilizing STBBI project emphasizes the integration of Indigenous methodologies by engaging community members, Elders, and individuals with lived experiences throughout the research process. This participatory approach ensures that the research remains culturally relevant and authentically reflects the perspectives and needs of Indigenous populations.

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Abstract #289

Expanding Indigenous-Led Rural Models of HIV and HCV Care in Saskatchewan: Outcomes from the 'Know Your Status' Program (2018-2023)

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Introduction: Saskatchewan has faced the highest rates of HIV nationally for over a decade, with the epidemic significantly affecting rural and remote areas, including First Nations communities. To address gaps in care in these areas, Indigenous-led rural care models like “Know Your Status” (KYS) emerged. This study evaluates outcomes from the expansion of select KYS programs in Saskatchewan between 2018 and 2023.

Methods: Data from the Wellness Wheel Clinic’s electronic medical record system was analyzed, including clinic activity, healthcare personnel, and client care engagement for HIV and Hepatitis C (HCV) from 2018 to 2023. Key indicators included the proportion of HIV clients on antiretroviral therapy (ART), viral suppression rates (defined as a viral load <200 copies/mL) and the HCV treatment cascade of care for clients who initiated treatment during the study period.

Preliminary Results: Between 2018-2023, 158 unique clients living with HIV accessed care. Among these, 82% were HCV co-infected. An additional 142 clients were HCV mono-infected. The client population was 55% males and the average age was 40.3 years at the studies mid-point. ART coverage was consistently high, exceeding 87% annually, with viral suppression rates peaking at 85% in 2023 and dipping to 75% in 2020-2021, potentially due to COVID-19 disruptions. Of 271 HCV clients, 211 were RNA positive. Among these, 130 initiated treatment, 81% completed treated, and 75% achieved sustained virologic response (SVR 12).

Conclusion: The KYS model demonstrated strong outcomes, with high ART uptake and good viral suppression rates, underscoring the value of culturally responsive, accessible HIV care. Challenges, including disruptions during COVID-19, highlight the resilience of these programs.

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Abstract #155

Gender-Based Violence and HIV/STBBI Among Indigenous Women and Two-Spirit People

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Authors: Rusty Souleymanov, Melissa Morris, Skye Wikjord, Ann Favel, Laverne Gervais, Albert McLeod, Candace Neumann, and Tara Christianson.

Background:

This analysis explores the intersection of gender-based violence (GBV) and HIV/sexually transmitted and blood-borne infections (STBBI) among Indigenous (First Nations, Métis, and Inuit) women and Two-Spirit people in Manitoba.

Methods:

The Kotawêw: HIV/STBBI Doula Project incorporated visiting and storytelling as part of a community-based participatory Indigenous research approach. Stories were collected from four groups: Indigenous women and Two-Spirit people with lived experience of HIV/STBBI (n = 21), family and loved ones of people living with HIV/STBBI (n = 7), knowledge holders with experience in HIV care (n = 4), and service providers/helpers (n = 8). Participants were recruited through community organizations, social media, and peer networks. The stories were thematically analyzed to examine how GBV contributed to HIV/STBBI risk and impacted participants' lives, with a focus on Indigenous pathways of healing and empowerment.

Findings:

The intersection of GBV and HIV/STBBI transmission was a recurring theme in participants' stories. Indigenous women and Two-Spirit people living with HIV shared personal accounts of contracting HIV/STBBI as a direct result of GBV. Systemic, interpersonal, and structural forms of gender-based colonial violence were shown to shape HIV/STBBI transmission and contribute to broader health inequities. Participants also described how GBV created significant barriers to accessing HIV/STBBI care. Despite these challenges, they highlighted the importance of kinship, supportive relationships, advocacy, and ceremonial practices in fostering resilience and improving their health outcomes.

Discussion:

The findings highlight the ongoing impacts of colonialism, systemic neglect, and GBV on the health of Indigenous women and Two-Spirit people, reinforcing the importance of culturally safe, community-led care. Participants emphasized that Indigenous approaches to care, grounded in kinship, advocacy, and ceremony, are essential for healing, resilience, and empowerment.

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Abstract #263

Wisdom Lives in our Communities”: The Feast Centre’s Community Fellowship Model

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Objective: The Feast Centre for Indigenous STBBI Research supports Indigenous-led, community-driven research by fostering scholarship grounded in Indigenous knowledges, decolonizing approaches, and community-based methodologies. Through its Community Fellowship Program (CFP), the Feast Centre creates reciprocal learning spaces that center community wisdom, empowering Fellows to navigate academic frameworks while addressing community priorities. This presentation highlights the CFP as a successful model for bridging academic and community ways of knowing, demonstrating the transformative potential of culturally responsive frameworks in Indigenous STBBI research.

Methods: Designed as a self-directed model, the CFP employs an iterative process that engages Fellows, Feast Team-Investigators, Knowledge Users, Collaborators, and the Council of Elders. Fellowship applications undergo two rounds of review, with feedback provided to refine proposals and align them with cultural and methodological principles. Regular consultations with the Feast Team ensure projects remain culturally resonant and rooted in the 4 Rs of Indigenous research as a distinction-based approach to Indigenous STBBI research. Dynamic mentorship fosters reciprocal learning and co-creation throughout the research process.

Findings: The inaugural cohort demonstrated the transformative potential of the CFP’s collaborative model. Fellows reported growth in their ability to integrate community priorities with academic frameworks. Projects addressed critical gaps, such as creating culturally relevant harm reduction strategies, enhancing access to sexual health services for 2S/LGBTQIA+ Indigenous communities, and designing Elder-guided knowledge translation tools. Fellows highlighted iterative feedback and Elder-Knowledge Holder engagement as essential to refining their research and building capacity.

Implications/Discussion: By integrating iterative feedback, Elder guidance, and culturally responsive frameworks, the CFP fosters reciprocal learning and meaningful collaboration. This approach advances Indigenous STBBI research while empowering a new generation of Indigenous and allied scholars and leaders, ensuring sustainable, impactful outcomes. These findings demonstrate the value of culturally grounded, community-driven models in addressing complex health challenges.

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Abstract #193

Exploring the concepts of spirituality and healing from the lived experiences of Indigenous people living with HIV and the challenges of changing research methods.

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This study focused on spirituality and healing in the context of Indigenous people living with HIV. Indigenous people living with HIV are confronted with various obstacles, such as cultural, spiritual, and systemic factors. The study aimed to understand the perception of spirituality for Indigenous people living with HIV by engaging and listening to their voices. This is an additional phase of a study that initially examined how health care providers viewed spirituality in the lives of Indigenous people living with HIV by engaging and listening to their voices. In this study, we adopted a qualitative narrative research design. However, the challenges of COVID-19 and its restrictions forced the researchers to move away from the planned narrative design to one that accommodated the restrictions of the pandemic. Lessons learned from this change in method will be presented.

Participants consisted of 14 people living with HIV in Prince Albert, Saskatchewan, area. These participants were selected using a combination of convenience and snowball sampling. Due to restrictions during the COVID-19 pandemic, in-person interviews were changed to telephone interviews that were conducted between February 2020 and January 2021. Data transcripts were analyzed by developing a coding framework and subsequently engaging in line-by-line coding.

The research revealed that spirituality was an important component in a person's healing. Participants who had a solid foundation in spirituality reported dealing with their HIV diagnosis and treatment in more positive ways. In addition, not all participants shared the same level of spiritual beliefs due to their unique experiences of residential school and trauma. By understanding the importance of spirituality in the lived experiences of Indigenous people living with HIV, community and health care providers can better conceptualize how to include spirituality in their client care.

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Abstract #83

Healing and Harm Reduction: Indigenous-Led Approaches to Overdose Prevention and Care Within, By, and For Indigenous Peoples Living With and Without HIV

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Background: Indigenous harm reduction (IHR) moves beyond conventional ideas and forms of harm reduction. This approach emphasizes Indigenous (First Nations, Inuit, Métis) Peoples as experts and leaders in their lived/living experiences, connection to culture and community, integration of Indigenous values, and collective accountability for community well-being. Importantly, this approach is rooted in culturally safe, and trauma-informed practices. Emerging literature and harm reduction resources have highlighted significant calls to further Indigenize harm reduction, toward improving equitable access to substance use treatment for Indigenous Peoples, aligned with community members' unique values and needs.

Methods: This study is part of a mixed-methods study, aimed at alleviating overdose risk and adverse long-term health effects among people living with and without HIV, who were at risk of, or experienced an overdose, in Vancouver, British Columbia, within the COVID-19 context. Indigenous Elders, Indigenous Peer Researchers, and academic researchers co-conducted two focus group discussions (FGD) with a total of ten Indigenous community members from Vancouver's Downtown Eastside. The FGDs were professionally transcribed, and coded and analyzed using NVivo 14.0.

Results: IHR principles were consistently reflected across the interview transcripts, demonstrating how community actively practiced and sought out IHR. Indigenous community members shared their experiences looking after their fellow Indigenous brothers and sisters during an overdose event, highlighting their imperative role as first responders. Community members stressed the significance and use of Indigenous community-based harm reduction programs, Indigenous-led peer supports, and the value of community connection in their harm reduction journey. Community voiced the need for hiring Indigenous healthcare providers with lived/living experience, and more holistic and compassionate care.

Conclusions: Findings illustrate the critical role of IHR, reinforcing the need to Indigenize harm reduction. This is vital for reducing substance use-related harms and addressing the ongoing impacts of colonization on Indigenous Peoples, both living with and without HIV.

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Abstract #28

Advancing Equity for Marginalized Older Adults: An Intersectional Approach to Aging and HIV Health Challenges in Canada.

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By 2046, Canada is projected to have 2.5 million individuals aged 85 or older, with 23% of the population over 65. This demographic shift underscores the pressing need to address inequities faced by aging Canadians living with chronic health challenges, including poverty, mental health struggles, substance use, and HIV. These individuals, aging on the fringes of society, experience unique vulnerabilities that demand collective action and innovative solutions.

Our project, led by an Early Career Researcher with over 15 years of healthcare provision experience and funded by the CIHR Institute of Aging, adopts an intersectionality framework to explore and address the health inequities faced by marginalized aging populations. Two full-day focus groups were conducted with 51 participants representing older adults, racialized communities, Indigenous peoples, and professionals from social services, healthcare, and academia. This diverse group provided critical insights into the systemic and intersectional challenges faced by aging Canadians.

Project aims:

1. Develop a shared language and conceptual framework to unite stakeholders across disciplines and regions in addressing the health of marginalized older adults.
2. Equip stakeholders to critically examine and address the intersectional social inequalities impacting these populations.
3. Guide the development of research priorities and tailored strategies for prevention and intervention, particularly for those living with or at risk of HIV.

To address existing gaps, we advocate for a paradigm shift in the understanding of aging and HIV, emphasizing the interaction of biological and social determinants. Through interdisciplinary knowledge exchange sessions, capacity-building initiatives, and the formation of a Canada-wide multi-stakeholder research network - including individuals with lived/living experiences, researchers, policymakers, and service providers - we aim to sustain progress in health equity. This collaborative approach aligns with the collective action needed to meet the UNAIDS 95-95-95 targets and improve the lives of older adults who are aging on the fringes.

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Abstract #26

Implementing a peer navigator program for street-connected youth in Kenya and Canada to increase access to HIV prevention and treatment

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Street-connected and homeless youth (SCY) face significant barriers in accessing HIV prevention and treatment services. We implemented a peer navigator program for SCY aged 16-29 in Kenya and Canada from March 2021 to August 2024. Individuals with lived experience of homelessness and some living with HIV were hired as peer navigators (PN) at diverse sites: an adolescent medicine clinic (Eldoret, Kenya), comprehensive care clinics (Huruma and Kitale, Kenya), a public health unit (London, Canada), and a 2SLGBTQ+ youth transitional housing program (Toronto, Canada). The PN program was evaluated using surveys completed by SCY participants at all encounters with PNs. In Kenya, 343 SCY were recruited in Eldoret (50% cisgender women, median age 22, 14% living with HIV), 110 in Huruma (57% cisgender women, median age 23, 12% living with HIV), and 178 in Kitale (15% cisgender women, median age 19, 4% living with HIV). In Canada, 38 SCY were recruited in London and 11 in Toronto. Across both sites, the median age was 23, 14% were living with HIV, and 65% were cisgender women, with participants also reporting diverse sexual orientations (e.g., bisexual, pansexual) and gender identities (transgender and gender diverse). The PNs successfully linked SCY with HIV testing: the proportion of SCY knowing their HIV increased from 72% to 100% in Eldoret, 83% to 98% in Huruma, 30% to 78% in Kitale, and 76% to 82% in Canada. Among HIV-negative SCY, only 8 in Kenya and 1 in Canada reported PrEP use over follow-up. Among SCY living with HIV, 81% in Kenya and 71% in Canada reported an undetectable viral load while in the program. The PNs were effective at linking SCY with HIV testing services. Supports beyond improved access to healthcare are needed to improve PrEP uptake and viral suppression, such as housing, employment, and mental health services.

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Abstract #192

Disparities in HIV Risk Behaviours at the Intersection of Racial Identity and Immigration Status in Canada

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Objectives: Immigrants and visible minority populations are at higher risk of HIV infection in Canada. To understand the contributory role of these identities on HIV infection, our study examined how the intersection of racial identity and immigration status are associated with HIV risk behaviours among females and males in Canada.

Methods: We used a nationally representative data set from the 2015 - 2016 Canadian Community Health Survey (CCHS) and applied multivariate logistic regression analysis.

Results: Our findings revealed that compared to Visible minority immigrant men, White native-born (aOR = 0.43; $p < 0.001$), Visible minority native-born (aOR = 0.55; $p < 0.001$), and White immigrants (aOR = 0.65; $p < 0.001$), were less likely to have used a condom during their last sexual intercourse, while among women, only the White native-born (aOR = 0.53; $p < 0.001$) were less likely to have done so. Among men, only Visible minority native-born (aOR = 0.72; $p < 0.05$) were less likely to have ever tested for HIV relative to Visible minority immigrants. For women, the White native-born (aOR = 1.56; $p < 0.001$), and White immigrants (aOR = 1.44; $p < 0.01$) were more likely to have ever tested. Finally, while there were no observed differences between men, all other groups were more likely to report having more than one concurrent sexual partner among women.

Conclusion: Our findings suggest the need to address the structural determinants of health for those embodying both a visible minority and immigrant status while targeting the native-born population with awareness about HIV risk behaviours.

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Abstract #326

Provider Perspectives on Peer Work in Cultural Care for Addictions

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Background: Peer mentorship is an evidence-based method to support people accessing treatment and care for substance use disorder and chronic illnesses such as HIV. The Cultural Care for Addictions project facilitated roundtables with care providers to discuss solutions to better support people to access care through peer mentors within acute hospitals, clinics, and community-based organization settings as a culturally responsive approach.

Methods: In spring 2023, two roundtable discussions were held with providers based in Saskatoon (n=6) and Regina (n=14). The discussion questions examined the options available to treat and support people with addiction, possible systemic challenges, and considerations for integrating peer mentors within the clinical circle of care.

Results: Providers shared the lack of inpatient addiction services in acute hospital care: "We have people having valves replaced in hospital for 6 to 8 weeks, walking out the door and then overdosing because nobody has treated their addiction."

Participants identified peer mentors' critical role in bridging social services gaps and retaining people in health care. However, rigorous metrics are required to evaluate the efficacy of peer programming. When discussing how outcomes from peer mentorship can be evaluated, participants advocated for patient-centred outcomes, as many patients simultaneously experience multiple health and social challenges. For example, "[patient-centred] outcome-based healthcare would look at 'did we house that person, were we [then] able to get them on ARVs, were we able to suppress their viral load?'"

Lessons Learned/Recommendations: When utilizing peer mentors' expertise, success can be measured by redefining patient-centred outcomes that facilitate patient retention in care. However, the function of a peer mentor cannot be generalized to fit under a single job description; just as there are various specialist physicians, there are various types of peers. Healthcare systems must provide flexibility and sustainability when integrating peer mentors.

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Abstract #168

Impact of Absolute versus Relative HIV Risk Communication Strategies on Interest and Intent to Use PrEP in Canada

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Background: How HIV acquisition risk is communicated may affect perceptions of risk and interest in HIV pre-exposure prophylaxis (PrEP). This study assessed the impact of two risk communication strategies on PrEP engagement among non-PrEP users in Canada.

Methods: In 2022, adult gay, bisexual, and other men who have sex with men (MSM) in Ontario and British Columbia participated in an online survey. Participants were randomly assigned to receive HIV risk communication based on their HIV Incidence Risk Index (HIRI-MSM) scores and local prevalence, presented in either absolute terms (e.g., "Your risk is approximately X%") or relative terms (e.g., "Your risk is approximately X times that of other MSM"). Participants compared this information with their self-assessed risk and reported its impact on interest and intent to use PrEP. Multiple logistic regression models were used to assess the effect of these strategies on interest and intent.

Results: Of 461 non-PrEP users, those in the 'absolute' group (244,53%) expressed slightly higher interest in PrEP (60%vs51%, p=0.071), though intent was similar across groups (43%vs45%, p=0.663). The 'absolute' group showed greater interest in PrEP (adjusted odds ratio, AOR: 1.53; 95%CI: 1.01-2.32), but no significant difference in intent (AOR: 1.06; 95%CI: 0.66-1.71). Former PrEP use, Perceived HIV risk, PrEP indication, PrEP-related stigma and province of residence were independent predictors of interest and intent.

Conclusion: Communicating personalized HIV risk in absolute terms may increase interest in PrEP but not intent to use it. Strategies to improve PrEP uptake should address prior PrEP experiences, stigma, and individual perceptions of risk.

Supporting Document

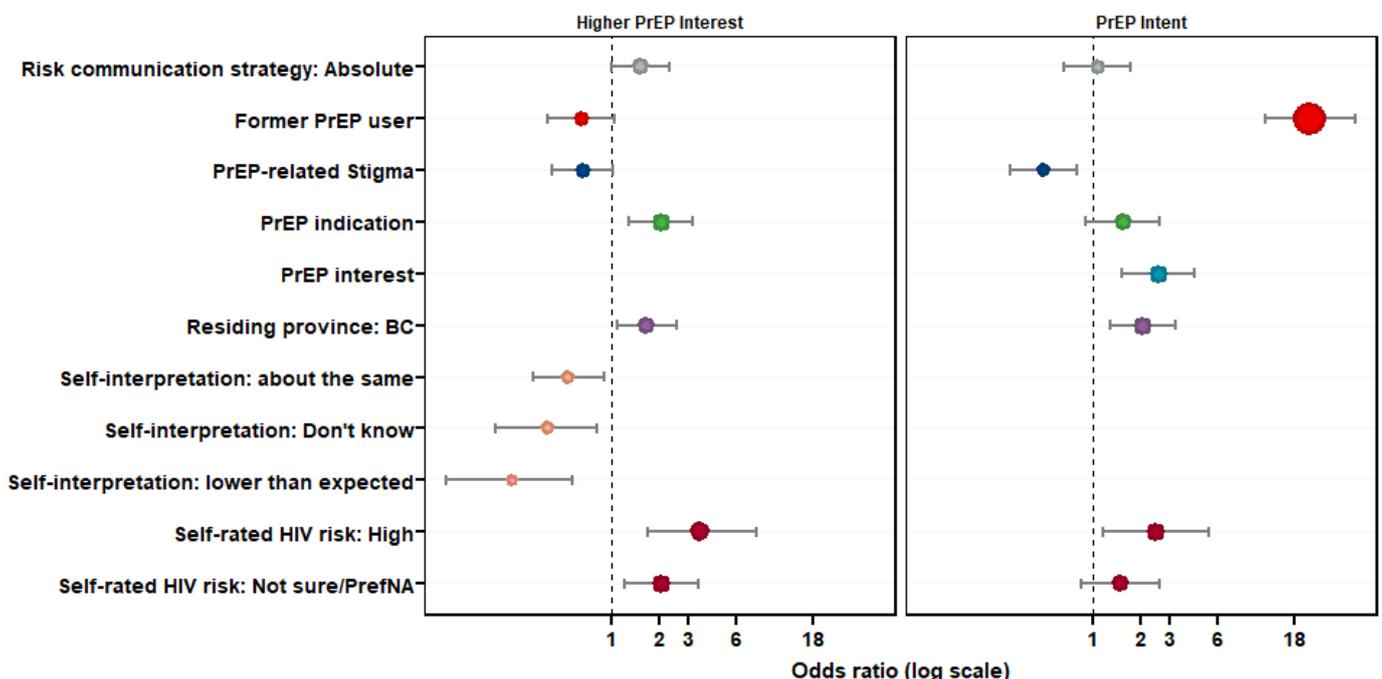


Figure: Predictors of higher interest in and intent to use PrEP

To assess the relationship between study arm (relative vs absolute) and outcomes (interest and intent), two multiple logistic regression models were adjusted for PrEP use (never vs former), self-rated HIV risk (Low, high, not sure), self-rated HIV risk (higher, same, lower, don't know), providence of residence, PrEP-related stigma, and PrEP interest (for 'PrEP intent' outcome).

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Abstract #304

Prison Needle Exchange Program...Or...Overdose Prevention Site...Or...Both? Perspectives of People Incarcerated in Canadian Federal Institutions.

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BACKGROUND

Correctional Services Canada (CSC) has implemented Prison-based Needle Exchange Programs (PNEPs) in 11 Institutions and an Overdose Prevention Service (OPS) in four. Objectives of each include reducing HCV and HIV transmission among people who use substances, mitigating overdose risk and increasing opportunities for health interventions.

Offenders participating in the PNEP provided with an exchangeable kit containing injection and drug-preparation equipment for use in their cell.

Offenders accessing the OPS in individual cell in Health Services issued injection- and snorting-related supplies for one-time use with personal drug supply. Health care staff provide emergency response and counselling.

METHODS

Convenience sampling in each Institution enhanced by purposeful sampling to obtain maximum variation in offender experience drove confidential anonymous interviews followed by thematic analysis.

RESULTS

Offender pressure to share PNEP equipment: "Guys are forced, muscled to give up their needles." "It was putting too much heat on me. I can't handle the pressure. I gave up my kit." Whereas OPS participants reported, "I can use safely away from the unit and cleanly."

Lack of counselling when accessing PNEP: "No follow-up when have been given a needle. That's what's needed here. Follow-up." In contrast, the required post-injection OPS observation time experienced as an opportunity to engage with the supervising nurse, "Because of OPS now OK to admit that I have an addiction, not a secret anymore.

Safer snorting supplies: Straws available in OPS sites, but not component of PNEP kit.

Hours of operation: OPS only accessible during the day, i.e., during work or programming hours. "Doesn't make sense. If they think I am high on my job, I'm gone." Offender's reported preferred time of evening substance use possible with PNEP-distributed equipment.

CONCLUSION

Responding to this evidence of program-specific personal and structural impacts, CSC is planning concurrent implementation of PNEPs and OPS at selected Institutions.

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Abstract #102

Addressing Inequities in HIV Prevention in British Columbia, Canada: Findings from a Community-Based Qualitative Study with People Newly Diagnosed with HIV

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Background: Systemic gaps in HIV prevention result in sub-optimal intervention uptake and ongoing HIV transmission, particularly among communities experiencing intersectional social inequities. This study explored how HIV prevention can be improved from the perspectives of people newly diagnosed with HIV (PLHIV) in British Columbia (BC), Canada, where a publicly funded PrEP (pre-exposure prophylaxis) program has been available since 2018.

Methods: Guided by Greater Involvement/Meaningful Engagement of PLHIV and community-based research principles, all project aspects were led by PLHIV. Recruitment was conducted through HIV service organizations and care providers. Semi-structured peer-led interviews were conducted in English (n=20) and Spanish (n=11) with PLHIV diagnosed between 2018-2023, residing in BC, and aged 18+.

Results: Most participants (n=27/31) were Two-Spirit/Gay, Bisexual, Trans, Queer Men and non-binary individuals, while four were straight women; one-third were Latinx (n=12/31), and ages ranged from 24-62. Social determinants of health such as housing, financial security, and immigration status influenced participants' access to HIV prevention and testing services. HIV knowledge varied across social locations and was shaped by persistent stigma and misconceptions about HIV risk. Testing access was often limited by geographic proximity to urban, affirming health services. Barriers to PrEP uptake included low awareness, difficulty perceiving oneself as a PrEP candidate, complexity in navigating health systems, and adherence challenges linked to mental health and substance use.

Conclusion: Effective HIV prevention in BC must address structural drivers of health and inequities. Prevention efforts can improve through tailored education for key populations, adaptations to PrEP services to reduce barriers, the promotion of accurate risk assessment tools, and upstream interventions targeting health inequities affecting priority populations, including newcomers. Systemic barriers must be tackled through structural interventions to enhance accessibility and equity in HIV prevention.

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Abstract 277

The Role of Pre-Exposure Prophylaxis (PrEP) in Protecting Abused Women Against HIV/AIDS

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Human Immunodeficiency Virus (HIV) disproportionately affects women, particularly those experiencing intimate partner violence (IPV) and other forms of abuse, heightening their vulnerability. Pre-Exposure Prophylaxis (PrEP), a biomedical intervention for HIV prevention, offers abused women a vital tool to regain agency over their health and protect themselves in high-risk environments.

Women facing IPV encounter increased HIV risk due to forced unprotected sex, limited condom negotiation power, and heightened physiological susceptibility. Abuse is often intertwined with poverty, stigma, and restricted healthcare access, compounding the risk. PrEP, a daily oral medication combining tenofovir disoproxil fumarate (TDF) and emtricitabine (FTC), provides over 90% efficacy when consistently used. For abused women, PrEP offers discreet, autonomous protection, bypassing the need for partner consent or cooperation.

However, barriers to PrEP access and adherence remain significant. Fear of partner retaliation, stigma surrounding HIV prevention, and insufficient supportive healthcare services impede PrEP uptake. Adherence challenges, including instability, trauma, and lack of privacy, further complicate its use. Addressing these obstacles requires a trauma-informed, holistic approach that integrates PrEP into IPV survivor support services, such as shelters, counseling programs, and sexual health clinics.

Community-based education and outreach are essential to reduce stigma and raise awareness about PrEP's empowering potential. Healthcare providers must be trained to identify IPV, offer nonjudgmental support, and incorporate PrEP into comprehensive care. Policies to enhance PrEP accessibility, coupled with robust social support systems, can bolster abused women's ability to protect themselves.

This abstract highlights the urgency of targeted interventions to expand PrEP access for abused women. By bridging HIV prevention and violence prevention efforts, PrEP programs can empower survivors, mitigate risk, and advance gender equity while contributing to the broader goal of ending the HIV epidemic.

Keywords: HIV/AIDS, women, PrEP, intimate partner violence, trauma-informed care, health empowerment.

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Abstract #25

Gender Minorities and HIV: Legal Challenges in the Prison System

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This paper examines the complex intersections of HIV/AIDS policy, criminal justice, and marginalized populations in Canada, with a particular focus on Black men and gender/sexual minorities in prison settings. The analysis explores how existing legal frameworks, healthcare policies, and institutional practices disproportionately affect these communities, creating overlapping layers of vulnerability and discrimination.

The research investigates the structural barriers to HIV prevention and treatment within correctional facilities, highlighting the unique challenges faced by Black men and LGBTQ+ inmates. It critically analyzes current policies regarding HIV testing, treatment access, and confidentiality in prison environments, while examining how these intersect with issues of citizenship rights and social justice.

Drawing on public health data, legal scholarship, and sociological research, this study demonstrates how systemic inequities in the criminal justice system compound health disparities and social marginalization. The findings suggest that comprehensive policy reforms are needed to address the intersecting challenges of HIV prevention, treatment, and support services for incarcerated populations, particularly focusing on racial and gender equity.

This analysis contributes to broader discussions about healthcare access, human rights, and social justice within the criminal justice system, while proposing evidence-based policy recommendations for improving health outcomes and reducing disparities among vulnerable prison populations.

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Abstract #331

Evolutions in Canada's Blood and Plasma Donor Screening Policies: 2S/GBTQ+ Community Attitudes to New Gender-Neutral Sexual Behaviour-Based Screening

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Background: In 2022, Canadian policy on blood and plasma donor screening removed the historic time-based deferral for “men who have sex with men” (MSM) and replaced it with a new gender-neutral sexual behaviour-based screening policy. Now, all potential donors are asked if they had multiple sexual partners or a new sexual partner in the past three months, and, if so, whether they have had any anal sex with them; if so, they are deferred from donating. Many other HIV-related deferrals exist (e.g. ever diagnosed, past-year sex with someone living with HIV, PrEP use). We assessed the attitudes of the 2S/GBTQ+ community regarding current blood donor policies.

Methods: Our community-based online cross-sectional survey recruited participants from March-May 2024 via social media, community-based organizations, and advertisements on sociosexual websites/apps/media. Eligible participants included Indigenous Two-Spirit people; all gay, bisexual, queer, and non-heterosexual men (inclusive of trans men); and all nonbinary people (herein “2S/GBTQ+”). Participants also had to be aged 15+, live in Canada, and self-complete the questionnaire in English, French or Spanish.

Results: Of 2,227 eligible participants, 71.5% were gay-identified, 27.0% currently used PrEP, 21.8% were disabled-identified, 18.3% identified as racialized, 11.7% were living with HIV, and 10.5% were trans-identified. Most participants were aware of the historic MSM deferrals (91.3%) and lifetime bans for those living with HIV (89.4%). Only 27.2% knew current HIV-PrEP users were deferred. Two-thirds (64.2%) were aware of the new gender-neutral screening policy, was seen as justified by 50.9% of participants, discriminatory by 59.6%, and requiring further change by 72.1%. Most (84.9%) participants agreed that blood operators must do more to repair their relationships with 2S/LGBTQ+ communities.

Conclusions: Canada's blood donation policies and HIV epidemic have important historic and contemporary relationships intertwined with other stigmas/discrimination (i.e. racism, xenophobia, cissexism, sex work), which shape public perceptions and social inclusion.

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Abstract #319

Barriers to Medically Assisted Conception for Individuals Living with HIV in Canada: Addressing Discrepancies Between Legislative Intent and Clinical Practice

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Background: The 2019 “Safety of Sperm and Ovum Regulations” aimed to protect reproductive rights in Canada by allowing medically assisted conception (MAC) services, including known (directed) donation and surrogacy, for individuals with HIV. However, a 2023 survey conducted by our study team revealed that access to MAC for people with HIV was limited, inconsistent, and regionally dependent. This work examines current laws, regulations, and policies that govern the provision of MAC for individuals with HIV and explores discrepancies between law and policymakers' intentions and the realities of clinical practice.

Methods: Findings from a 2023 survey suggest significant disparities in access to MAC for people with HIV across Canada, prompting further investigation into underlying causes. A comprehensive review of legislation and policy documents related to MAC was undertaken, which identified ambiguous provisions that providers may use as rationales for denying care. To ensure a robust analysis, professors with expertise in health law and regulatory frameworks that govern MAC joined the study team, providing ongoing guidance and support.

Findings: Federal guidance documents state that “appropriate quality management measures should be taken” to prevent cross-contamination and disease transmission while preserving gamete quality. However, these policy documents provide no insight into what these measures should look like, leaving clinics free to determine how best to meet this requirement. Additionally, federal regulations exclude individuals with HIV from anonymous gamete donation, with exceptions made for directed donations at the medical director's discretion.

Conclusion: These findings underscore a critical gap between federal legislative intent-to allow individuals with HIV to access MAC-and clinical practice due to uncertainties arising from the regulations. People with HIV face significant and unwarranted barriers in building their families. Addressing this gap requires targeted education and policy reform to clarify clinics' legal obligations, ensure consistent practices and safeguard reproductive rights of people with HIV.

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Abstract #197

Addressing Loneliness Among Venezuelan Migrant Gay and Bisexual Men Living with HIV in Colombia: Creating Supportive Spaces and Enhancing Mental Health Care Services

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Background: Venezuela's humanitarian crisis has driven millions to migrate, with Colombia serving as the main host country. While much research has focused on access to sexual healthcare, including antiretroviral therapy (ART) access, the mental health needs of Venezuelan migrants living with HIV remain underexplored. Our study examined the mental health challenges and support needs of gay and bisexual Venezuelan migrant men living with HIV in Colombia.

Methods: Between October and December 2024, we conducted 28 semi-structured interviews with Venezuelan migrant gay and bisexual men living with HIV across Colombia. Participants ranged in age from 23 to 60 years (mean: 35).

Results: Participants reported significant unmet mental health needs, largely shaped by intersecting stigmas tied to their sexual orientation, migration status, and HIV diagnosis. Loneliness emerged as a pervasive theme, often accompanied by episodes of depression. Social connection was identified as a key factor in mitigating these challenges, with participants emphasizing the benefits of meeting other gay and bisexual Venezuelan migrants living with HIV, which not only improved mental health but also supported ART adherence. Despite having access to psychologists through health insurance for some, participants criticized the lack of specialized training among mental health professionals, particularly in addressing issues related to sexuality and HIV disclosure. For example, participants highlighted inadequate support in managing rejection after disclosing their HIV status to potential partners, revealing a substantial gap in culturally and contextually sensitive care.

Conclusion: Public health strategies must prioritize the development of safe and inclusive peer support networks to address the profound loneliness and stigma faced by Venezuelan migrant gay and bisexual men living with HIV. In parallel, mental health services must be strengthened through targeted training programs for psychologists and other providers to ensure culturally competent care that directly addresses the intersectional challenges of sexual orientation, migration status, and HIV.

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Abstract #208

HIV and Drug Overdose: Perspectives on Risk and Care Access Among People Living with HIV in Vancouver, British Columbia

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Background: Since British Columbia (BC), declared a public health emergency in 2016, drug toxicity and overdoses have continued to rise. People Living With HIV (PLWH) are disproportionately affected by both non-fatal and fatal overdoses. However, there is a limited understanding of whether and how HIV is associated with an increased risk for overdose. We explore perceptions of overdose risk and access to post-overdose care among PLWH who use drugs and the healthcare providers (HCPs) who support them.

Methods: Semi-structured focus groups and one-on-one interviews were conducted with 74 PWUD, including 38 People Living with HIV; and 19 HCPs representing diverse professional backgrounds. Participants were recruited from organizations and care centers in Vancouver that support PLWH and people who use drugs. Some focus groups were exclusive to PLWH to facilitate a safer space for discussion. Sessions were audio-recorded, transcribed verbatim and coded using NVivo 14.0.

Findings: Participants shared their perspectives on how HIV affects overdose risk and care, often reflecting on HIV as a protective factor, perceiving it as unrelated to overdose risk, and recognizing it as an added complexity. PLWH expressed that being HIV-positive allowed them to receive attentive healthcare and that their drug use was unrelated to their HIV status. HCPs shared similar understandings but noted that living with HIV increases vulnerability in any case due to stigma, mental health challenges, and compromised immunity.

Conclusion: These insights further our understanding of how PLWH and their HCPs recognize their risk for overdose, and the complex ways in which HIV intersects with overdose risk and care. Modern HIV care in BC fosters a sense of support among PLWH by ensuring they remain engaged in healthcare. Further, HIV may be considered more manageable than other comorbidities due to well-established testing and treatment protocols and de-stigmatizing campaigns.

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Abstract #258

Barriers and Builders to Belonging: Insights from Community-based Organizations on Supporting Older People Living with HIV in Long-Term Care and Assisted Living in British Columbia's Fraser Health Region

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Background: Community-based organizations (CBOs) play a critical role in supporting older people living with HIV (OPLWH). Building trust between healthcare providers and CBOs is key to promoting comprehensive health for OPLWH. While there have been calls to strengthen connections between health systems and communities, research involving CBOs serving OPLWH remains limited. We address these gaps by leveraging lessons from CBOs to explore barriers to, and builders of, belonging in long-term care and assisted living (LTC/AL) for OPLWH.

Approach: From January to September 2024, we conducted 59 interviews with stakeholders, including LTC/AL physicians, administrators, care providers, residents and family caregivers; OPLWH; and CBO leaders. Our analysis focuses on interviews with CBO leaders serving the intersections of HIV/AIDS, queer advocacy, and housing support. Interviews were professionally transcribed. To enact thematic analysis, transcripts were divided amongst team members to identify meta-themes. Coded data were grouped based on themes collaboratively identified to ensure diverse perspectives informed findings.

Findings: CBO leaders identified three barriers preventing OPLWH from feeling they belong in LTC/AL: stigma within LTC/AL communities, misalignment between health system and community values, and negative experiences with the health system that create an expectation that LTC/AL will be harmful. Builders of belonging included: fostering trust with OPLWH through partnerships with CBOs and HIV peer navigators; care staff education on the lived HIV experience; and resident-driven initiatives that promote a shared sense of belonging. For OPLWH, belonging and a sense of home—key contributors to autonomy, security, and well-being—are often undermined by stigma and marginalization in care communities.

Conclusion: These findings underscore belonging as an affective experience vital to OPLWH's quality of life in LTC/AL, thus identifying a pathway to strengthen relationships between health systems and CBOs. Our next step is to propose specific tools and strategies to foster belonging for OPLWH within LTC/AL.

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Abstract #217

How Social Media and Digital Platforms Can Promote Accurate Knowledge Mobilization to the Community: HIV Parenting Choices as a Case Study

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V Esther Namalwa, Logan Kennedy, Jordan Hausman, Mona Loutfy

Background: Individuals living with HIV face barriers to parenthood, including stigma and lack of knowledge. The Canadian HIV Pregnancy Planning Guidelines provide essential information, but community dissemination has been inadequate. We examine the impact of digital and social media on mobilizing knowledge about parenting options for people with HIV in Canada and beyond.

Methods: A digital toolkit, launched as a website in December 2023, was co-created by a design firm and 11 community members across Canada, with support from VLK. Instagram and Facebook pages were launched in April 2024 (managed by a peer) to boost traffic, featuring weekly posts on advocacy, story-telling, and professional insights using relevant hashtags. Google Analytics data were used to analyze website traffic.

Findings: By April 1, 2024, 111 users accessed www.hivparentingchoices.ca, with 15% (22) returning more than once. Following the launch of the Instagram account, 263 new users have visited the website, with 15% (41) revisiting the site. This indicates a monthly increase of more than 10% in users. Website traffic spiked each Monday following the Instagram post, highlighting the connection between social media activity and user engagement on the website. 10% came directly from #HIVparentingchoices Instagram, 8% from other social media accounts, and 5% from an accompanying Facebook page. Between December 2023 -April 2024, the site had reached users in 4 countries. By the end of 2024, users from 10+ countries were accessing the site, with the majority from Canada, the US, the UK, Ireland, or the Netherlands.

Conclusion: Digital and social media platforms can disseminate research evidence and guidelines to community members. This approach supports informed choices for people with HIV.

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Abstract #215

“No Safety Net: Service Providers’ Perspectives on Financial Empowerment for Older Adults Living with HIV in Ontario—Critical Gaps, Unmet Needs in a High Demand Setting”

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Introduction: Older people living with HIV (PLWH) in Ontario face significant financial challenges, yet there is a lack of targeted financial empowerment initiatives to address their specific needs. This mixed methods study sought to explore service providers' knowledge and experiences in supporting older PLWH (50+) with income and benefit programs, as well as their access to financial education and empowerment services. The findings aim to inform the development of policy and programs tailored to this population's financial needs.

Methods: 19 service providers from HIV community service organizations across Ontario were recruited through email, leveraging existing stakeholder relationships. Participants took part in 90-minute facilitated focus group sessions conducted via Zoom, which were recorded and transcribed for analysis. A participatory data analysis approach was employed using the DEPICT model to enhance capacity building and engage community members throughout the process.

Key Themes:

Current Resources: urgent need for comprehensive financial planning resources that integrate the complexities of living with HIV and aging.

Financial Needs and Gaps: limited availability of tailored financial empowerment tools, contributes to financial insecurity among older PLWH

Navigating Government Pension and Benefit Programs: challenges in access government pensions and benefits, complex eligibility criteria, application barriers, and systemic delays that exacerbate financial vulnerability.

Increasing Awareness and Uptake: A critical need for more targeted education, enhanced collaboration, and proactive outreach to develop and increase the uptake of existing financial empowerment services, currently underutilized despite the pressing needs of this population.

Recommendations: These findings highlight the urgent need to integrate financial empowerment resources into HIV care settings. Simplifying access to government benefits, enhancing financial literacy for both clients and providers, and fostering collaboration between service organizations are critical steps. These policy recommendations aim to address financial inequities, ensuring that older PLWH have access to the support needed to navigate their complex financial situations.

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Abstract #89

Findings from Consultations with People Living with HIV Regarding Socioemotional Support in New Brunswick, Canada

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People living with HIV (PLHIV) often face a range of social and emotional challenges that can significantly impact their well-being and quality of life. In New Brunswick, these challenges are compounded by social isolation, stigma, and geographic barriers to accessing support services. Additionally, the lack of HIV-specific programs, along with shifting priorities in AIDS organizations, has left gaps in resources and support networks. This project aimed to consult with PLHIV in New Brunswick to identify their socioemotional support needs and highlight barriers that hinder access to essential care and resources.

Methods:

From September 2023 to July 2024, we conducted consultations with PLHIV from various communities across New Brunswick, including both rural and urban, Anglophone and Francophone areas. The consultations included semi-structured interviews and focus groups to gather qualitative insights into the socioemotional and resource-related challenges faced by participants. Data was analyzed using thematic analysis to identify key themes related to emotional isolation, stigma, provider interactions, and the availability of support services.

Results:

Participants highlighted several significant social and emotional barriers to their well-being. Feelings of loneliness and a lack of emotional support were shared among every participant, often compounded by the fear of disclosing their HIV status and the stigma associated with it. Many reported difficulties in forming romantic relationships due to the fear of rejection, which further contributed to social isolation. Geographic distance from healthcare services and support networks also intensified these challenges, leaving many feeling disconnected. Furthermore, negative experiences with healthcare providers underscored the need for improved education and sensitivity among providers to better address the unique needs of PLHIV.

Resource gaps were a major concern. Participants noted a lack of HIV-specific programs and financial support, as many AIDS organizations had shifted their focus to needle exchange programs, leaving a gap in services tailored to PLHIV.

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Abstract #160

Prevalence, Health Risks and Protective Factors with HIV Stigma in Saskatchewan: Key Findings from the Canadian People Living with HIV Stigma Index 2.0

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Introduction: Stigma can adversely affect the physical, mental, and emotional well-being of people living with HIV. This study explores demographic characteristics, experiences of stigma, health risks, and protective factors among people living with HIV in Saskatchewan.

Methods: We interviewed 71 people with HIV in Saskatchewan as part of the People Living with HIV Stigma Index 2.0 (survey created by and for people living with HIV) to measure stigma and health-related outcomes. Descriptive analyses were conducted to assess participant demographics, health risks (depression, low income ($\leq 30k$), substance use, unemployment, and unmet basic needs) and protective factors (social support, self-efficacy, and resilience). Individual scores were calculated to determine multiple health risks/protective factors.

Results: Participants: mean 44 years old and 13 years living with HIV, 69% were female, 75% identified as heterosexual, and 66% as Indigenous. Participants had elevated levels of stigma: internalized (44%), enacted (62%), and anticipated stigma (92%). Income was low for 87% of participants, 79% were unemployed, and 78% had unmet basic needs. Substance use was prevalent: 60% met threshold for significant alcohol use, 54% for substance use, and 51% for depression. Despite these challenges, 73% showed high levels of social support, 75% had high resilience, and 93% with self-efficacy. Overall, 44% had a health risk score of four or higher; 61% of participants had a protective factor score of four or higher.

Conclusion: This study highlights that people living with HIV in Saskatchewan have high levels of stigma along with several health risks and protective factors shaping their lives. While participants face significant challenges, including high levels of stigma, financial stress, and mental health concerns, there is also a presence of robust protective factors such as social support, resilience, and self-efficacy. Addressing these challenges will require interventions that go beyond medical care to tackle social and economic disparities.

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Abstract #211

“I’m Not a Robot”: Data Integrity Challenges in Financial Empowerment Research – The Impact of Bot Attacks on Survey Reach and Representation in HIV-Impacted Communities in Ontario

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Introduction: Older people living with HIV (PLWH) in Ontario face considerable financial and social challenges. Tailored financial empowerment initiatives are limited, especially for communities with lower incomes. The Financial Empowerment study sought to understand the needs for financial information, services, and support of 180 diverse older PLWH (50+) in Ontario, to inform policy and program development.

Methods: An anonymized, online survey was conducted between May and November 2024 using Qualtrics software. PLWH (50+) in Ontario were recruited through existing networks and provided unique survey links after completion of pre-screening online or by phone. The online survey was chosen to increase accessibility for at risk and underrepresented communities, and to support gathering evidence on their financial empowerment needs. An honorarium was offered upon survey completion. Descriptive statistics were used to summarize participant demographics and quantitative data.

Results: Initial recruitment was limited, with fewer than 20 surveys completed in two months. Social media campaigns promoting the pre-screening survey resulted in almost 1000 responses, largely attributed to bot activity. Despite enhanced security measures, bot attacks were recurring, requiring ongoing screening and exclusion of illegitimate responses by study staff. 284 unique links were sent, and 97 survey responses were validated, based on documented criteria. This disruption limited the participation of PLWH, who already face increased digital, social, and economic barriers to research participation.

Considerations and Recommendations: Bot attacks significantly disrupted data collection, impacting data integrity and exacerbating existing barriers for PLWH. The planned data analysis was limited to reporting of results, given the likelihood of bot responses within the data set. These incidents highlight the challenges of relying on digital methodologies for engaging vulnerable populations. To support safe and equitable inclusion, hybrid approaches that combine online and offline methods, such as in-person interviews, community-based data collection, and partnerships with local organizations must be considered.

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Abstract #67

Living with HIV and Physical Disability: A Qualitative Study in Nova Scotia

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Introduction: People living with HIV can experience physical impairments (e.g. balance problems) and activity limitations (e.g. mobility difficulties), which can lead to participation restrictions (e.g. difficulty working), defined here as physical disability. These experiences can be further influenced by contextual factors, including extrinsic (e.g., stigma and social support) and intrinsic (e.g., living strategies and personal attributes) factors.

Objectives: The purpose of this study is to understand the experiences (presence and impact) of physical disability and the influence of extrinsic and intrinsic contextual factors on physical disability among adults living with HIV.

Methods: I will conduct a qualitative descriptive study involving online semi-structured interviews. I will recruit adults aged 18 years or older living in Nova Scotia, who self-identify as having a physical disability through social media, word of mouth, a peer researcher, and local HIV service organizations. The interview guide, developed using the Episodic Disability Framework and items from existing physical performance measures, will include questions about the experience of physical disability and the influence of extrinsic and intrinsic contextual factors. I will administer the World Health Organization Disability Assessment Schedule (WHODAS 2.0) questionnaire to describe general disability, and a demographic questionnaire to describe personal and HIV characteristics (e.g. age, gender, race and time since HIV diagnosis). Data will be analyzed using hybrid inductive-deductive thematic analysis. Descriptive statistics will be calculated for the WHODAS 2.0 and demographic questionnaire responses.

Anticipated Results: This study aims to describe experiences of physical disability, the impact on daily life, and the contextual factors that shape these experiences among adults living with HIV in Nova Scotia.

Conclusion: Highlighting the lived experiences of physical disability and associated contextual factors may inform the development of effective rehabilitation strategies aimed at improving functional outcomes and enhancing health outcomes of adults living with HIV.

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Abstract #223

Community-Led Point-of-Care Testing: Expanding HIV and STBBI Diagnostics Through Decentralized Testing in Key Populations Across Canada

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In response to the COVID-19 pandemic, the Public Health Agency of Canada's National Microbiology Laboratory Branch (NMLB) partnered with community-based organizations to establish a decentralized point-of-care testing (POCT) network. Designed to address health inequities in underserved populations, including Indigenous communities and other key populations, this initiative supported the establishment of over 400 POCT sites across Canada, with approximately 200 equipped with Cepheid GeneXpert® instruments. Originally developed for SARS-CoV-2 diagnostics, this network has been leveraged to address broader public health challenges.

Building on this infrastructure, the NMLB continues to collaborate with community-based organizations to expand its support for decentralized POCT to include sexually-transmitted and bloodborne infections (STBBIs), specifically HCV and HIV. This community-driven approach reduces barriers to healthcare for historically underserved populations by improving accessibility to testing, mitigating stigma, and minimizing the need for travel to centralized facilities.

Proof-of-concept was successfully demonstrated through a pilot initiative on-boarding the Xpert® HCV VL Fingerstick assay in three POCT sites. The same multifaceted on-boarding approach will be used to implement POCT for HIV using the Xpert® HIV-1 Qual XC assay. Proficiency testing material from an NMLB-established international external quality assessment program (EQAP) will be adopted as the quality control material for training and on-boarding POCT sites. This international EQAP will also serve as a model for the creation of a domestic EQAP program to provide ongoing technical support and quality oversight for newly established HIV-POCT sites.

The implementation of lab-quality POCT for HIV using this community-led model will improve our ability to reach the undiagnosed, enable early diagnosis and linkage-to-care, and overall improve health outcomes for historically underserved populations. This initiative underscores the power of partnerships with community-based organizations to address health inequities through locally driven solutions, fostering better outcomes for populations disproportionately affected by HIV and other STBBIs across Canada.

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Abstract #323

Improving Research Accessibility and Inclusion: Language Translation of Research and Knowledge Mobilization Materials by, with and for English-as-an-Additional Language (EAL) Immigrant Women Living with HIV

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Introduction:

Research often excludes the experiences of EAL immigrant women living with HIV (WLWH) due to English-dominant study practices. Addressing these gaps is crucial for ensuring equitable representation of these communities within scientific literature. Our project aimed to develop and implement a community-engaged, culturally-sensitive translation process for the BCC3 study.

Methods:

EAL immigrant WLWH were consulted in identifying key languages for translation of study materials through collaboration with ACPNet. Participants identified 8 languages commonly spoken by EAL immigrant WLWH. We identified 6 top-performing artificial intelligence (AI) platforms through their ratings on the app store and forum recommendations (Lingvanex, OpenL, MerlinAI, QuillBot, ChatGPT and DeepL). To choose the most accurate AI tools, we translated drafts of study materials in the 8 languages using each AI. We engaged immigrant WLWH, fluent in both a target language and English, in a second community consultation to provide feedback on clarity and cultural appropriateness. We then hired 7 community members with lived experience and language expertise to refine translations, ensuring accuracy and cultural sensitivity. Completed materials were shared at a final community event.

Results:

Translations were completed in Gujarati, Hausa, Shona, Swahili, Zulu, Luganda, and French. The iterative process highlighted several linguistic nuances overlooked by AI, including gender perspectives and removal of stigmatizing terminology, underscoring the value of community input. The final translated materials were well-received by participants, who expressed appreciation for the culturally tailored approach. This process improved accessibility of research materials for less cost than traditional methods, provided paid work for community members, and fostered trust and engagement among participants.

Conclusions:

This project highlights the feasibility and value of combining AI tools with community-engagement to overcome language barriers in research. The BCC3 study plans to adopt this approach for the future, offering a replicable model for enhancing inclusivity and representation in research.

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Abstract #341

Meaningful and Equitable Engagement of Community Collaborators to Promote HIV Championship

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Background: Meaningful and equitable engagement of community collaborators is a cornerstone of successful efforts in mobilizing HIV champions. The Acceptance and Commitment to Empowerment (ACE) Project is a multi-phase project with the aim to reduce HIV stigma and related disparities through capacity building and community mobilization.

Description: In Phase Two of Project ACE, we aimed to recruit 48 service providers and community leaders to take part in the six-week ACE intervention that promotes readiness and committed action in stigma reduction and HIV championship. Existing evidence indicates that time demands on participants in intervention research poses challenges on recruitment and completion. Meaningful engagement and building trust with community collaborators are key to successful recruitment.

Lessons learned: Our team tapped into existing partnerships and built new relationships with new collaborators through community engagement and dialogue. We successfully engaged 20 community organizations, including 17 organizations that serve people living with HIV, two religious centers, and one cultural community group. A total of 55 participants were recruited into the project, and 41 participants successfully completed the ACE intervention. Key insights/lesson learned: (1) effective community mobilization requires trusting relationships built on transparency; (2) effective partnerships require equitable distribution of resources to community collaborators; (3) shared leadership promotes successful community mobilization; and (4) frequent open communication and flexibility in co-planning are essential to sustainable collaboration.

Next Steps: Meaningful and equitable engagement with community collaborators is proven to be critical to successful implementation of community-centred intervention and community mobilization. These relationships have the potential to extend beyond current activities to benefit future HIV initiatives and strengthen community networks. Project ACE team will continue to work closely with current partners and collaborators in Phase Three to engage 288 community members living with and/or affected by HIV to reduce stigma and become HIV champions.

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Abstract #186

“My Story, My Way”: Digital Stories of Healthcare and HIV Support Among Women Living with HIV in Metro Vancouver

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Objectives

Using a novel community-based, participatory approach to digital storytelling embedded within a longitudinal survey-based cohort, this study aimed to explore experiences of trauma, resilience, and support in healthcare among women living with HIV, and make recommendations for improved care within health services.

Methods

The “My Story, My Way” project used the arts-based method of digital storytelling, aligned with objectives of the Sexual Health and HIV/AIDS: Women’s Longitudinal Needs Assessment (SHAWNA), a longitudinal, quantitative cohort study (2014-2025) in Metro Vancouver, Canada. Within a trauma-and violence-informed framework, in workshops over two years (October/22-October/24), community experts and researchers co-designed the project objectives and methodology, created digital stories, and explored narratives in qualitative art-elicitation interviews. Community experts produced audio-visual digital stories using a combination of voice-over audio, photographs, and images created by artificial intelligence-based written prompts. Researchers drew on grounded theory to identify emergent themes in transcripts, then refined them with community experts.

Results

The seven digital stories and interviews described experiences of inequitable power dynamics and lack of autonomy in interactions with providers and health care staff (e.g., clinic staff; researchers), uncovering dehumanization in healthcare settings. Community experts’ narratives emphasized the importance of consistent, trusting relationships with all healthcare staff. Community experts expressed their hopes for improved health services, highlighting the importance of training healthcare professionals in relationship-building. These narratives emphasized the need for programs that promote rights education and provide access to health advocates, including peer-based support.

Conclusion

Our community-based, participatory approach suggests that digital storytelling is a powerful tool for illuminating health inequities and engaging community experts who might otherwise not have opportunities to share stories. Narratives mapped recommendations to principles of trauma- and violence-informed, culturally safe care to create safer healthcare environments. Addressing biases and discrimination at all levels of care is essential to create safe access to healthcare.

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Abstract #175

Stamsh Silhanay Llawat II (Warrior Women Healing II): Reducing Stigma, Increasing Care

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Colonialist structures in Canadian healthcare systems encourage siloing of healthcare, however many throughout Canada are calling for wrap-around care. Siloing care, for example, HIV care only clinics, decreases health service access and increases stigma associated with specific diseases such as HIV and sexually transmitted and blood-borne infections (STBBI). This approach, although beneficial in accessing specialized resources, forces disclosure simply through presence. Indigenous populations have called for different approaches to reduce stigma experienced by over-researched “at-risk” populations such as Vancouver’s Downtown Eastside (DTES).

Stamsh Silhanay Llawat II/Warrior Women Healing II (SSL2) is a research project with members who are part of urban Indigenous communities within the DTES. Over the past year, research has been co-developed that nurtures urban Indigenous people’s connection with self and culture, leading towards improved holistic wellness. This culture as intervention research explores physical and mental wellness but, critically, also spiritual and cultural wellness of participants - many of whom have lost their connection to kin, culture and spirit.

While data is an expected research outcome, we are not just looking for data. We are nurturing and celebrating the humanness of those participating. During the first two cycles of this project, stigma felt by participants as they are walking into a community - one that doesn’t ask your status, your history or other deficit-based questions – was reduced. A cohort of peers has been working together to look after their spiritual wellness, to strengthen ties to Indigenous cultures and co-create a community together with researchers. Methodologies used have been thoughtfully selected to center Indigenous ways of knowing and doing, focusing heavily on land –and culture-based activities while integrating the power of expressive therapy in wellness. Findings from this study will inform Indigenous wellness care and services planning with urban Indigenous populations across Canada and similar settler-colonial nations.

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Abstract #221

Implementing HIV self-testing: A practice-based guide for community-based service providers

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An HIV self-test kit was licensed for use in Canada in November 2020. HIV self-testing offers an additional option for HIV testing, complementing existing methods such as and laboratory and point-of-care testing. By broadening the range of testing options, HIV self-testing can address the unique needs and preferences of the communities disproportionately affected by HIV.

To support the development and implementation of community-based HIV self-test kit distribution programs, a practice-based guidance document was created. This document draws on the guidance and expertise of representatives from 22 community-based organizations from across Canada who gathered in Toronto for a two-day in-person dialogue. These organizations were selected for their leadership in HIV self-test kit distribution, their regional representation and their service to the populations most affected by HIV. The dialogue consisted of facilitated discussions on effective distribution strategies and lessons learned. CATIE staff used discussions from the dialogue to develop the practice-based recommendations.

The practice-based guide provides practical recommendations for community organizations to support the uptake and integration of HIV self-testing into their services. Key areas covered include determining whether HIV self-test kit distribution is right for their organization; the meaningful engagement of people most impacted by HIV in the development and delivery of the program; policies and procedures related to distributing HIV self-test kits; education and training for staff; distribution of self-test kits in different settings (e.g., outreach, events-based, online); pre and post-test conversations; and linkage to care. By considering these practice-based recommendations, organizations can maximize the potential of HIV self-testing as a tool to reach the undiagnosed and to engage individuals (regardless of their status) in other relevant prevention and support services.

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Abstract #255

Strengthening Community Voices: Enhancing HIV Cure Research Through Collaborative Engagement and Partnerships

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Background: The Canadian HIV Cure Enterprise (CanCURE) is a collaborative research team focused on HIV persistence and strategies for sustainable HIV remission. Since its inception, CanCURE has engaged people with lived and living experience in project development and knowledge mobilization through its Community Advisory Board (CAB). To align CanCURE 3.0's research agenda with community priorities, the CAB surveyed people living with HIV in Canada about their knowledge of HIV cure research and their research priorities. Here, we outline how community involvement contributed to creating a comprehensive survey and facilitated participant recruitment and retention.

Methods: In spring-summer 2024, the CAB co-developed a web-based survey through meetings and document review with a CanCURE researcher to champion community engagement. The 20 minute survey included 37 questions, focused on demographics, knowledge of HIV cure research and cure research priorities, Knowledge questions were multiple choice, while research priorities were ranked. Participants could also provide additional information in free text. Five CAB members formed a pilot group to provide feedback before the final survey was launched. Community organizations promoted the survey through email lists and closed social media groups, and community members assisted in recruitment and follow-up for incomplete responses.

Results: Over two-thirds of respondents who provided consent completed the survey, though 15% did not follow up after receiving the link. Most of the 100 enrolled participants emphasized the importance of keeping community members informed about all aspects of HIV cure research.

Conclusion: The survey was developed and executed in equitable partnership with community members and researchers, adhering to the GIPA Principles (Greater Involvement of People Living with HIV). Community involvement enhanced the survey's clarity and improved recruitment and completion rates Future efforts will focus on understanding reasons for incomplete surveys and increasing engagement in knowledge mobilization initiatives.

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Abstract #327

Approaching Tensions in Administrative Health Data Research: Creating Space for Co-production in Citizen Science HIV Research

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Background:

Little scholarship considers how academic researchers and people with lived/living experience (citizen scientists) encounter and collaboratively navigate the unique characteristics of administrative health data research, including underlying structures (e.g. classification and coding systems, billing structures), routine data collection procedures, and research methods and norms. Given the HIV community's longstanding research leadership, a deeper understanding of administrative health data nuances through community-led or citizen science HIV research can provide lessons for health research generally.

Methods:

We based our research approach on existing ethnographies of citizen science. Our collaborative team of six citizen scientists, four epidemiologists, three social scientists, and two HIV clinicians used two qualitative methods: participant observation of our research process, and critical reflexive analysis through "Gathering Wisdom" dialogue. Research sessions and meetings were recorded through Zoom, audio device, and graphic and written fieldnotes. Recordings were transcribed and thematically analyzed.

Results:

Tensions experienced fell under two major themes. 1. Epistemological/ontological variation. Working with administrative health data meant situating ourselves within a positivist paradigm, which at times did not match team members' worldviews or ways of knowing. 2. The social and institutional context of routinely collected health data and dealing with secondary use limitations (e.g., data codes may not fully reflect what occurred, important data are not captured). Tensions were opportunities to innovate and unsettle habits of thought; for example, we customized a definition of "primary care engagement" based on lived/living experiences of citizen scientists and HIV clinicians, and used a strengths-based approach to frame research questions around survival versus death.

Conclusion:

While administrative data research nuances were sometimes troubling to citizen scientists, this collaborative work showed how experiential knowledge enriches administrative health data research. Approaching tensions in collaborative research as productive sites for exploration can create innovations and new insights through synthesis helping to ensure co-production and collaborative equity.

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Abstract #148

Envisioning Futures: The Role of Art Therapy in Creative Resilience and Health Advocacy for LGBTQIA+ Latinx Communities

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Issue: Canada's Communicable Disease Report (2018) reflects that a sizeable proportion of HIV cases in Canada occur among individuals from Latin America, particularly among Latino men who have sex with men. Im/migrant Latinx folks are likely to experience inequitable access to health services in Canada. Including low testing and treatment rates influenced by violence, discrimination, lack of knowledge about their rights, status related to migration and documentation, and personal, cultural, and religious beliefs. Tailored interventions and care for minorities with intersecting identities, with a focus on co-occurring stigmas, are crucial to ensure the well-being of diverse LGBTQIA+ Latinx people.

Description: The Dr. Peter Centre (DPC)'s integrated supports and services, including art therapy, have been successful in improving sustained management of HIV for Latino individuals, including retention in care and adherence to HIV medication. This presentation will share the DPC's experiences using arts-based methods to highlight factors that contribute to resilient pathways among racialized minorities and other intersections among LGBTQIA+ populations.

Recommendations: Art therapy can play a vital role in helping immigrants and LGBTQIA+ individuals adapt to a new country, especially when facing challenges related to health, identity, and community integration. Art therapy can support this group by supporting expression beyond language barriers, building identity and self-acceptance, processing trauma and loss, fostering community and connection, offering empowerment and agency, encouraging healthy coping strategies to manage mental health, and supporting navigation of cultural identity in a new country. By providing a space for self-expression, community connection, and healing, art therapy offers essential support for immigrants and LGBTQIA+ individuals adjusting to life in a new country, helping them build resilience, confidence, and a positive sense of self.

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Abstract #104

Co-Producing Community-Based Research on Infant-Feeding Experiences and Practices with Black Women Living with HIV: Insights from Another White-Majority Country Across the Pond

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Background: Despite representing over 50% of women living with HIV globally, women of African descent are greatly underrepresented in HIV research, both as participants and among those leading the research. Within white-majority countries such as the UK and Canada, Black women are disproportionately impacted by HIV, but there is scant research on how it impacts their reproductive lives. Undetectable=Untransmittable does not apply to breast/chestfeeding; for this reason, the decision about infant-feeding options while living with HIV remains fraught with uncertainty. Based on a qualitative study conducted in the UK about infant-feeding decisions and practices (NOURISH-UK), we present our experience of co-producing the research with Black mothers living with HIV. We focus on how our methodology enabled us to hear the silences faced by our socially marginalised study participants and respond in generative and empowering ways.

Methods: NOURISH-UK was a qualitative study that used semi-structured interviews. The study team and Patient Public and Involvement (PPI) group included academics, clinicians and women with lived experience of HIV and advocacy – including six Black women with HIV.

Results: We carefully assembled the study team and PPI panel, remained sensitive to power imbalances across social boundaries, arranged multiple meetings in formats that encouraged inclusivity and a diversity of perspectives, and employed creative dissemination routes for our findings. Our interdisciplinary co-produced approach led to (1) inclusive research design such that the majority of participants were from racially minoritised backgrounds (2) multiple co-produced lay and academic outputs (including a clinical guide); and (3) influencing the newly released UK national guidelines on HIV and infant feeding.

Conclusion: Epistemic practices are key to overcoming inequities in health research, and illuminate knowing among Black women with HIV. A shared commitment between academics, clinicians and academics key to achieving meaningful involvement within HIV research and maximising research impact.

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Abstract #245

(Re)Imagining Community-Based Research: Applying Critical Theories and Creative Methodologies to examine the impact of Converging Pandemics—COVID-19, HIV/AIDS, and Systemic Inequities Among Black Women Living with HIV in Toronto.

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Background: COVID-19 and HIV disproportionately impact Black communities in Canada. The intersecting pandemics of COVID-19 and HIV/AIDS have further exposed and exacerbated systemic inequities, including racism, sexism, homophobia, and poverty, which heighten vulnerability and worsen health outcomes). These conditions have had a profound impact on Black women Living with HIV, who experience significant physical and mental health challenges, compounded by systemic barriers to timely and effective healthcare.

Methods: This doctoral research, led by a Black woman living with HIV and a Community Advisory Board of diverse Black women living with HIV centres Black women living with HIV, integrates activist scholarship ,critical theories, participatory of counter-storytelling and cellphilmimg to examine how lessons from the COVID-19 pandemic can reshape health and social policies to improve the intersectional well-being of Black women living with HIV in Canada. Forty-five participants were recruited to participate in 6–7-hour workshops that included technical training on mobile filmmaking, enabling participants to collaboratively learn and creating short cellphilmms (2 minutes each), screening and group participatory analysis. A follow-up hour-long, semi-structured individual interviews were conducted with all the participants. Data from the interviews and cellphilmms were analyzed thematically using NVivo, integrating insights to identify patterns and themes that address systemic inequities and inform individual, social and policy recommendations.

Results: Community-based research thrives on trust, flexibility, and reciprocity to empower community voices, address power imbalances, and enrich the process with essential perspectives that foster meaningful, equitable partnerships.

Conclusion: The findings demonstrate that when communities are meaningfully and equitably engaged in research, the benefits are profound. Initially aiming to recruit up to 30 participants, the study received an overwhelming response, resulting in 45 participants being included, with 100% attendance and full engagement throughout the workshops. Despite the six-hour workshop duration, participants remained actively involved, underscoring the value of creating inclusive, community-centered spaces.

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Abstract #312

“HIV Made Me Fabulous” - The Short-Term Impacts on Viewers of Watching Embodied Storytelling in a Knowledge Translation Film

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Introduction:

Gendered HIV stigma persists despite scientific advancements to prevent and treat HIV. The 10-minute film “HIV Made Me Fabulous” aims to promote empathy and understanding by using embodied storytelling to present the complexities around Undetectable equals Untransmittable experienced by women living with HIV. We assessed the short-term impacts of the film on diverse viewers.

Methods:

Between February 2020 to March 2024, a mixed-methods survey was completed by viewers aged 16+ after watching the film. The survey was grounded in the Lafrenière and Cox (2013) framework to assess whether the film stimulated emotion, increased understanding of the presented issues, inspired further reflection, and moved viewers to share the film. We used descriptive statistics to examine impacts of the film (Agree/Strongly Agree versus Neutral/Disagree/Strongly Disagree responses) and compared this between viewer demographics.

Results:

The post-film survey was completed by 293 respondents. HIV status, role in community, sexual orientation and race/ ethnicity were not significant across responses. Overall, 85% Strongly Agreed/Agreed that they connected with the film emotionally. Respondents experienced both positive (e.g. empathy and empowerment) and negative emotions (e.g. frustration and sadness). Eighty-eight percent of respondents said that the film helped them gain a new perspective on U=U. Ninety-two percent of respondents said that the film helped them better understand the lived experiences and resiliency of women living with HIV. Eighty-four percent of women compared to 68% of men ($p=0.03$), and 89% those aged 30+ years compared to 76% of <30 years ($p=0.02$) were significantly more likely to recommend the film to others.

Conclusion:

The film had short-term impacts on viewers, including eliciting emotion and understanding. These effects were experienced by both viewers living with and without HIV from various roles, and with diverse sexual orientations and race/ ethnicity. Future research should assess investigate long-term impacts of arts-based knowledge translation initiatives.

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Abstract #54

Performing Prevention: Theatre Techniques for Advancing Sexual Health Equity

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SExT: Sex Education by Theatre addresses sexual and mental health inequities among newcomer and Indigenous youth in Canada. Launched in 2014 as a doctoral research initiative by Dr. Shira Taylor, SExT has reached over 11,000 youth nationwide and earned multiple awards for its innovative approach. By integrating participatory theatre methods with a trauma-informed peer education model, SExT empowers youth to explore critical health topics through creative expression. Youth participants co-create and perform scenes inspired by their lived experiences and infused with popular culture references. Structured discussions, role-play exercises, and iterative rehearsals ensure cultural relevance and adaptability to community contexts. Performances address essential issues such as HIV/STI prevention, mental health, consent, domestic violence, and gender/sexual diversity, engaging youth audiences through humour, music, dance, and storytelling in a way that is both impactful and relatable. Our previous research has shown that the program improves sexual health self-efficacy (condom use, HIV/STI testing, and sexual limit-setting) and personal and social development (personal growth, social inclusion, and social engagement) among audiences and performers alike.

Through self-study, interviews with peer mentors, reviewing scripts, videos and performances, and reflexive engagements with the show and the literature, we identify three pedagogical strategies that contribute to SExT's success, including: (1) parody, (2) personification, and (3) embracing the outrageous. We present case studies of key scenes to illustrate these theatre techniques, including Let it Flow (a musical parody about puberty), Captain Condom (involving humorous personification of STIs), and Clinic Myths (a farcical exploration of healthcare stigma). These examples highlight the program's ability to entertain, educate, and foster critical conversations. This study provides valuable insights for community-engaged facilitators seeking replicable methods and creative prompts to engage youth on sensitive health topics through participatory theatre.

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Abstract #339

United Voices of HIV Alberta (UVHA): Sharing Digital Stories and Exploring Next Steps in HIV Stigma Reduction

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Anti-stigma work led by people living with HIV has been developing internationally over the recent decades. Digital storytelling is a participatory process that engaged people living with HIV in exploring and expressing their lived experience in an impactful way. The showing of the digital stories provides an opportunity to share their stories. Conversations regarding storytelling and HIV stigma will engage conference participants in a process of generating possible actions to reduce HIV stigma.

Eight peers participated in the digital storytelling project. The storytellers are a diverse group from a range of backgrounds. A selection of the stories that were completed will be presented. Following the showing a panel comprised of the development team will engage the audience in a generative process to identify possible next steps in a peer led HIV stigma reduction initiative.

The sharing of the digital stories and panel discussion will provide an opportunity for participants to experience the digital stories that have been created. Additionally, conference participants will be involved to offer suggestions for local actions. Actions that people living with HIV and HIV community organizations can engage in to continue to reduce HIV stigma. In this way building on the decades long work of HIV anti-stigma actions led by people living with HIV.

*** several peers have asked that their names not be included in the abstract

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Abstract #340

United Voices of HIV Alberta (UVHA): Evaluation, Digital Stories as Action to Reduce HIV Stigma

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UVHA is a group of persons living with HIV in Alberta. We are grateful to have received funding from the Reach Nexus, Positive Actions Grants for our digital storytelling project. The poster describes the use of digital storytelling within the context of a provincial peer led HIV advocacy group (people living with HIV) and the groups plan to take action to reduce stigma.

Eight peers participated in the digital storytelling project. An experienced facilitator/trainer/researcher led the process. One of the goals of the process was to build capacity among peers in the area of digital storytelling and two peers completed the first level of training as digital storytelling facilitators. During the workshops 6 digital stories were completed and the workshops were evaluated.

The results of the evaluation are reported in terms of:

- The experience of participating in the digital storytelling process.
- The participants reflections on digital storytelling and stigma.
- The participants thoughts on the use of digital storytelling in an ongoing campaign to address HIV stigma.
- The participants experience and hopes for digital storytelling as a process to develop supportive community.

The evaluation of the project has been positive and has led to suggested activities to overcome stigma within local communities.

*** some participants asked that their name not be included in the abstract for confidentiality reasons

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Abstract #163

Centering Peer Voices in The HIV Stigma Index Study: Developing Accessible Content Through Community Collaboration

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Background: Engaging peer researchers (PRAs) in knowledge translation ensures research findings reach and resonate with the community. Five peer researchers from the Ontario Implementation of the Canadian HIV Stigma Index study collaborated with researchers to create accessible, plain language blogs based on peer-reviewed articles about HIV Stigma Index data. Published on the Positive Effect website (<https://www.positiveeffect.org/blog>), these blogs translated complex findings into community-centered content, amplifying the lived experiences of people living with HIV and bridging the gap between research and community understanding.

Methods: PRAs participated in every stage of the knowledge translation process. They reviewed the peer-reviewed articles addressing various aspects of HIV stigma, contributed to blog drafts and refined the content for clarity, relevance, and relatability. Their input ensured the blogs were accessible to diverse audiences. PRAs also identified practical resources to enhance the blogs' value to readers affected by HIV stigma.

Results: Between 2021 and 2024 Ontario Stigma Index data was analyzed and four publications were submitted to various journals. From this, four blogs were published on the Positive Effect website, garnering 304 page views. These blogs made research findings accessible to a broader audience and grounded the content in real-world perspectives, highlighting the daily impact of HIV stigma.

By translating peer-reviewed research into actionable content, the blogs extended the conversation on HIV stigma. This collaborative process provided PRAs with capacity-building opportunities, enabling them to critically engage with research and enhance their communication and knowledge translation skills. Additionally, participating in these activities increased peer researcher's belief and confidence that they can affect meaningful change in their communities.

Conclusion: Co-creating knowledge translation outputs is an effective strategy to ensure research is relevant and impactful for communities affected by HIV stigma. This approach highlights the value of centering community voices in efforts to reduce stigma through accessible and relatable content.

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Abstract #27

Sexual Health and Sexuality for Older People: The SHOP Project

Addison Brash¹

¹Realize, Toronto, Canada

Background:

The SHOP Project determined that older adults have limited access to sexual health education and information. With input from a global advisory committee, Realize developed two sexual health and sexuality toolkits dedicated to older adults, and front-line staff.

Methods/Process:

Realize conducted a comprehensive online global environmental scan to identify existing sexual health toolkits, specifically designed for older adults aged 50+. Our findings revealed a significant gap, with few resources currently available across the globe.

We launched a global online questionnaire to understand the sexual health education needs and desires for older adults. Twenty-eight older adults participated in the questionnaire. Of the 28 participants, 13 chose online resources as their preferred delivery of sexual health information. 46% said that the biggest barrier to sexual health information is the lack of available services in their area.

SHOP Toolkits were created with guidance from our Global Steering Committee which included older adults and PLWHIV from Chile, USA, Argentina, Africa, the Philippines, India, Nigeria, the UK, and Moldova. The toolkits are sex positive, and include information on pleasure, intimacy, optimizing sexual well-being, HIV/STBBI prevention, safer sex, and strategies to manage changes in sexual function. Efforts to create culturally relevant toolkits were important in the development; in doing so we ensured toolkit content was adapted to local audiences across the globe, prior to being translated.

Conclusion:

The sexual health and sexuality of older people remains an under-served topic in healthcare and social services. The SHOP Project works to address this gap by providing accessible, evidence-based resources that empower older adults and equip service providers to address their unique sexual health needs.

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Abstract #12

Promoting Equity in Health Programs: The Intersection of Crystal Meth Use and Social Health for GBMSM

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Background: Gay, bisexual, and other men who have sex with men (GBMSM) who use crystal meth encounter significant barriers to accessing and staying engaged in social health programs. These challenges are compounded by the intersection of biological and social factors, including stigma, mental health challenges, and HIV. Systemic barriers impede equitable inclusion and retention in programs designed to support this population, highlighting the need for a comprehensive and coordinated approach to foster equity and inclusion.

Methods: Five focus groups were conducted with GBMSM who identified as crystal meth users, including individuals living with HIV. A semi-structured question guide facilitated discussions. Participants were recruited from HQ, a health clinic in Toronto, Canada, that specializes in serving the GBMSM community. Thematic analysis was used to examine participants' lived experiences with program inclusion and retention.

Results: Participants (n=25) reported that discrimination associated with crystal meth use created substantial barriers to program inclusion, fostering feelings of judgment and exclusion. They emphasized the importance of safe, supportive environments with empathetic, non-judgmental staff and peers to encourage engagement. Key insights included the need for flexible program designs that address the unique and unpredictable nature of crystal meth use. Stigma from healthcare providers, a lack of tailored services, and rigid program structures were identified as significant barriers to retention. Participants highlighted the critical need for integrated mental health and HIV services that address the intersection of crystal meth use and sexual health.

Conclusions: This study highlights the urgent need for equity-informed, tailored social health programs that integrate mental health and HIV support while addressing the intersection of crystal meth use, sexual behavior, and broader social determinants. Such programs are essential for fostering trust, ensuring equitable access, and sustaining engagement among GBMSM who use crystal meth, aligning with the collective action themes of CAHR 2025.

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Abstract #50

Litigating the right to health: a case study of supervised consumption services in Ontario

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¹HIV Legal Network, Toronto, Canada

Background

More than 10 Ontarians die everyday from the tainted drug supply. Supervised consumption services (SCS) have reversed 22,000 overdoses in the province while reducing public drug use and discarded drug use equipment. SCS are also vital access points for HIV, HCV, and other STBBI screening and treatment — a critical service considering 11% of new HIV diagnoses in Ontario in 2020 were linked to injection drug use. Yet, the government announced legislation in August 2024 that would shutter SCS by prohibiting SCS from operating within 200 metres of a school or childcare centre and preventing municipalities and local boards from applying or supporting a request to the federal government to maintain or establish SCS. At least half of Ontario's SCS will close because of the legislation.

Description

In response, advocates mobilized at all levels of government and in the media to denounce the preventable deaths and viral and bacterial infections that will result from SCS closures, especially within communities already facing marginalization and barriers to care. Researchers refuted the Ontario government's unfounded claims that crime increased in neighbourhoods with SCS. Yet, Ontario hastily passed the Community Care and Recovery Act, 2024 (CCRA) in December 2024, with little debate or Committee review.

Lessons Learned

In response, The Neighbourhood Group Community Services, which operates an SCS in Toronto, and two individual applicants, commenced litigation against the CCRA, arguing that the law violates constitutional rights to life, liberty, and security of the person and to be free from discrimination and protections against cruel and unusual treatment, and further encroaches on Canada's exclusive jurisdiction over criminal law. Advocates such as the HIV Legal Network continue to mobilize, including through a proposed intervention in the case outlining the enormous impacts on HIV prevention, treatment, and care. A hearing is scheduled for March 2025.

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Abstract #286

Structural Barriers to HIV/HCV Prevention and Care in the Fentanyl Era: Perspectives of People who use Fentanyl (PWUF) and Healthcare Providers from Hamilton and Brantford, Ontario

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Background: In Canada, nearly 50,000 fatal overdoses have occurred since 2016, primarily driven by unregulated fentanyl. People who use fentanyl (PWUF) face heightened overdose and infectious disease risks. We explore how the volatile unregulated drug supply and structural inequities undermine HIV/HCV prevention and treatment access during the COVID-19 and fentanyl era.

Methods: Between November 2022 and August 2023, we conducted qualitative interviews with n=61 PWUF and n=19 safer opioid supply and/or opioid agonist treatment prescribers in Hamilton and Brantford. PWUF participants were asked about their overdose experiences, HIV/HCV testing and prevention practices, accessing treatment and health services, and drug supply changes. Prescribers were asked about the ways in which fentanyl and COVID-19 impacted their practice, the needs of PWUF clients, and challenges providing treatment. Thematic analysis was utilized.

Results: Many PWUF participants described shifting from injection drug use to smoking, though some reported reverting to injection in certain circumstances. While awareness was strong regarding HIV/HCV transmission risks and not sharing injection equipment, sharing smoking equipment was more common. Housing, economic and food insecurity emerged as destabilizing forces, with PWUFs describing how these experiences increased substance use and impeded healthcare engagement. Prescribers corroborated these challenges, reporting how structural inequities undermined their ability to maintain contact with patients and provide comprehensive care, creating potential challenges for integrating HIV/HCV care. Limited safer smoking services and stigma created additional barriers to care. These challenges intensified during COVID-19, with increased housing instability and reduced service accessibility reported by both groups.

Conclusions: Our findings reveal critical gaps in HIV/HCV prevention and care for PWUF in the fentanyl era, particularly around equipment sharing, structural vulnerabilities, and healthcare engagement. Results suggest urgent need for collective action across regions to develop integrated HIV/HCV care that addresses social determinants of health and expands harm reduction options especially in less-resourced communities.

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Abstract #90

Expanding Access to Harm Reduction Supplies in Underserved and Rural Communities: A Bottom-Up Approach to Overcoming Political and Systemic Barriers

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Background:

Access to harm reduction supplies, remains highly dependent on the political climate at both provincial and municipal levels. In regions where these resources are limited or politically contentious, underserved and rural communities face significant barriers to accessing harm reduction services. This study explored a community-centered, bottom-up approach to address these barriers and expand harm reduction services in rural and underserved areas, highlighting the role of local strengths in overcoming political and systemic challenges.

We aimed to explore how engaging communities in the development of harm reduction strategies can enhance service delivery and overcome political and logistical challenges that impede access to essential resources.

Methods:

Between March and December 2024, we implemented a bottom-up approach to harm reduction service expansion in several rural and underserved communities. The process involved direct consultation with local stakeholders, including people who use substances, community organizations, healthcare providers, and local policymakers. Community strengths were identified through participatory workshops and meetings, and these insights informed the development of customized harm reduction strategies for each community. Data were collected through quantitative and qualitative means, including data collection and community consultations.

Results:

The bottom-up approach resulted in the successful expansion of harm reduction services to several previously underserved communities. Communities were able to leverage local knowledge and resources to create solutions that were culturally relevant and practical. Key strategies included peer-led outreach, collaboration with local healthcare and social support providers, and mobilizing community-based organizations to advocate for harm reduction policies at the organizational, municipal and provincial levels. While political resistance at higher levels of government remained a challenge, local engagement significantly mitigated the impact of these barriers, leading to increased access to harm reduction supplies and improved community buy-in.

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Abstract #320

Understanding the Lived Experiences of Indigenous People Who Use Injection Drugs in Saskatchewan: The Virtual Cascade of Care Cohort Study

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Background

Indigenous people who use injection drugs (PWID) in Canada face significant structural and systemic barriers when seeking healthcare, rooted in the enduring legacies of coloniality and the pervasive stigma surrounding substance use. In Saskatchewan, the intersection of substance use and increasing HCV rates further underscores the urgency of addressing these inequities. This study aims to explore the barriers and enablers Indigenous PWID navigating complex life circumstances encounter when accessing healthcare services.

Methods

This qualitative study is a component of a larger multi-centre, multi-method study. Semi-structured interviews were conducted with 31 participants (Saskatoon, n=20; a northern rural and remote community, n=11) with injection drug use experience. Thematic analysis was conducted, and the findings were validated through feedback sessions involving community research associates with lived and living experiences.

Results

The findings reveal a deeply entrenched pattern of systemic racism, classism and stigma within the healthcare system, which contributes to substandard care delivery for Indigenous PWID. Participants reported significant barriers, including poverty, trauma and HIV- and IDU-related stigma, which compounded their sense of isolation and mistrust in healthcare providers. Logistical obstacles, such as transportation difficulties and prohibitive medication costs, further hindered access. Cultural safety was notably absent, as participants felt their beliefs and needs were routinely dismissed. Despite these challenges, participants identified pathways for improving access, including trauma-informed, empathetic care and peer support services. They also highlighted the value of proactive and patient-centered approaches that meet individuals "where they are" and prioritize respectful engagement.

Conclusion

This study underscores the pressing need for healthcare systems to address the structural inequities faced by Indigenous PWID. Interventions must prioritize cultural safety, trauma-informed practices and systemic reform to ensure equitable access to healthcare. These findings contribute critical insights into Saskatchewan-specific HCV-related health system utilization and advocate for transformative, justice-centered approaches to healthcare delivery.

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Abstract #209

How COVID-19 Reshaped the Drug Economy and Drug Toxicity Crisis for People Living with and without HIV in Vancouver, British Columbia (BC)

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Background: Policy responses to the COVID-19 pandemic have fuelled the toxic drug crisis and reshaped the illicit drug market. People Who Use Drugs (PWUD) have been especially vulnerable to COVID-19 mediated stressors and have experienced socioeconomic challenges; its impact on their health and wellbeing remains underexplored. This project aims to understand the impact of COVID-19 on the illicit drug market as a risk factor for Non-Fatal Overdoses (NFODs) and their long-term health impacts, and the ways in which PWUD with and without HIV in Vancouver navigated these changes.

Methods: Semi-structured focus groups and one-on-one interviews were conducted with 74 PWUD, including 38 (51.4%) People Living with HIV (PLWH); and 19 Healthcare Providers (HCPs) representing diverse professional backgrounds. Participants were recruited from organizations and care centers in Vancouver that support PLWH and PWUD. Certain focus groups were exclusive to PLWH to facilitate a safer space. Sessions were audio recorded, transcribed verbatim and coded using NVivo 14.0.

Results: The focus groups yielded rich data describing changes to the illicit drug landscape including increased drug prices, and uncertainty in the toxic drug supply with decreased drug potency and increased drug contamination. Participants also discussed the social, structural, and economic impacts of the pandemic, particularly how the Canada Emergency Response Benefit shaped people's response to the changing drug landscape.

Conclusion: PWUD with and without HIV in Vancouver faced significant changes in the illicit drug market that impacted patterns of buying, selling, and drug use, increasing the risk of NFODs and associated health outcomes. Government responses during the pandemic further influenced how PWUD navigated the evolving drug landscape, compounding existing social challenges. Communities have demonstrated resilience in adapting to these challenges, yet there remains a need for comprehensive and supportive regulation in the illicit drug market, as well as sustainable interventions, rather than temporary solutions.

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Abstract #105

Hard Time Persists: Healthcare and Harm Reduction in Canada's Prison System

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Background

Every year, tens of thousands of people enter prisons in Canada, who are more likely than the general population to be living with health conditions. In prison, the risk of HIV and other STBBI transmission and acquisition increases, as well as other harms to health, as people are barred from necessary healthcare services. People are instead forced to rely on healthcare in prison that is rarely equivalent to community standards. Thus, people regularly leave prison in worse conditions than when they entered.

Description

The present study explores how healthcare, including harm reduction, are provided to people in prison in Canada. A particular focus was placed on specific populations, who have distinct healthcare needs, including Indigenous individuals, racialized people, women, and gender-diverse people. In 2023 and 2024, the team identified and analyzed hundreds of relevant policies, and conducted dozens of interviews, including people who have been incarcerated, community organizations, and prison staff.

Lessons Learned

Federal, provincial, and territorial prisons across Canada are failing, to varying degrees, to provide adequate healthcare to people in prison. In most jurisdictions, healthcare continues to be provided by ministries responsible for prison administration, rather than ministries of health, and people in prison are not universally offered STBBI testing and/or education, HCV treatment, safer sex supplies, or sterile drug use equipment, among other critical services. The gaps are particularly stark for populations with distinct needs, who regularly lack access to culturally appropriate and/or gender-specific programs and services.

Next Steps

The study revealed several promising practices to improve health outcomes, including prioritizing decarcerating and alternatives to detention, providing consistent cultural- and gender-responsive services, and promoting cultural and gender sensitivity, through collaboration with community organizations. These practices are key to providing comprehensive healthcare in prison, equivalent to the community.

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Abstract #305

Identifying and mapping public health innovations for screening and diagnosis of sexually transmitted and blood-borne infections (STBBIs) during the COVID-19 Pandemic: A Scoping Review

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Introduction: Timely access to sexually transmitted and blood-borne infections (STBBI) testing and linkages to care are directly dependent on confirmed medical diagnosis. Access to STBBI testing was impacted by the COVID-19 pandemic in a variety of ways. This pandemic mobilized some public health innovations, reducing roadblocks in the STBBI cascade of care.

Objective: To identify and map available peer-reviewed and open-access grey literature on public health and community-based innovations for testing, screening and diagnosis of STBBIs during the COVID-19 Pandemic, in Organisation for Economic Co-operation and Development (OECD) countries.

Methods: MEDLINE (Ovid), CINAHL (EBSCO), Embase (Elsevier), Social Services Abstracts (ProQuest), and Sociological Abstracts (ProQuest), Google, <https://clinicaltrials.gov/>, and Canadian Agency for Drugs and Technologies in Health Grey Matters were searched September 2022, 2023. During this period, title and abstract screening were completed by three pairs of reviewers. Full text screening and data extraction was completed by two pairs of reviewers. Conflicts were resolved by the first and senior author. Community engagement was iterative. Results: A total of 7,108 peer-reviewed sources underwent title and abstract screening, and over 800 grey sources considered. 13 peer-reviewed and 43 grey sources, on public health and community-based innovations for testing, screening and diagnosis of STBBIs in OECD countries, were identified. Results confirmed STBBI resources were eliminated or redirected during the pandemic, while some were adapted, resulting in innovation and emphasizing the resourcefulness of those working in this service area.

Discussion: The pandemic motivated public health and community-based innovation, including reimplementing of initiatives previously experiencing barriers to implementation. Many of these innovations shifted screening from clinical settings to community-based settings. It also highlighted a need for intervention continuity during significant events, and several concepts and innovations that can be explored further. Grey literature enriched the review, as it highlighted ongoing research and community-led research.

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Abstract #63

Living in the Asterisk (*): What does U=U mean for women?

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This presentation will provide an overview of key elements within WHAI's Living in the Asterisk (*): What does U=U mean for women booklet, a resource that seeks to reflect the voices, concerns and lived realities of cis and Trans women, 2-Spirit and Non-Binary people who face structural risks related to HIV and health outcomes.

While research around U=U has been transformative, WHAI has added an asterisk (*) to the U=U resource to represent important considerations and intersectional realities for women, such as access to care and treatment. The resource is intended to be used to support community conversations about HIV and the U=U messaging within the communities where WHAI works. Considerations explored include:

- What social and structural realities impact one's ability to achieve an undetectable viral load and how does this impact U=U?
- Does U=U messaging create a hierarchy of who can achieve an undetectable viral load?
- What does U=U mean in the context of HIV criminalization?
- What does U=U mean when breast or chest feeding?
- How does U=U apply to people who use drugs?

These key considerations impact the women and gender diverse people WHAI works with and are important considerations for us to weave into community dialogues in order to create a culture of inclusion and supportiveness that doesn't leave anyone behind.

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Abstract #62

A Landscape of Community Change: A Resource to Support WHAI's response to the TRC's Calls to Action and Reclaiming Power & Place Report's Calls for Justice

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¹Women and HIV / AIDS Initiative (OAN), Toronto, Canada, ²Positive Living Niagara, St. Catharines, Canada

This presentation will journey through the development of the Women and HIV / AIDS Initiative (WHAI)'s Landscape of Community Change resource.

WHAI is a community-based response to HIV amongst cis and Trans women, 2-Spirit and Non-Binary people in Ontario, working 16 communities across the province. WHAI aims to

- Reduce HIV risk for women disproportionately impacted
- Enhance local community capacity to address HIV
- Build safer environments to support women's HIV related needs.

This resource seeks to ensure WHAI's practices of community development and community change are rooted in disrupting systems that have been created and ingrained in colonial practices. Outlined within the report are examples from the Truth and Reconciliation Commission of Canada's Calls to Action and the Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls Calls for Justice. The selected examples align with WHAI's work and aim to draw attention to specific Calls to Action and Justice that strengthen our commitment to reconciliation work and identify steps towards accountability.

Developed in partnership with visual artist of Ojibwe and Ukrainian / other mixed settler heritage Stephanie Babij, this resource includes:

- 1) a guidebook that includes an overview of the resources, tips for facilitating this work locally with community groups, an overview of the Calls to Action and Justice that align with WHAI work, and tips for further learning;
- 2) a poster illustration of earth, water, sky, plants, and creatures which can be used as symbols and analogy for the Calls to Action and Justice; and
- 3) dialogue facilitation cards which can be used in community capacity building contexts to deepen participants' understanding of reconciliation and foster personal and community strategies to strengthen reconciliation work.

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Abstract #237

The Women-Centred HIV Care Hub: Mobilizing and Scaling-up the Women-Centred HIV Care Model across Canada

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Introduction: Women and gender-diverse individuals face barriers to equitable healthcare, particularly those from racialized and marginalized communities disproportionately affected by HIV. The Women-Centred HIV Care (WCHC) Model is an evidence-based approach integrating trauma- and violence-aware care, person-centred care, women's health, mental health, HIV care, and peer support. To expand its reach, the virtual WCHC Hub was established to implement a national knowledge mobilization (KM) strategy to improve health outcomes and reduce care disparities for women with HIV.

Methods: The Hub is guided by community-based research, intersectional feminism, cultural responsiveness, and anti-racism frameworks. This initiative operates through nine sub-hubs - six regional hubs (BC, AB, SK, MB, ON, QC) and three population-specific hubs (Black women, Indigenous women, and trans and gender-diverse individuals). From September 2023 to December 2024, the hubs organized events, including conferences, panel discussions, and presentations, to share the WCHC Model. Weekly talks addressed equity, mentorship, and clinical topics. Evaluations tracked attendees, presentation types, satisfaction, and perceived increases in knowledge.

Results: The WCHC Hub conducted 45 KM activities, including one conference with 120 attendees, two information sessions with 15 attendees each, and three panel discussions with 20–25 attendees each. A total of 12 presentations were delivered, with attendees ranging from 25 to 100. One publication and five newsletters were disseminated. Weekly talks included nine sessions on equity, three clinical-focused discussions, and nine mentoring sessions. A total of 12 evaluations were collected (n=88), with: 77% of participants reporting high satisfaction with the topics; 51% strongly agreeing that the sessions contributed to their understanding and skill development; and 55% strongly agreeing that the topics aligned with their goals and objectives for attending.

Conclusion: The WCHC Hub demonstrates the impact of a national KM strategy, leveraging regional and population-specific sub-hubs to promote evidence-based, person-centred care for women affected by HIV.