



BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

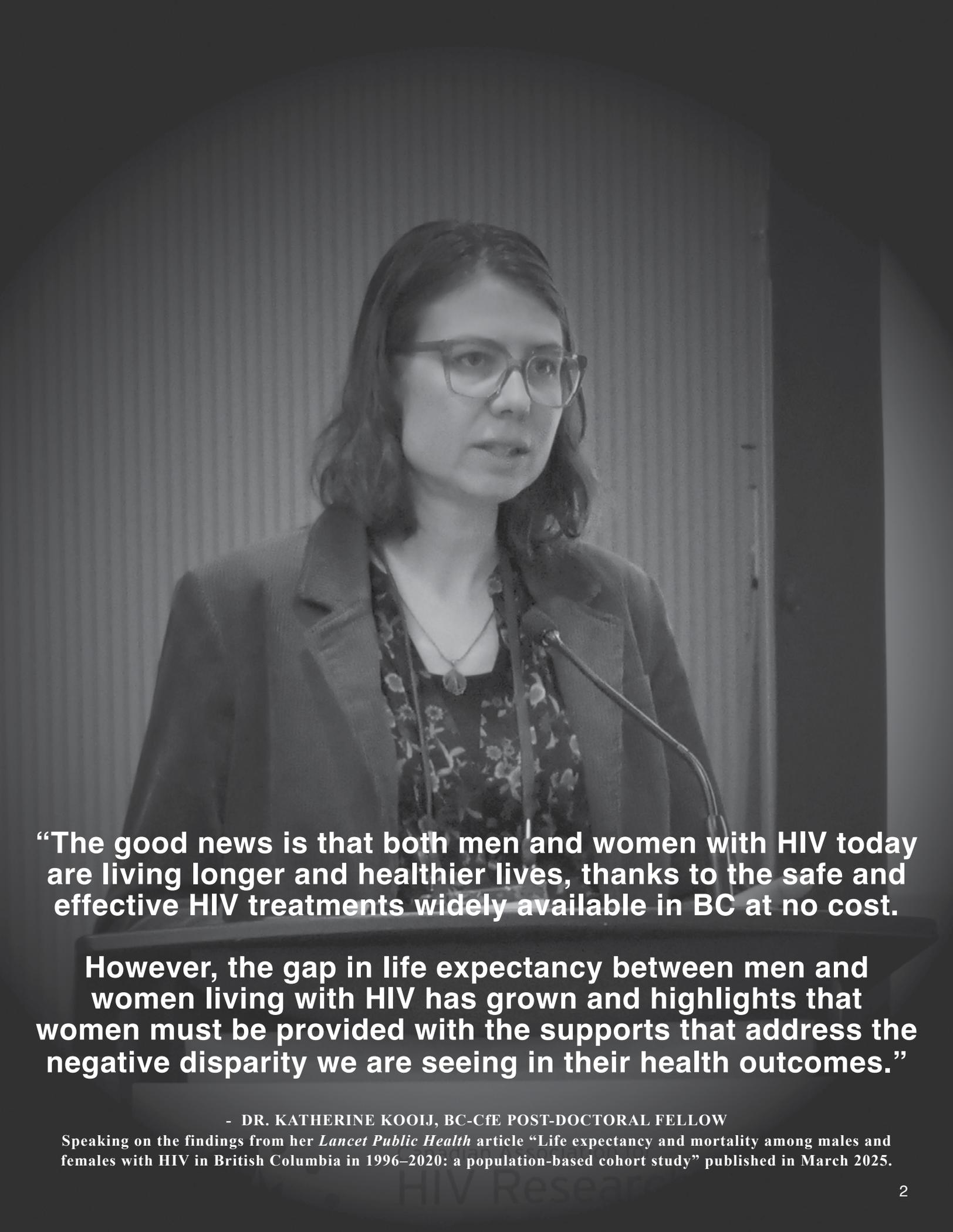


Providence
Health Care

BC CENTRE FOR EXCELLENCE IN HIV/AIDS

KEY OUTPUTS, RESEARCH, POLICY & INNOVATION

REPORTING PERIOD 2024 - Q4 | JANUARY 1 - MARCH 31



“The good news is that both men and women with HIV today are living longer and healthier lives, thanks to the safe and effective HIV treatments widely available in BC at no cost.

However, the gap in life expectancy between men and women living with HIV has grown and highlights that women must be provided with the supports that address the negative disparity we are seeing in their health outcomes.”

- DR. KATHERINE KOOIJ, BC-CfE POST-DOCTORAL FELLOW

Speaking on the findings from her *Lancet Public Health* article “Life expectancy and mortality among males and females with HIV in British Columbia in 1996–2020: a population-based cohort study” published in March 2025.

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GRANTS, AWARDS & FUNDING

BC-CfE 2024 QUARTERLY REPORT | Q4

Dr. Zabrina Brumme and BC-CfE Laboratory

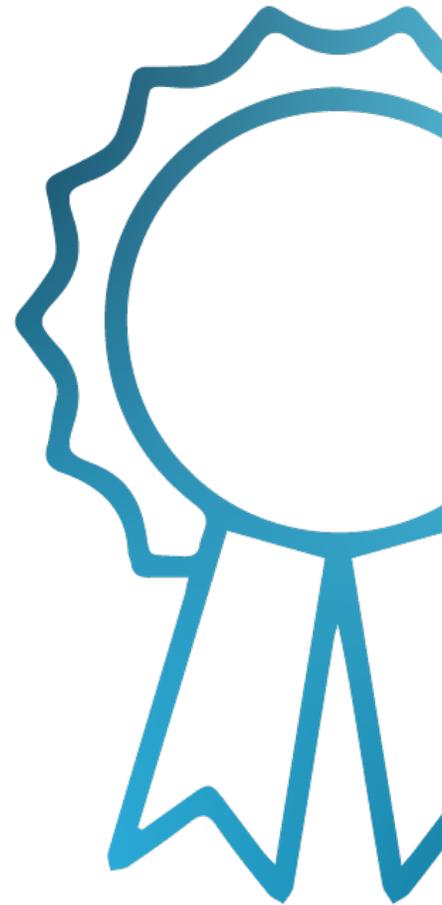
“Canadian HIV Cure Enterprise 3.0: Targeting tissue HIV reservoirs”

CanCURE - Team Grant: Biomedical Research for HIV/AIDS
and STBI - Next-Generation Therapeutic Interventions -
Large Team

\$50,000 (of \$3,750,000 total over five years)

Dr. Robert Hogg

King Charles III Coronation Medal



PRESENTATIONS & EDUCATIONAL SESSIONS

BC-CfE Journal Clubs

Evidence of primary healthcare avoidance and elevated emergency department use in Vancouver cohorts of people who use drugs: Evidence from a Vancouver Coastal Health initiative in integrated healthcare, and work in progress
Nance Cunningham
January 23, 2025

Our Path to Achieving Quality Outcomes for Complex Populations
Dr. Cole Stanley, Angie Semple, and Melissa Bryden
February 27, 2025

AlphaFold and drug discovery
Dr. Ali Mokhtari
March 13, 2025

HIV/AIDS Webinar Learning Series

Update on Vaccines
Dr. Natasha Press
January 22, 2025

Engaging Under-Served Populations in Health Services in the Downtown Eastside
Dr. Kate Salters
February 19, 2025

Syphilis and Doxy-PEP
Dr. Mark Hull
March 19, 2025

BC-CfE Hope to Health Learning Series

Screening, Diagnosing and Managing Sexually Transmitted Infections (STIs)
Dr. Victor Leung
January 15, 2025

Delusions: An informed approach to challenging client interactions
Drs. Michael Mulvey & Galilee Thompson
February 12, 2025

Understanding the evidence base and journey to HPV based self-collection for cervical cancer screening
Dr. Gina Ogilvie
March 12, 2025

External Presentations

ImmunoBC Conference
(Vancouver, BC)
February 20-21, 2025

Poster Presentations

Incidence and probable causes of non-suppressible viremia during antiretroviral therapy in a large population-based cohort of people living with HIV
Fatima Yaseen

Non-suppressible HIV viremia during antiretroviral therapy: genetic composition, evolutionary dynamics and possible cellular sources
Evan Barad

Immunogenetic, clinical, and sociodemographic factors associated with HIV reservoir size and total proviral burden
Maggie Duncan

Conference on Retroviruses and
Opportunistic Infections 2025
(San Francisco, California)
March 9-15, 2025

Poster Presentations

**Longitudinal Renal Safety of a Population-
Level TDF-Based HIV PrEP Program in
British Columbia**

Dr. Junine Toy

**Prevalence of Tetracycline-Resistant
Gonorrhea in British Columbia's HIV
Treatment and PrEP Program**

Dr. Junine Toy

**Characteristics of Persons Diagnosed with HIV
in a Population-Based PrEP Program in British
Columbia**

Raquel Espinoza

**Testing Healthcare System Resilience Using
Microsimulation Modeling Under Various
Shocking Scenarios**

Dr. Viviane Lima

**Understanding the Life Expectancy Sex Gap:
Disparate Patterns in Noncommunicable
Disease Mortality**

Dr. Katherine Kooij

**Prevalence and Risk Factors of HIV Viral Blips
in the NA-ACCORD, 2010-2020**

Dr. Raynell Lang (on behalf of BC-CfE
co-authors)

**A blip or a trend? Interpreting fluctuations in
cognition over time in older adults with HIV**

Dr. Marie-Josée Brouillette (on behalf of
BC-CfE co-authors)

**Obstructive sleep apnea contributes to cognitive
difficulties among older adults with HIV**

Dr. Marie-Josée Brouillette (on behalf of
BC-CfE co-authors)

**HIV-1 post-treatment control occurs despite HLA-
escape mutations in the intact reservoir**

Dr. Efthimios A. Deligiannidis (on behalf of BC-
CfE co-authors)

**CD8+ T cells shape the HIV integration site
landscape according to the degree of T-cell
pressure**

Noemi L. Linden (on behalf of BC-CfE
co-authors)

Other Presentations

Q4 2024 HIV Phylogenetic Monitoring in BC

BC CoP for HIV Phylogenetic Monitoring

Dr. Jeffrey Joy

January 30, 2025

**Phylogenetic Evaluation of Recent North West
Territory HIV Cases**

North West Territories Public Health and the
Public Health Agency of Canada

Dr Jeffrey Joy

January 31, 2025

**HIV Phylogenetic Monitoring in Manitoba:
preliminary analysis of integrase resistance**

Manitoba Public Health and the Public Health
Agency of Canada

Dr Jeffrey Joy

February 20, 2025

**HIV Phylogenetic Monitoring in Manitoba:
resistance and multijurisdictional influences**

Manitoba Public Health and the Public Health
Agency of Canada

Dr Jeffrey Joy

February 27, 2025

**Quarterly update on phylogenetic monitoring in
Saskatchewan**

Saskatchewan Community of Practice for HIV
Phylogenetic Monitoring

Dr Jeffrey Joy

March 12, 2025

Team-Based Quality Improvement to Improve Care for Our Clients with Alcohol Use Disorder
Quality Forum Conference (Health Quality BC)
Dr. Cole Stanley
March 13, 2025

Machine learning automation of Bayesian phylogenetic inference evaluation
Bioinformatics, Interdisciplinary Oncology and Genome Science + Technology Conference 25
Guili Sucar
March 20, 2025

Molecular Epidemiology of HIV in New Brunswick: cluster of concern update
New Brunswick Public Health
Dr. Jeffrey Joy
March 21, 2025

Phylogenetic and functional explorations of cases of Nonsuppressible viremia during ART
NIH REACH Martin Delaney Collaboratory 2025 meeting
Dr. Zabrina Brumme
March 27, 2025

PEER-REVIEWED JOURNAL ARTICLES & BOOK PUBLICATIONS

PUBLICATIONS

1: Harris M. Injectable antiretrovirals: real world or ideal world? *Lancet HIV*. 2025 Jan;12(1):e5-e6. doi: 10.1016/S2352-3018(24)00304-7. PMID: 39779045.

2: Marathe G, Moodie EE, Brouillette MJ, Delaunay CL, Cox J, Cooper C, Martel-Laferrrière V, Hull M, Wong A, Walmsley S, Klein MB; Canadian Co-Infection Cohort. Effect of depressive symptoms on health services utilization in the HIV and hepatitis C co-infected population in Canada. *AIDS Care*. 2025 Feb;37(2):226-232. doi: 10.1080/09540121.2024.2432801. Epub 2024 Dec 25. PMID: 39722438.

3: Juwono S, Flores Anato JL, Kirschbaum AL, Metheny N, Dvorakova M, Skakoon-Sparling S, Moore DM, Grace D, Hart TA, Lambert G, Lachowsky NJ, Jollimore J, Cox J, Maheu-Giroux M. Prevalence, Determinants, and Trends in the Experience and Perpetration of Intimate Partner Violence Among a Cohort of Gay, Bisexual, and Other Men Who Have Sex with Men in Montréal, Toronto, and Vancouver, Canada (2017-2022). *LGBT Health*. 2025 Jan;12(1):37-50. doi: 10.1089/lgbt.2023.0265. Epub 2024 Jun 11. PMID: 38860358.

4: Azar P, Kim JJ, Davison R, Barazanci Z, Ignaszewski MJ, Wong JSH, Machado J, Harris M, Krausz M, Mathew N, Herring A, Montaner JSG. Case series: Symptom-inhibited fentanyl induction (SIFI) onto treatment-dose opioid agonist therapy in a community setting. *Am J Addict*. 2025 Feb 18. doi: 10.1111/ajad.70011. Epub ahead of print. PMID: 39966997.

PUBLICATIONS

5: Naidu N, Kooij KW, Budu M, Ye M, Lu M, Ding E, McClean A, Guillemi S, Hull M, Barrios R, Montaner JSG, Hogg RS. Exploring the role of sex in hospitalizations among people with and without HIV in British Columbia, Canada. *AIDS*. 2025 May 1;39(6):737-745. doi: 10.1097/QAD.0000000000004135. Epub 2025 Jan 30. PMID: 39888869; PMCID: PMC11968221.

6: Popovic N, Yang Q, Campeau L, Elliott J, Williams A, Lima VD, Sereda P, Cox J. The prevalence of HIV pre-exposure prophylaxis (HIV-PrEP) use and HIV-PrEP-to-need ratio in nine Canadian provinces, 2018-2021. *Can Commun Dis Rep*. 2025 Jan 2;51(1):35-42. doi: 10.14745/ccdr.v51i01a05. PMID: 39781235; PMCID: PMC11709143.

7: Truscello E, Wang S, Young J, Sebastiani G, Walmsley SL, Hull M, Cooper C, Klein MB. Changes in Hepatic Steatosis Before and After Direct-Acting Antiviral Treatment in People With HIV and Hepatitis C Coinfection. *J Infect Dis*. 2025 Feb 4;231(1):e101-e112. doi: 10.1093/infdis/jiae487. PMID: 39417816; PMCID: PMC11793071.

8: Marziali ME, Hansen S, Kooij KW, Budu M, Ye M, Tam C, McLinden T, Emerson SD, Montaner JSG, Parashar S, Hogg RS. Housing matters: The long-term impact of stable housing on mortality among people with HIV in British Columbia, Canada. *Soc Sci Med*. 2025 Feb;367:117713. doi: 10.1016/j.socscimed.2025.117713. Epub 2025 Jan 19. PMID: 39874840; PMCID: PMC11888790.

9: Mudhikwa CV, Salters K, Kooij KW, McLinden T, Emerson SD, Ye M, Li J, Tam C, Nicholson V, Hogg RS, Closson K. Experiences of violence and hospitalization rates among people living with HIV in British Columbia, Canada. *AIDS Care*. 2025 Mar;37(3):384-395. doi: 10.1080/09540121.2025.2453126. Epub 2025 Jan 28. PMID: 39873139.

10: Aran N, Ye M, Chia J, Card KG, Kooij KW, Trevorrow RM, Guillemi S, Nicholson V, Hogg RS. Difference in healthcare utilization trends associated with suicide death in people living with and without HIV in British Columbia, Canada, from 1998 to 2020. *AIDS Care*. 2025 Mar 5:1-10. doi: 10.1080/09540121.2025.2468965. Epub ahead of print. PMID: 40043191.

11: Kooij KW, Zhang W, Trigg J, Cunningham N, Budu MO, Marziali ME, Dias Lima V, Salters KA, Barrios R, Montaner JSG, Hogg RS. Life expectancy and mortality among males and females with HIV in British Columbia in 1996-2020: a population-based cohort study. *Lancet Public Health*. 2025 Mar;10(3):e228-e236. doi: 10.1016/S2468-2667(24)00304-9. Epub 2025 Feb 6. PMID: 39923778; PMCID: PMC11924645.

12: Marziali ME, Kooij KW, Martins SS, Philbin MM, Montaner JSG, Hogg RS. Removing barriers to care: The importance of addressing nonfatal overdoses among women living with HIV in British Columbia, Canada. *Can J Public Health*. 2025 Mar 31. doi: 10.17269/s41997-025-01026-4. Epub ahead of print. PMID: 40164804.

13: Budu MO, Kooij KW, Heath K, McLinden T, Cardinal C, Emerson SD, Sereda P, Trigg J, Li J, Ding E, Hull MW, Salters K, Lima VD, Barrios R, Montaner JSG, Hogg RS; COAST Study Team. Cohort Profile Update: Reflecting back and looking ahead: Updating the Comparative Outcomes and Service Utilization Trends (COAST) Study to include 28 years of

linked data from people with and without HIV in British Columbia, Canada. *Int J Popul Data Sci*. 2025 Mar 6;10(1):2496. doi:10.23889/ijpds.v10i1.2496. PMID: 40110112; PMCID: PMC11922098.

14: Montaner JSG, Lima VD, Salters KA, Toy J, Joy JB, Guillemi S, Barrios R. Generalized Treatment as Prevention Plus Focused Pre-Exposure Prophylaxis Is the Key to Controlling HIV/AIDS. *Trop Med Infect Dis*. 2025 Mar 12;10(3):75. doi: 10.3390/tropicalmed10030075. PMID: 40137828; PMCID: PMC11945595.

15: Tam C, Zhang W, Moore D, Salters K, Trigg J, Wesseling T, Parashar S, McLinden T, Sereda P, McDougall P, Moher M, Montaner JSG, Hogg R, Barrios R. Impacts of overdose and socio-structural factors on recent mortality among people living with HIV in British Columbia, Canada. *AIDS*. 2025 Feb 24. doi: 10.1097/QAD.0000000000004158. Epub ahead of print. PMID: 39992124.

16: Shayegi-Nik S, Wang L, Magee C, Li J, Budu M, Kooij K, Honer WG, Hogg RS, Montaner JSG, Lima VD. Healthcare utilisation in people living with HIV: the role of substance use, mood/anxiety disorders and unsustained viral suppression - a retrospective cohort study in British Columbia, Canada, 2001-2019. *BMJ Open*. 2025 Mar 5;15(3):e088818. doi: 10.1136/bmjopen-2024-088818. PMID: 40044190; PMCID: PMC11883530.

17: Hannigan A, Krishnan N, Singh K, Bytelaar S, Schmitz D, Bartlett S, Hall D, Barrios R, Montaner JSG, Harris M, Hull MW, Salters KA. Scaling up hepatitis C testing and linkage-to-care among people who use drugs: lessons learned from a pilot project implemented at a supervised consumption site. *BMC Health Serv Res*. 2025 Feb 13;25(1):243. doi: 10.1186/s12913-025-12374-9. PMID: 39948586; PMCID: PMC11823232.

18: Mahmud R, Krullaars Z, van Osch J, Rickett D, Brumme ZL, Hensley KS, Rokx C, Gruters RA, van Kampen JJA, Mesplède T. Computational and Population-Based HLA Permissiveness to HIV Drug Resistance-Associated Mutations. *Pathogens*. 2025 Feb 20;14(3):207. doi: 10.3390/pathogens14030207. PMID: 40137693; PMCID: PMC11944876.

19: Rai MA, Blazkova J, Kardava L, Justement JS, Shi V, Manning MR, Shahid A, Dong W, Kennedy BD, Sewack AB, Higgins J, Buckner CM, Gittens K, West RE 3rd, Devanathan AS, Mangusan R, Lurain K, Ramaswami R, Yarchoan R, Sneller MC, Pau AK, Brumme ZL, Moir S, Chun TW. Sustained virologic suppression of multidrug-resistant HIV in an individual treated with anti-CD4 domain 1 antibody and lenacapavir. *Nat Med*. 2025 Feb;31(2):427-432. doi: 10.1038/s41591-024-03357-0. Epub 2025 Jan 3. PMID: 39753965.

20: Grennan T, Mohammed S, Edward J, Tattersall T, Gupta AK, Seto J, Dennehy M, Romney MG, Zhang W, Li J, Trigg J, Lima VD, Juwono S, Wong J, Zhang G, Montaner JSG, Hull MW. A pilot, randomized controlled trial of Dual Daily HIV and sexually transmitted infection pre-exposure prophylaxis using tenofovir disoproxil fumarate/emtricitabine and doxycycline in gay, bisexual and other men who have sex with men and transgender women: The DuDHS Study. *Clin Infect Dis*. 2025 Jan 30:ciaf043. doi: 10.1093/cid/ciaf043. Epub ahead of print. PMID: 39882974.

21: Shahid A, Jones BR, Duncan MC, MacLennan S, Dapp MJ, Kuniholm MH, Aouizerat B, Archin NM, Gange S, Ofotokun I, Fischl MA, Kassaye S, Goldstein H, Anastos K, Joy JB, Brumme ZL. A simple phylogenetic approach to analyze hypermutated HIV proviruses reveals insights into their dynamics and persistence during antiretroviral therapy. *Virus Evol*. 2024 Nov 11;11(1):veae094. doi: 10.1093/ve/veae094. PMID: 39802824; PMCID: PMC11724191.

22: Wallace HL, Wight J, Baz M, Dowding B, Flamand L, Hobman T, Jean F, Joy JB, Lang AS, MacParland S, McCormick C, Noyce R, Russell RS, Sagan SM, Snyman J, Rzeszutek GJ, Jafri MS, Bogoch I, Kindrachuk J, Rasmussen AL. Longitudinal screening of retail milk from Canadian provinces reveals no detections of influenza A virus RNA (April-July 2024): leveraging a newly established pan-Canadian network for responding to emerging viruses. *Can J Microbiol*. 2025 Jan 1;71:1-7. doi: 10.1139/cjm-2024-0120. Epub 2024 Sep 27. PMID: 39332021.

23: Kerkerian G, Fernandez Ruiz E, Stanley C, Funaro R, Mitchell EJT, MacIsaac JK. Improving screening rates for sexually transmitted and blood-borne infections among patients initiating care in a low-barrier addiction medicine clinic: a quality improvement project. *BMJ Open Qual*. 2025 Mar 12;14(1):e003088. doi: 10.1136/bmjopen-2024-003088. PMID: 40081854; PMCID: PMC11906981.

24: Eyawo O, Lyzwinski LN, Ugoji UC, Pan S, Sorkpor SK, Tawari-Fufeyin P, Hogg RS. Adherence to tuberculosis (TB) treatment in high compared to low TB burden countries: study protocol for a systematic review and meta-analysis with a qualitative meta-synthesis of themes. *BMJ Open*. 2025 Jan 25;15(1):e089507. doi: 10.1136/bmjopen-2024-089507. PMID: 39863402; PMCID: PMC11784167.

25: Adam BD, Monteza-Quiroz D, Hart TA, Skakoon-Sparling S, Moore DM, Zhang T, Gormezano A, Grace D. Inequitable access to PrEP among gay, bisexual, and other men who have sex with men in Canada: A network analysis of social indicators. *SSM Popul Health*. 2025 Mar 10;30:101771. doi: 10.1016/j.ssmph.2025.101771. PMID: 40177026; PMCID: PMC11964654.

26: Ye Q, Wu L, Lima VD. Jointly modeling means and variances for nonlinear mixed effects models with measurement errors and outliers. *Biometrics*. 2025 Jan 7;81(1):ujaf018. doi: 10.1093/biomtc/ujaf018. PMID: 40094164.

Mpox letter to DTP prescribers

January 2025



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