



BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

HIV MONITORING QUARTERLY REPORT **FOR BRITISH COLUMBIA**

FOURTH QUARTER 2016



BC Centre for Disease Control
An agency of the Provincial Health Services Authority



First Nations Health Authority
Health through wellness



fraserhealth



Interior Health
Every person matters



island health



northern health
the northern way of caring



How you want to be treated.



Promoting wellness. Ensuring care.

Foreword

As part of the BC Centre for Excellence (BC-CFE) in HIV/AIDS's mandate to evaluate the outcomes of STOP HIV/AIDS programming in BC, we have developed quarterly HIV/AIDS monitoring reports. These reports provide up-to-date data on a variety of key HIV-related surveillance and treatment indicators. Selection of these indicators was achieved through a collaborative process with various Health Authority (HA) representatives. There are six reports in total, one for each HA and one for the province of BC as a whole. In addition, there is a technical report which explains how each HIV indicator is calculated. Data used in these reports come from the British Columbia Centre for Disease Control (BCCDC), MSP billings, hospitalization data from the Discharge Abstract Database, the Sunquest Laboratory database at the Provincial Public Health Microbiology and Reference Laboratory, Providence Health Care laboratory, BC Vital Statistics, and the BC-CFE Drug Treatment Program (DTP) Database.

The objectives of these reports are to:

1. Provide timely HA-specific information on key HIV indicators which will guide and inform HIV leaders and innovators in the development of future HIV interventions and programs which will ultimately lead to decreasing the burden of HIV in BC. The indicators will reflect ongoing or past successful public health interventions and highlight areas in the HIV care spectrum which require further attention and support.
2. Highlight limitations in our current data due to incomplete or time lagged data and to develop future strategies to improve complete and timely data capture.

These reports are produced for the benefit of individual HA's. As such, we are enthusiastic about your involvement and cooperation regarding the development of these monitoring reports. Please forward your comments and queries to Irene Day, Director of Operations at the BC-CFE at iday@cfenet.ubc.ca.

List of Indicators

Indicator 1. HIV Testing Episodes

Indicator 2. HIV Testing Rate

Indicator 3. New HIV Diagnoses

Indicator 4. Stage of HIV Infection at Diagnosis

Indicator 5. HIV Cascade of Care

Indicator 6. Programmatic Compliance Score (PCS)

Indicator 7. New Antiretroviral Therapy Starts

Indicator 8. CD4 Cell Count at ART Initiation

Indicator 9. Active and Inactive Drug Treatment Program (DTP) Participants

Indicator 10. Antiretroviral Adherence

Indicator 11. Resistance Testing and Results

Indicator 12. AIDS-Defining Illness

Indicator 13. HIV-Related Mortality

Table of Contents

Acknowledgements and Contributions

BC Provincial STOP Program:

A Note on Monitoring and Interpreting Hiv Indicators

Indicator 1 Hiv Testing Episodes *All HIV Testing Episodes reflect non-prenatal tests. All prenatal tests have been removed.*

- Figure 1.1 Hiv Test Episodes for BC, 2012 Q1–2016 Q4
- Figure 1.2 Hiv Test Episodes for BC by Gender, 2012 Q1–2016 Q4
- Figure 1.3 Hiv Test Episodes for BC by Age Category, 2012 Q1–2016 Q4
- Figure 1.4 Point-of-Care Hiv Tests for BC, 2012 Q1–2016 Q4
- Figure 1.5 Hiv Test Episodes by Health Authority for BC, 2012 Q1–2016 Q4
- Figure 1.6 Hiv Test Episodes for Non-Prenatal Females in BC by Health Authority, 2012 Q1–2016 Q4
- Figure 1.7 Hiv Test Episodes for Males in BC by Health Authority, 2012 Q1–2016 Q4

Indicator 2 Hiv Testing Rates *All HIV Testing Rates reflect non-prenatal tests. All prenatal tests have been removed.*

- Figure 2.1 Rate of Hiv Testing for BC and Health Authorities, 2009–2015
- Figure 2.2 Rate of Hiv Testing for BC by Gender, 2009–2015
- Figure 2.3 Rate of Hiv Testing for BC by Age Category, 2009–2015

Indicator 3 New Hiv Diagnoses

- Figure 3.1 New Hiv Diagnoses for BC, 2012 Q1–2016 Q4
- Figure 3.2 New Hiv Diagnoses for BC by Gender, 2012 Q1–2016 Q4
- Figure 3.3 New Hiv Diagnoses for BC by Age Category, 2012 Q1–2016 Q4
- Figure 3.4 New Hiv Diagnoses for BC by Exposure Category, 2012 Q1–2016 Q2
- Figure 3.5 New Hiv Diagnoses for BC by Health Authority, 2012 Q1–2016 Q4

Indicator 4 Stage of Hiv Infection at Diagnosis *Stage definitions have been altered to remove AIDS diagnosis data. Individuals previously classified as Stage 3 have been re-classified based on CD4 cell count.*

- Table 1 Staging Classifications of Infection at Time of Hiv Diagnosis Based on CDC Hiv Surveillance Case Definitions
- Figure 4.1 Stage of Hiv Infection at Diagnosis for BC, 2011–2015
- Figure 4.2 Stage of Hiv Infection at Diagnosis for BC by Gender, 2011–2015
- Figure 4.3 Stage of Hiv Infection at Diagnosis for BC by Age Category, 2011–2015
- Figure 4.4 Stage of Hiv Infection at Diagnosis for BC by Exposure Category, 2011–2015

Indicator 5 Hiv Cascade of Care

- Figure 5.1 Estimated Cascade of Care for BC, Year Ending 2016 Q4
- Figure 5.2 Estimated Cascade of Care for BC by Gender, Year Ending 2016 Q4
- Figure 5.3 Estimated Cascade of Care for BC by Age Category, Year Ending 2016 Q4
- Figure 5.4 Estimated Cascade of Care for BC by MSM Status, Year Ending 2016 Q4

Figure 5.5	Estimated Cascade of Care for BC by Age Category and MSM Status, Year Ending 2016 Q4
Figure 5.6	Estimated Cascade of Care for BC by PWID Status, Year Ending 2016 Q4
Figure 5.7	Estimated Cascade of Care for BC by Health Authority, Year Ending 2016 Q4
Indicator 6	Programmatic Compliance Score (PCS)
Table 2	Probability of Mortality, Immunologic Failure and Virologic Failure Based on the Programmatic Compliance Score
Figure 6.1	PCS Components for BC, 2015 Q1–2016 Q4 <ul style="list-style-type: none"> Less than 3 CD4 Tests in First Year Less than 3 Viral Load Tests in First Year Not Having Drug Resistance Testing at Baseline Non-Recommended Antiretroviral Therapy Regimen (ART) Baseline CD4 < 200 cells/μL Not Achieving Viral Suppression at 9 Months
Figure 6.2	Historical Trends for PCS Score for BC, 2015 Q1–2016 Q4
Indicator 7	New Antiretroviral Therapy Starts in BC
Figure 7	BC-CfE Drug Treatment Program Enrollment: New Antiretroviral Participants for BC, 2015 Q1–2016 Q4
Indicator 8	CD4 Cell Count at ART Initiation
Figure 8	CD4 Cell Count at ART Initiation for BC, 2015 Q1–2016 Q4
Indicator 9	Active and Inactive Drug Treatment Program (DTP) Participants
Table 3	Distribution of People on ART in BC, 2016 Q4
Figure 9	Active and Inactive DTP Participants for BC, 2015 Q1–2016 Q4
Indicator 10	Antiretroviral Adherence
Figure 10	Distribution of Individuals by Adherence Level in 1st Year of Therapy, Based on Pharmacy Refill Compliance for BC, 2015 Q1–2016 Q4
Indicator 11	Resistance Testing and Results
Figure 11	Cumulative Resistance Testing Results by Resistance Category for BC, 2015 Q1–2016 Q4
Indicator 12	AIDS-Defining Illness
Figure 12	AIDS Case Rate and Reports for BC, 2008–2015
Indicator 13	HIV-Related Mortality
Figure 13	HIV-Related Deaths by Year for BC, 2004–2011

Acknowledgements and Contributions



BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

British Columbia Centre for Excellence in HIV/AIDS (BC-CFE): The BC-CFE is responsible for the conception, preparation and ongoing review of this quarterly report. The BC-CFE provides the data and outputs for Indicators 5 (Hiv Cascade of Care), 6 (Programmatic Compliance Score), 7 (New Antiretroviral Starts), 8 (CD4 Cell Count at ART Initiation), 9 (Active and Inactive Drug Treatment Program Participants), 10 (Antiretroviral Adherence Level), 11 (Resistance Testing Results by Resistance Category), 12 (AIDS-Defining Illness), and 13 (HIV-Related Mortality). The BC-CFE database provides PVL and CD4 cell count testing data, as well as ART use. All PVL measurements in BC are performed at the St Paul's Hospital virology laboratory, thus PVL data capture is 100%. An estimated 80% of all CD4 count measurements performed in the province are captured in the BC-CFE data holdings. The STOP HIV/AIDS Technical Monitoring Committee–BC-CFE is responsible for oversight of the monitoring report. James Nakagawa is responsible for compiling and publishing this report. Lilith Swetland is the editor of this report. Paul Sereda, Dr. Viviane Lima and Nada Gataric perform analysis of Indicators 5–13. This report was conceived and guided by Dr. Julio Montaner.



BC Centre for Disease Control
An agency of the Provincial Health Services Authority

British Columbia Centre for Disease Control (BCCDC): The BCCDC provides the data and outputs for Indicator 1 (Hiv Testing Episodes), Indicator 2 (Hiv Testing Rate), Indicator 3 (New Hiv Diagnoses), Indicator 4 (Stage of Hiv at Diagnosis) and Indicator 12 (AIDS-Defining Illness). The BCCDC is the single provincial agency that centralizes all HIV surveillance through the Public Health Microbiology and Reference Laboratory, which does more than 90% of all HIV screening tests in BC and all confirmatory testing. Olga Mazo, Theodora Consolacion and Dr. Jason Wong are responsible for outputs for Indicators 1–4.

Other Data Sources:

The above databases were supplemented with:

- (I) The BC Vital Statistics database which was used to calculate Indicator 5. The Hiv Cascade of Care and Indicator 13. Hiv-Related Mortality.
- (II) Linkage and preparation of the de-identified individual-level database used for calculating Indicator 5. The Hiv Cascade of Care was facilitated by the British Columbia Ministry of Health.
- (III) The Statistics Canada database: BC and HIV-positive population counts were acquired through the statistics Canada website to calculate HIV-specific mortality rates for Indicator 13. Hiv-Related Mortality.

Membership of the STOP HIV/AIDS Technical Monitoring Committee–BC-CfE

Dr. Rolando Barrios, *Chair*, BC-CfE

Dr. Kate Heath, BC-CfE

Dr. Bohdan Nosyk, BC-CfE

Dr. Viviane Dias Lima, BC-CfE

Irene Day, BC-CfE

Dr. Jean Shoveller, BC-CfE

Dr. Jason Wong, BCCDC

Dr. Mel Krajden, BCCDC

Salman Klar, FHA

Gillian Frosst, IHA

Kari Harder, NHA

Dr. Neora Pick, PHSA

Dr. Reka Gustafson, VCHA

Dr. Melanie Rusch, VIHA

Robert Parker, FNHA

The Seek and Treat for Optimal Prevention (STOP) HIV/AIDS BC Provincial Program: A Note on Monitoring and Interpreting HIV Indicators

The Seek and Treat for Optimal Prevention (STOP) of HIV/AIDS programme is a provincial initiative to improve HIV diagnosis and care delivery in BC through increased HIV-specific funding to all Health Service Delivery Areas (HSDA's) across BC. The STOP provincial programme is an expansion of a four-year STOP pilot project which was implemented in two Health Service Delivery Areas in March 2010; the Vancouver HSDA which bears the largest burden of the HIV epidemic in the province and the Northern Interior HSDA which bears a high burden of HIV-related mortality. The STOP pilot project demonstrated the urgent need for improved efforts in early diagnosis of HIV and timely initiation of antiretroviral therapy (ART) initiation.

The expansion to a province-wide programme was announced on November 30th, 2013 by the BC Ministry of Health with roll out of funding beginning on April 1st, 2013. This funding is intended to be used in the implementation and evaluation of HIV-related diagnosis and care initiatives within individual HA's. Goals of the project include: 1. A reduction in the number of new HIV infections in BC; 2. Improvements in the quality, effectiveness, and reach of HIV prevention services; 3. An increase in early diagnosis of HIV; 4. A reduction in AIDS cases and HIV-related mortality.

The goals of HA-led STOP-funded initiatives are to work toward achieving these goals. To these ends some outcome measures or indicators of progress have been drafted that should be considered in the design and implementation phases of these initiatives.

HIV Testing Episodes and Rates

In this section, the number of HIV test episodes and point of care (POC) HIV tests conducted each quarter in BC is shown. In general terms the goal is to increase the number of tests performed and to maximize testing efficiency. Test episodes are allocated by region according to where the test is performed.

Indicator 1. HIV Testing Episodes

Figure 1.1 HIV Test Episodes for BC

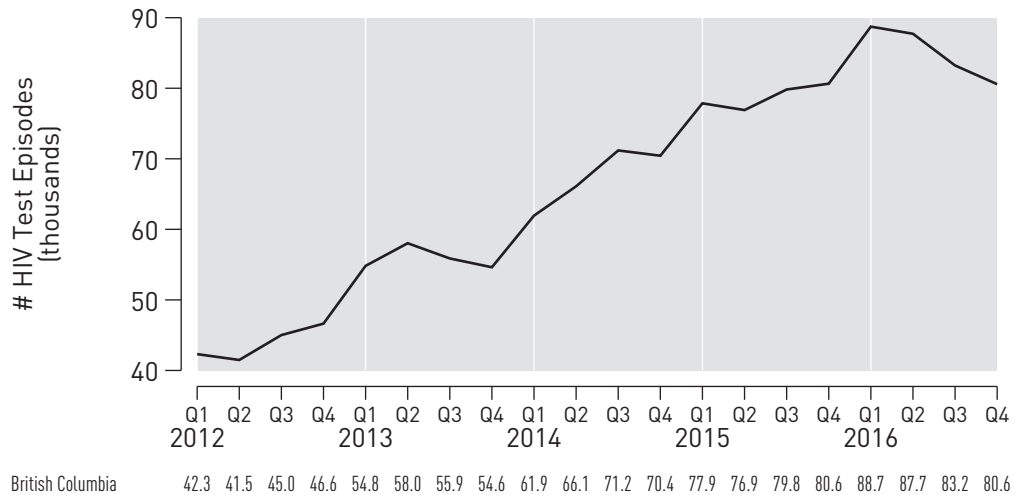


Figure 1.2 HIV Test Episodes by Gender for BC ¹

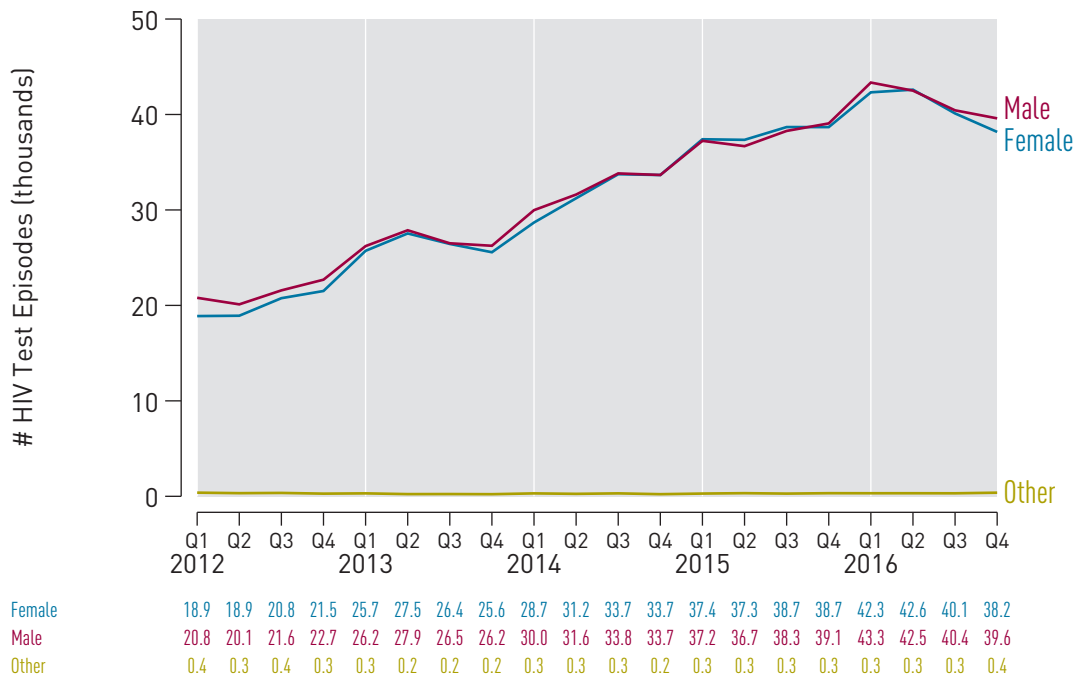


Figure 1.3 HIV Test Episodes by Age Category for BC ^{1,2}

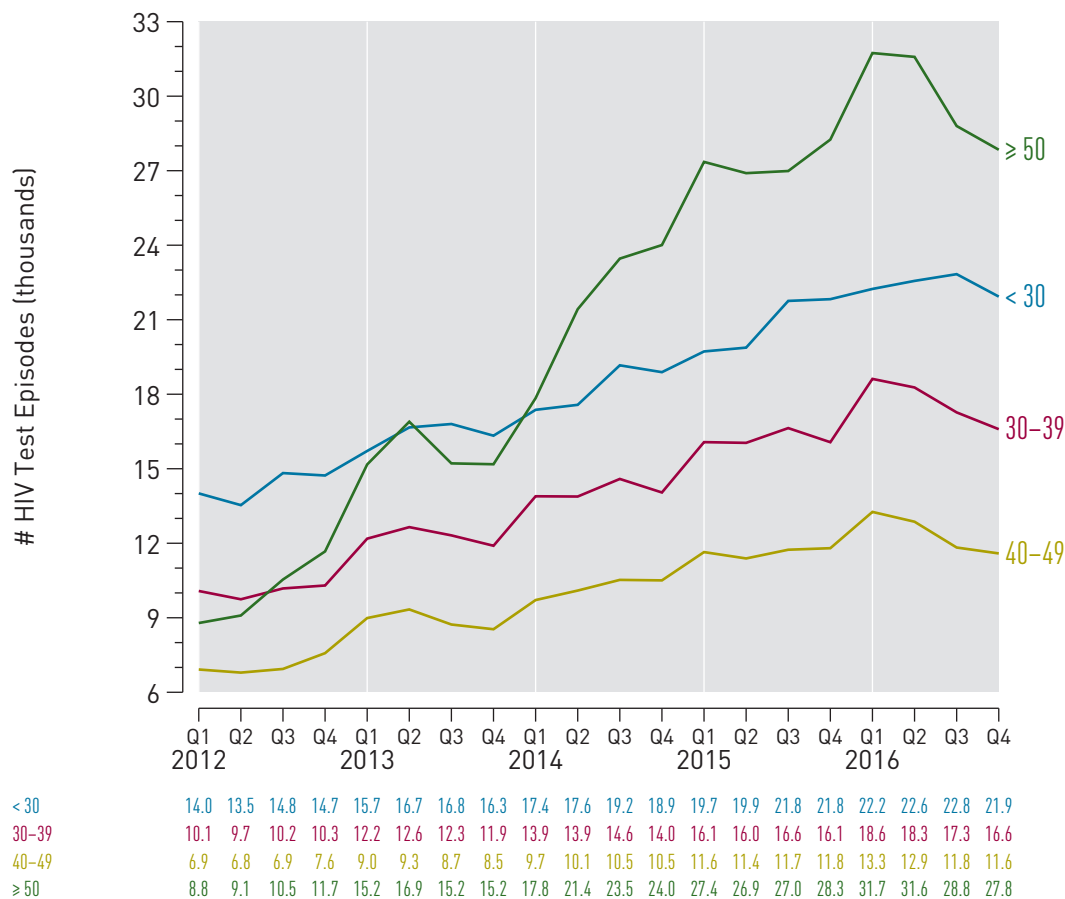
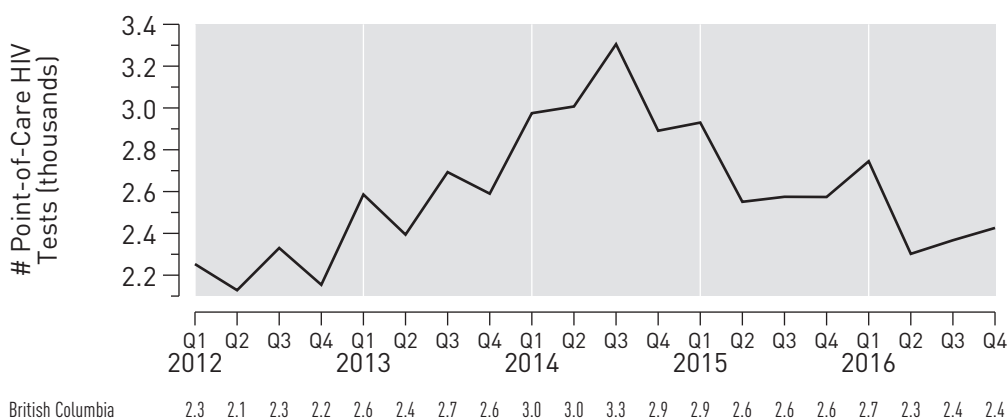


Figure 1.4 Point-of-Care HIV Tests for BC



1 Data Source: The BC Public Health Microbiology and Reference Laboratory (BCPHMRL) courtesy of the BC Centre for Disease Control (BCCDC). HIV screening tests conducted by the VHA Laboratory are not included.

Limitation: Repeat tests in individuals who test using various identifiers may not be identified and these individuals may be counted more than once.

2 Testing does not include point of care tests.

Figure 1.5 HIV Test Episodes for BC by Health Authority ¹

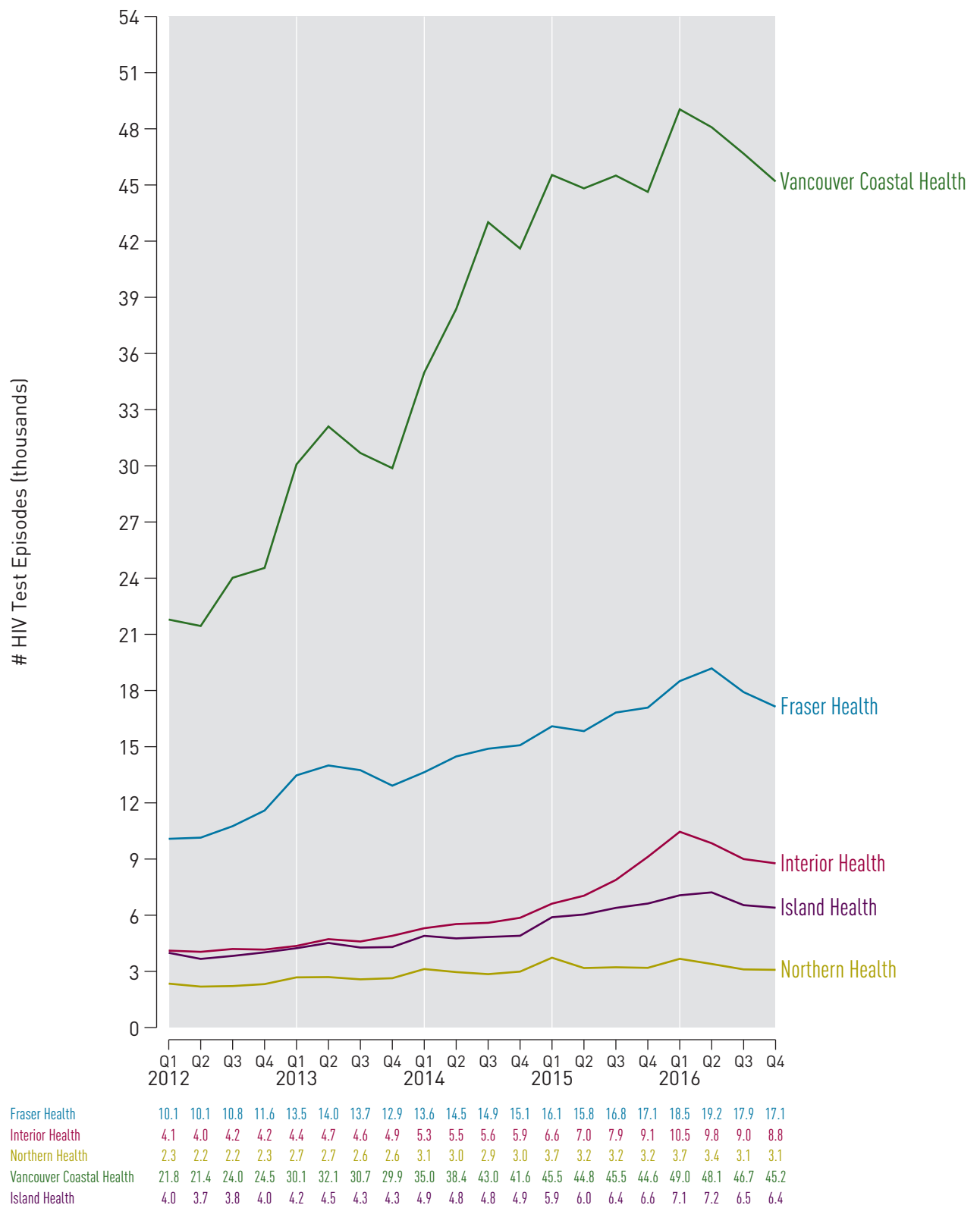


Figure 1.6 HIV Test Episodes for Non-prenatal Females in BC by Health Authority ¹

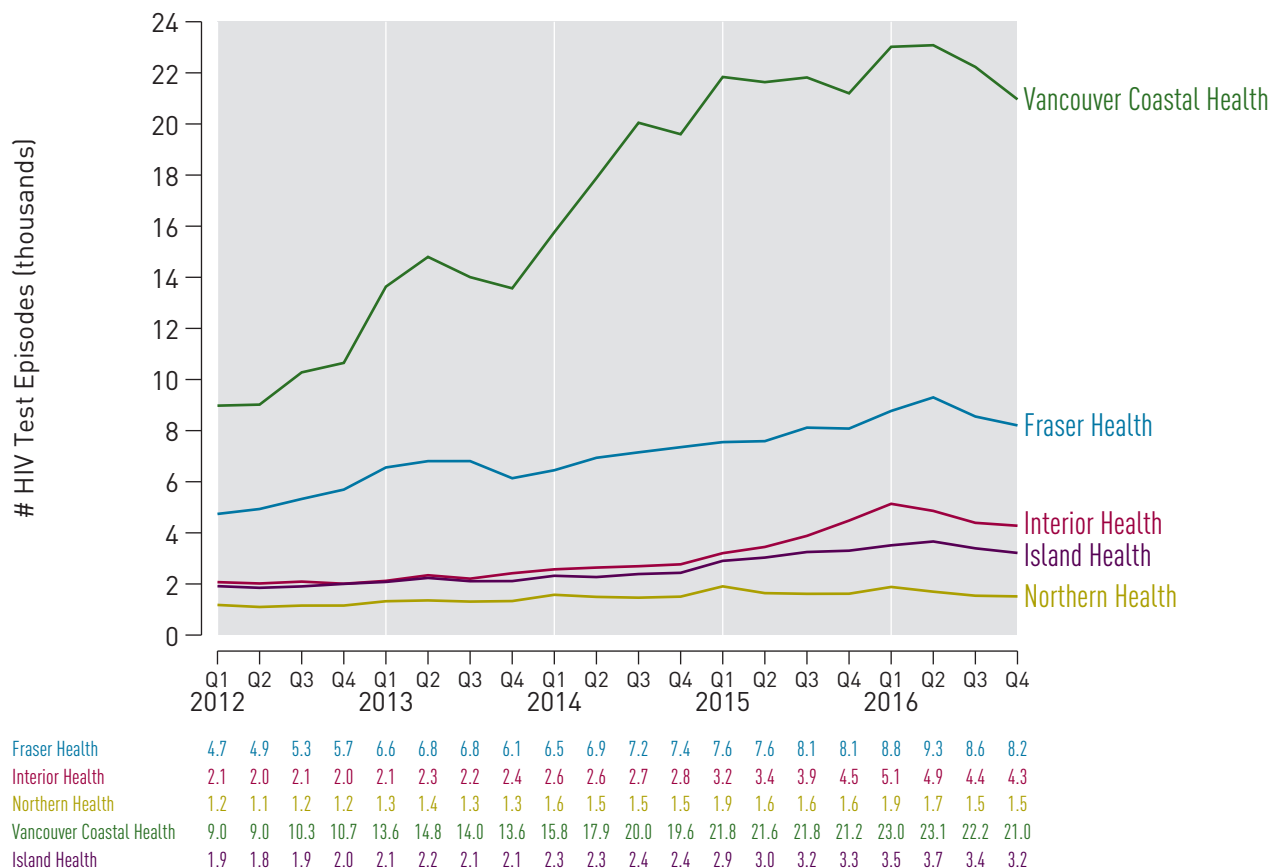
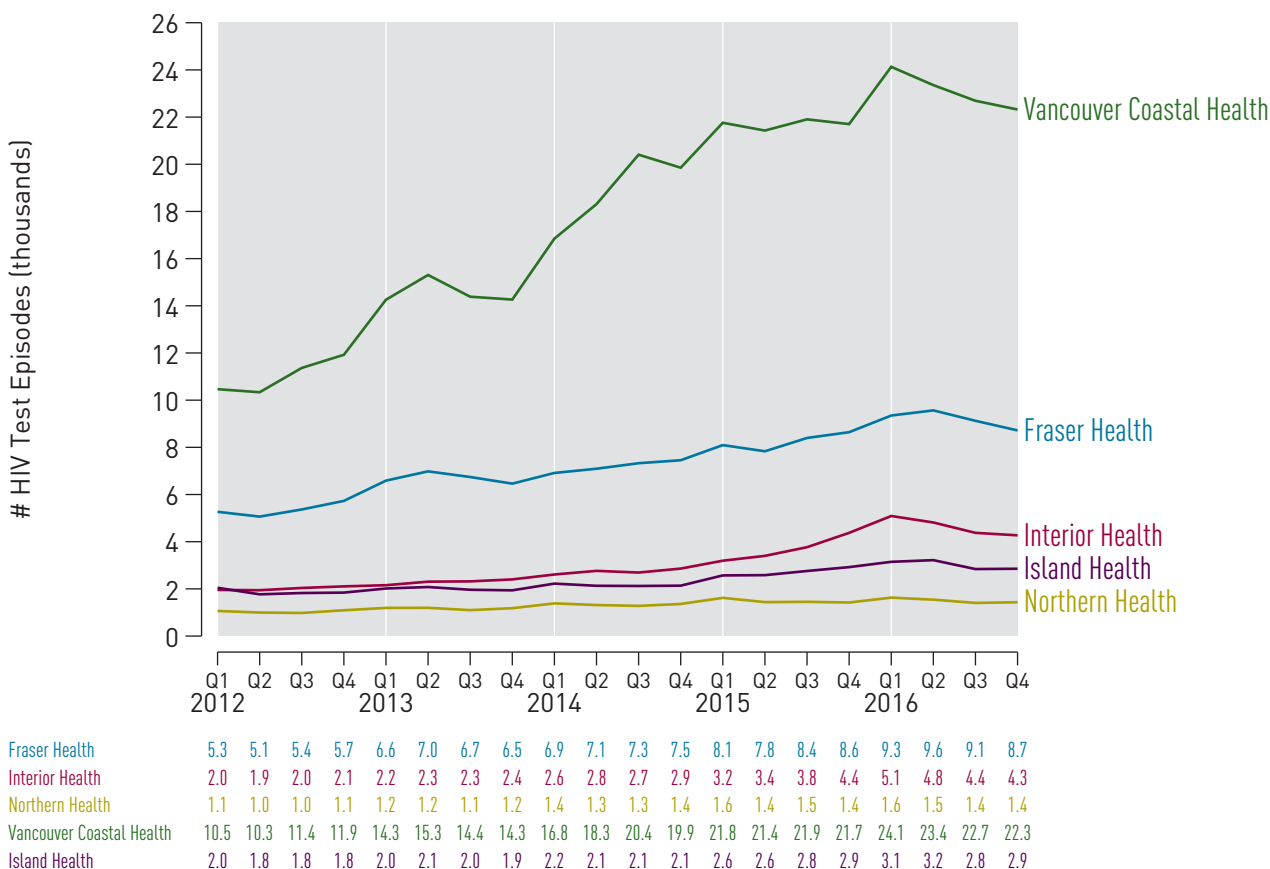


Figure 1.7 HIV Test Episodes for Males in BC by Health Authority ¹



Indicator 2. HIV Testing Rates

Figure 2.1 Rate of HIV Testing for BC and Health Authorities ²

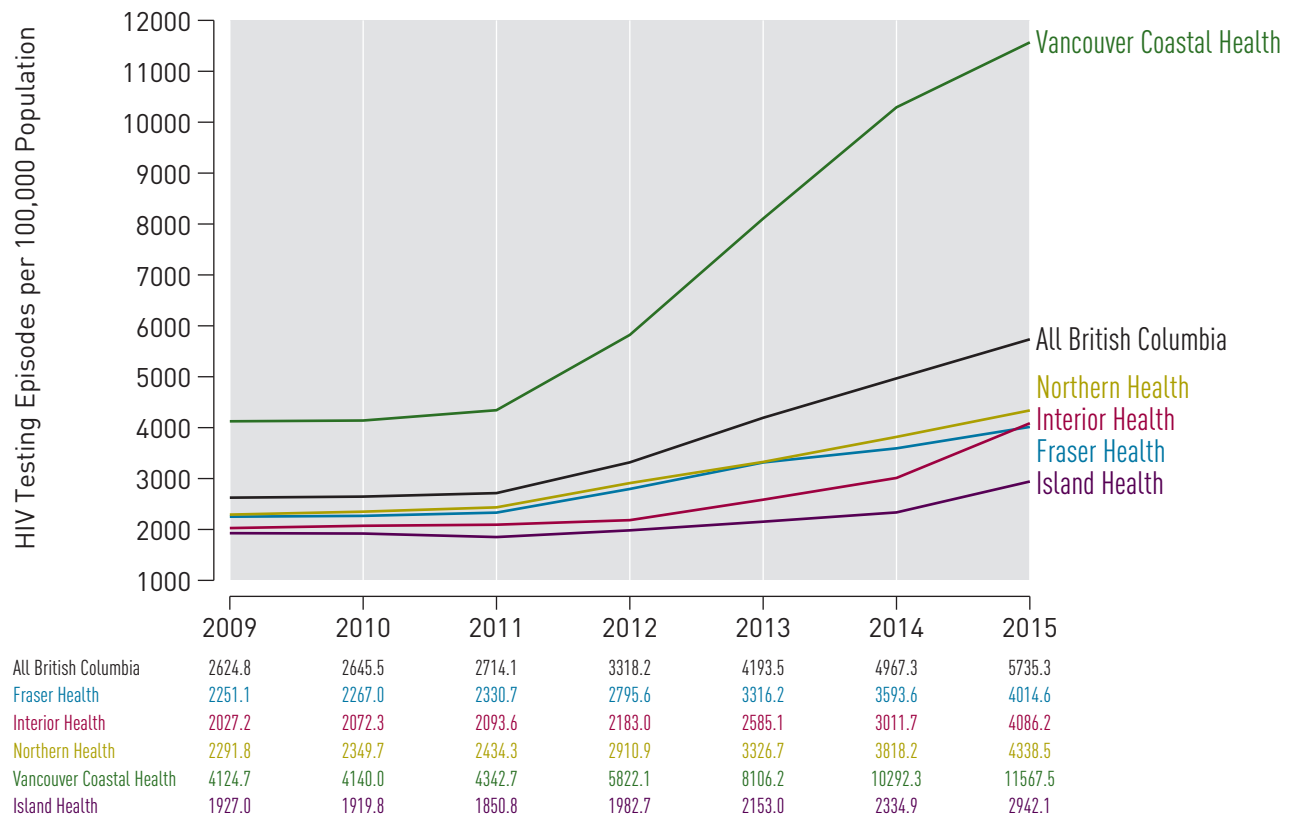


Figure 2.2 Rate of HIV Testing by Gender for BC ²

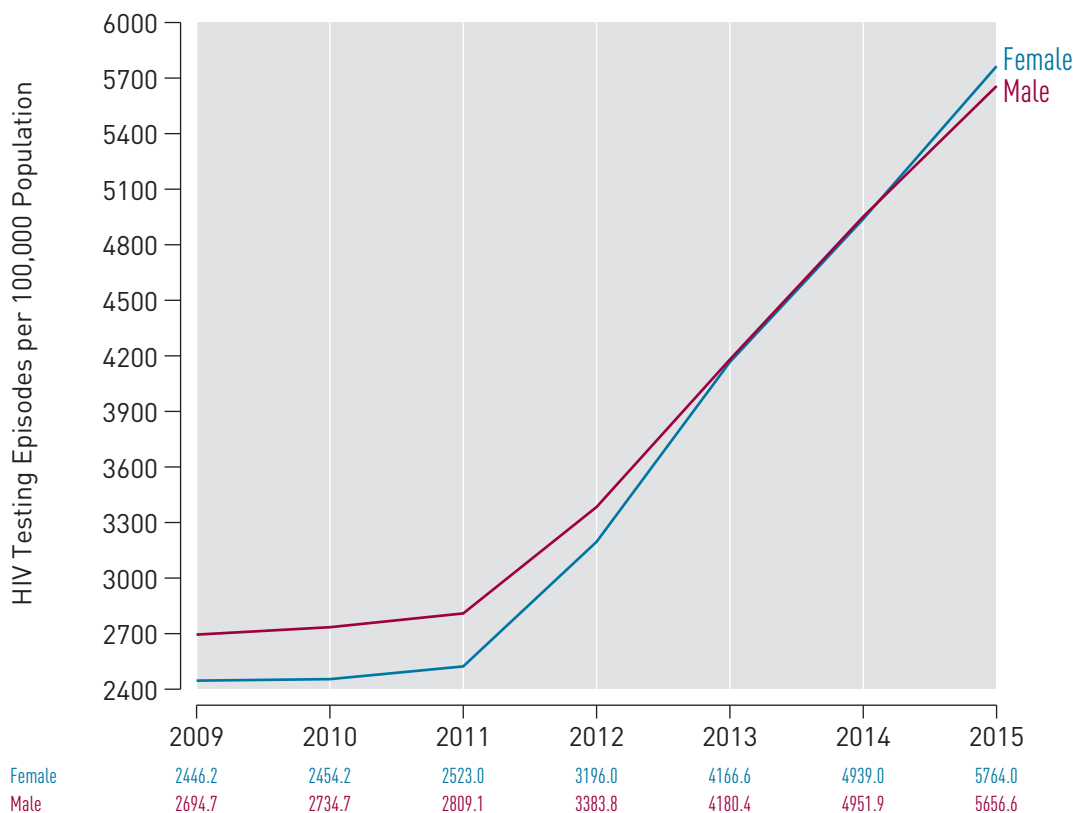
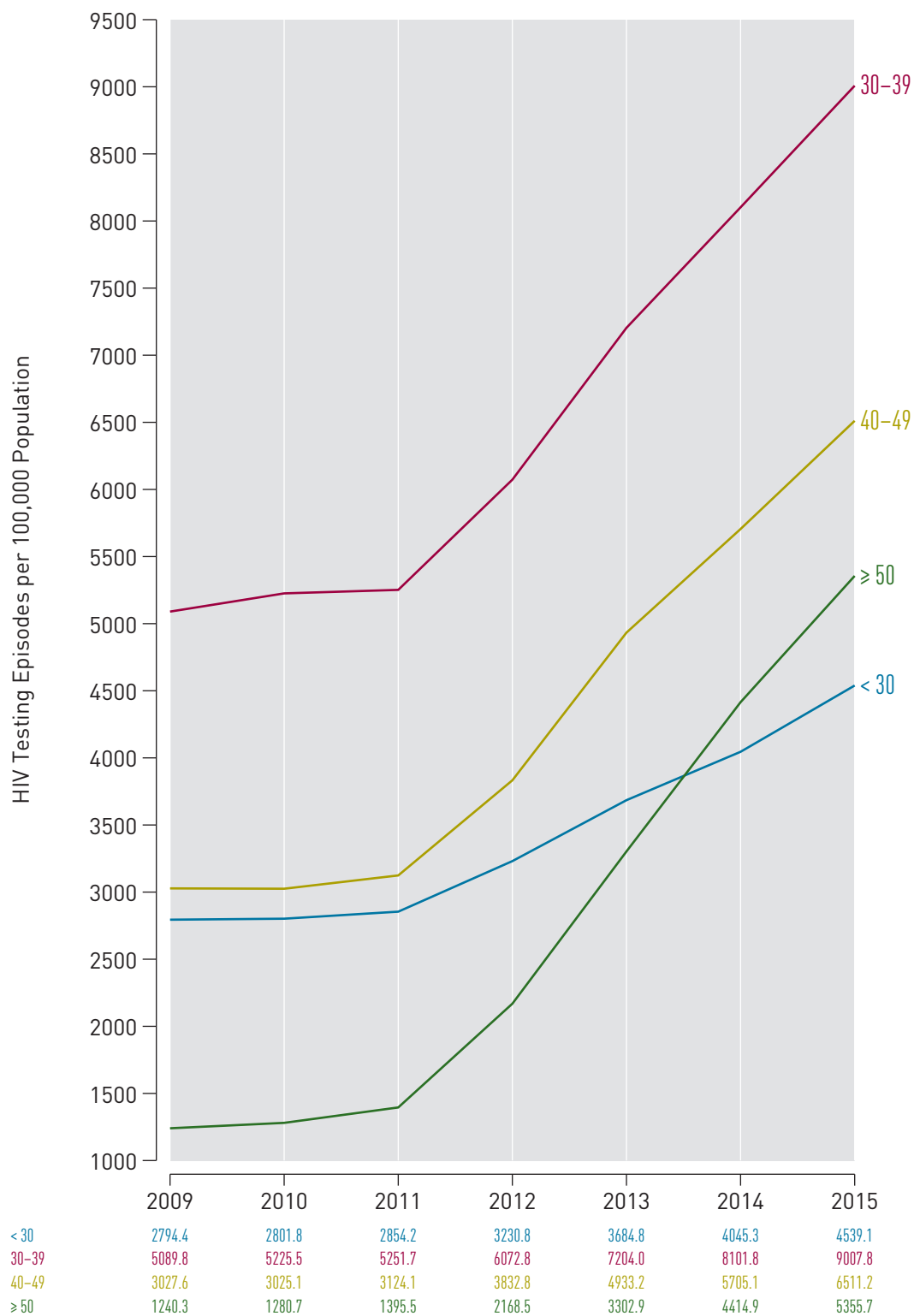


Figure 2.3 Rate of HIV Testing by Age Category for BC ²



² Testing does not include point of care tests.

New HIV Diagnoses

Trends in HIV diagnoses by gender and exposure category are described. Interpreting HIV diagnoses must be done with consideration that trends are influenced by both changes in testing rate as well as changes in transmission rates. It is important to note that new HIV diagnoses cases and rates are not synonymous with HIV incidence as a person may have become infected with HIV long before they tested positive for HIV. However, as there is no reliable method for measuring HIV incidence, we follow trends in HIV diagnoses.

Indicator 3. New HIV Diagnoses

Figure 3.1 New HIV Diagnoses for BC ³

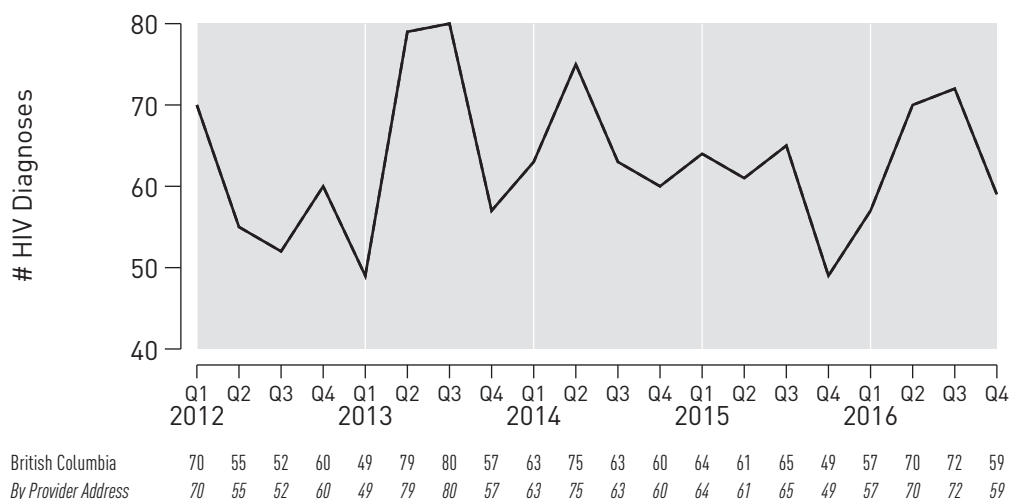
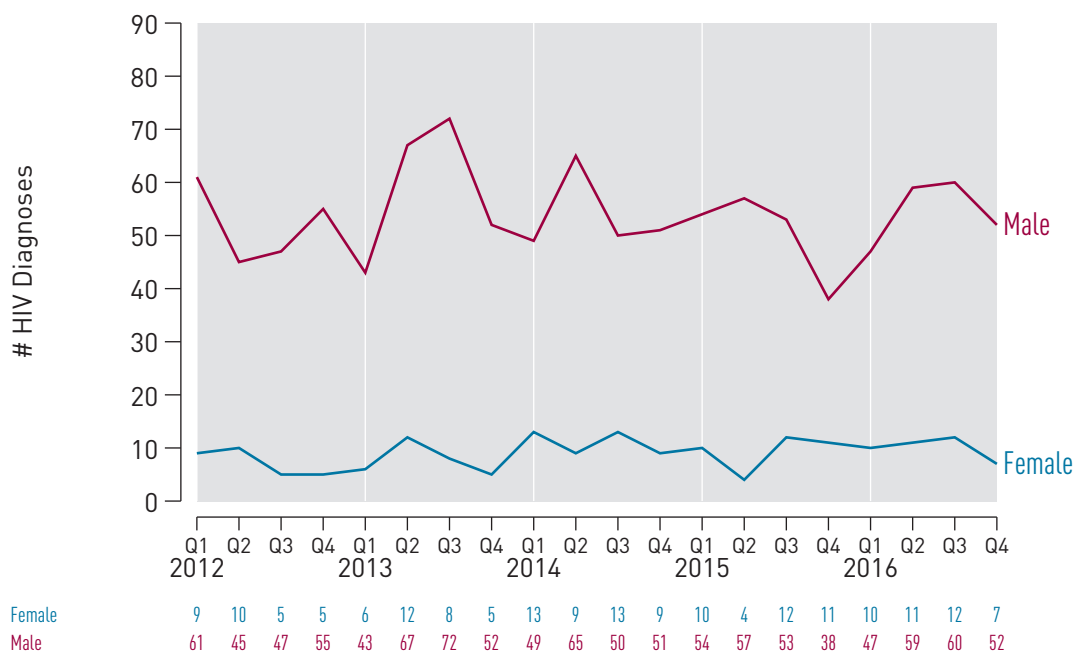


Figure 3.2 New HIV Diagnoses for BC by Gender ³



³ Data Source: BCCDC. When present, “By Provider Address” is graphed as dashed line in same colour.

Figure 3.3 New HIV Diagnoses for BC by Age Category³

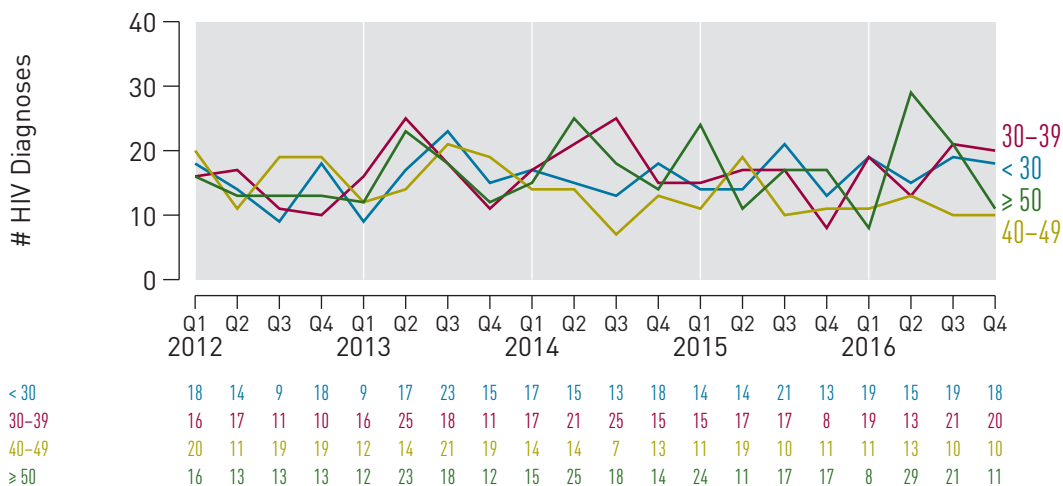
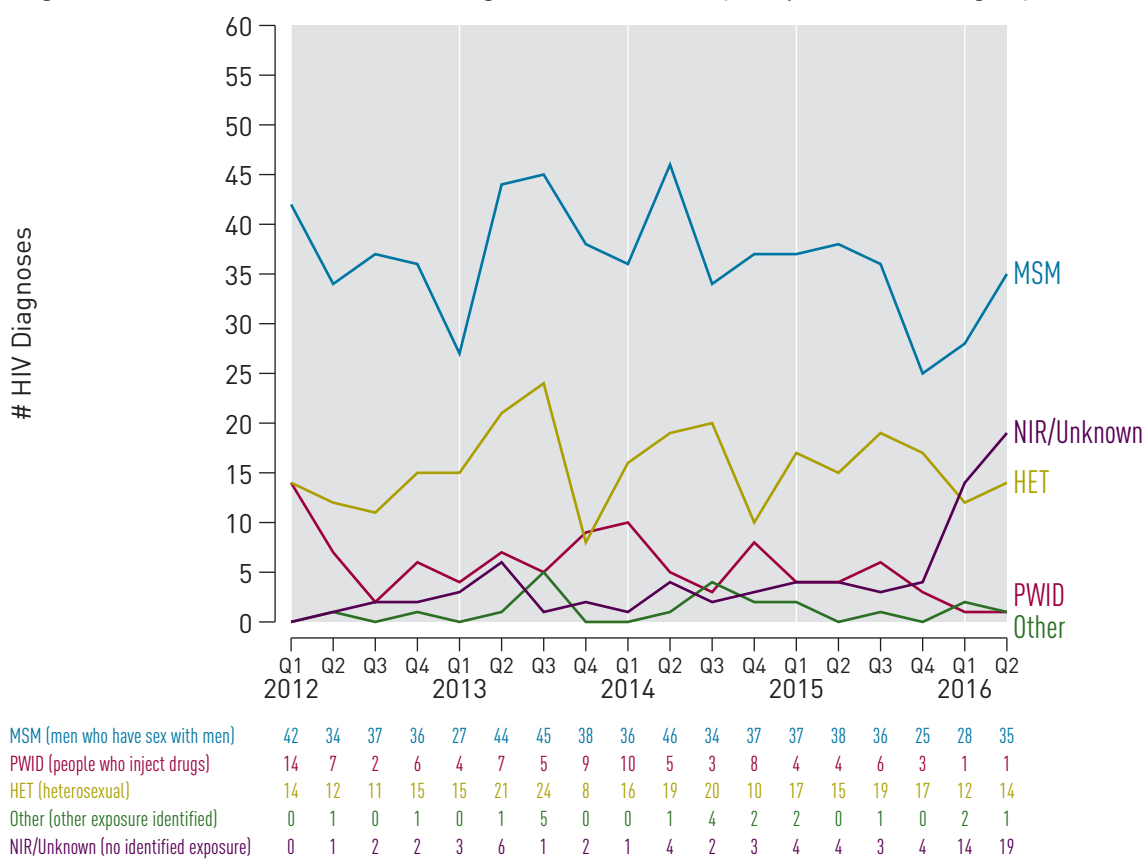


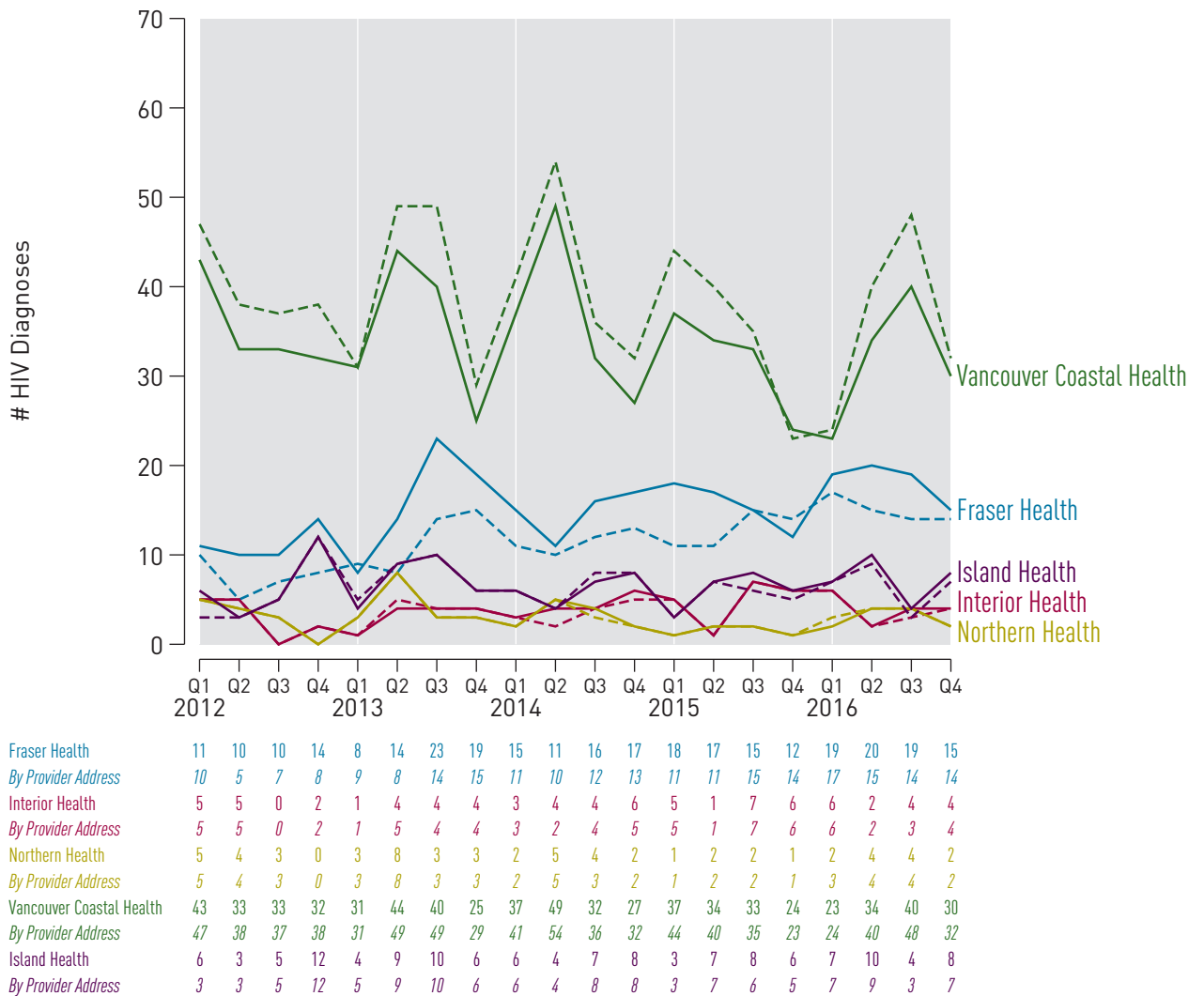
Figure 3.4 New HIV Diagnoses for BC by Exposure Category^{3,4}



³ Data Source: BCCDC. When present, "By Provider Address" is graphed as dashed line in same colour.

⁴ MSM=men who have sex with men; PWID=people who inject drugs; HET=heterosexual. NIR=No identified risk/exposure.

Figure 3.5 New HIV Diagnoses for BC by Health Authority³



³ Data Source: BCCDC. When present, "By Provider Address" is graphed as dashed line in same colour.

Stage of HIV Infection at Diagnosis

Classification of stage of HIV infection, in the absence of information regarding recent testing history, is reliant on clinical information available at the time of diagnosis, including first CD4+ cell count and laboratory results suggestive of acute HIV infection (Table 1). The benefits of Treatment as Prevention (TasP) are maximized when antiretroviral therapy (ART) is initiated at high CD4 cell counts. Accordingly, it is preferable that individuals newly diagnosed with HIV be in the early stages of HIV infection (stage 0 or 1) to allow for early ART initiation.

N.B. Interpretation of Stage of HIV Infection at Diagnosis should proceed with caution. Early increases in diagnosis at late stage (i.e., low CD4 counts) may represent a “catching up” of previously missed long term infected individuals rather than a trend toward diagnosis at later stage of infection.

Indicator 4. Stage of HIV Infection at Diagnosis

Table 1: Staging Classifications of Infection at Time of HIV Diagnosis Based on CDC HIV Surveillance Case Definitions

Stage	Criteria	
0	Laboratory criteria met for acute HIV infection, or previous negative or indeterminate HIV test within 180 days of first confirmed positive HIV test.	
1	Stage 0 not met and	CD4 ≥500
2a		CD4 350–499
2b		CD4 200–349
3		CD4 <200
Unknown	No available CD4	

Figure 4.1 Stage of HIV Infection at Diagnosis for BC ⁵

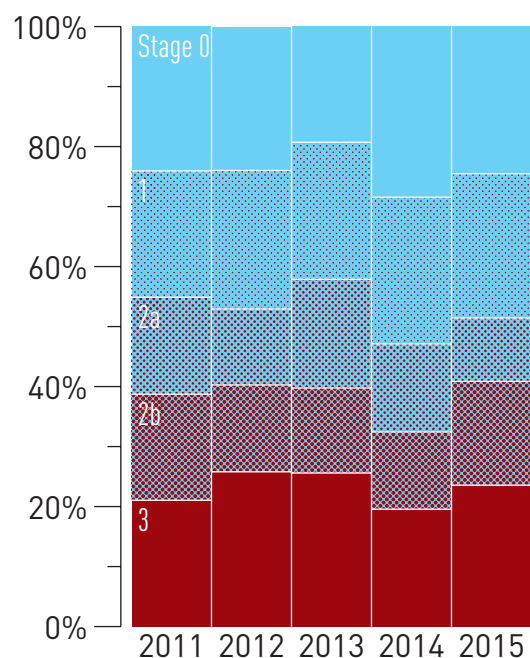
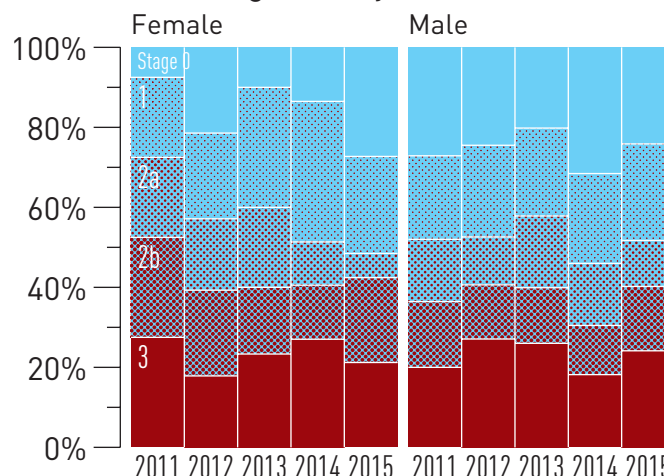


Figure 4.2 Stage of HIV Infection at Diagnosis by Gender for BC ⁵



	British Columbia					Female					Male				
	2011	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15
Stage 0	64	53	49	64	51	3	6	3	5	9	61	47	45	59	42
Stage 1	56	51	58	55	50	8	6	9	13	8	47	44	49	42	42
Stage 2a	43	28	46	33	22	8	5	6	4	2	35	23	40	29	20
Stage 2b	47	32	36	29	36	10	6	5	5	7	37	26	31	23	28
Stage 3	56	57	65	44	49	11	5	7	10	7	45	52	58	34	42
Unknown	22	15	11	35	29	3	1	1	8	5	18	14	10	27	24
Total (n=)	288	236	265	260	237	43	29	31	45	38	243	206	233	214	198

Figure 4.3 Stage of HIV Infection at Diagnosis by Age Category for BC⁵

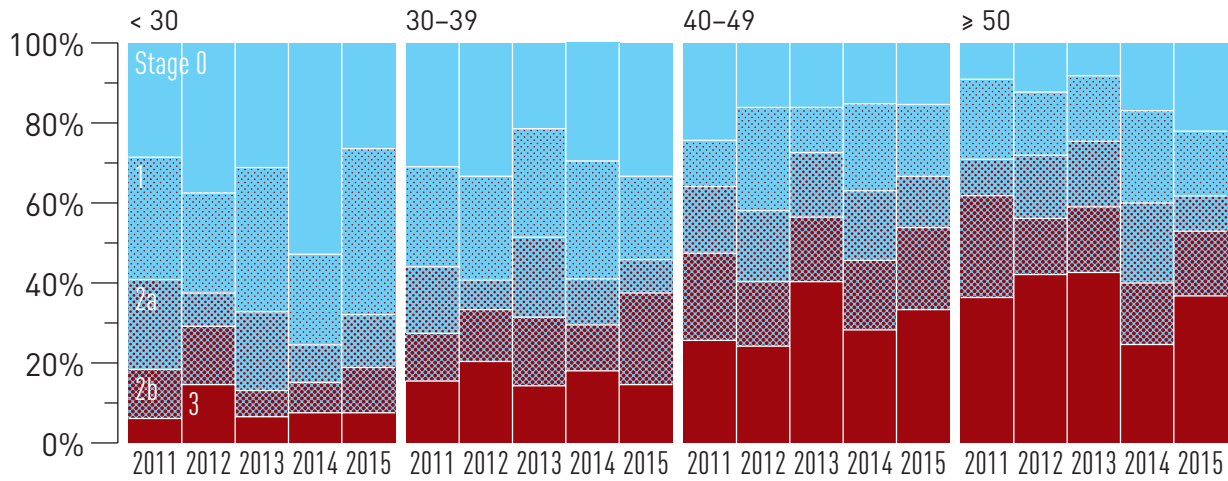
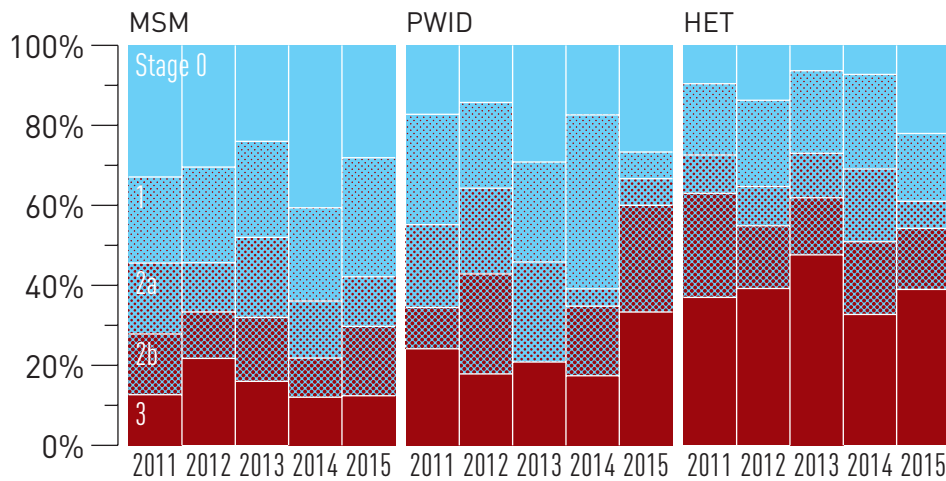


Figure 4.4 Stage of HIV Infection at Diagnosis by Exposure Category for BC^{5,6}



	< 30 years					30-39 years					40-49 years					≥ 50 years					MSM					PWID					Heterosexual					Other					NIR/Unknown				
	2011	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15	11	12	13	14	15
Stage 0	14	18	19	28	14	26	18	15	18	16	19	10	10	7	6	5	7	5	11	15	52	42	36	54	34	5	4	7	4	4	7	7	4	4	13	0	0	1	1	0	0	0	1	1	0
Stage 1	15	12	22	12	22	21	14	19	18	10	9	16	7	10	7	11	9	10	15	11	34	33	36	31	36	8	6	6	10	1	13	11	13	13	10	1	1	0	1	1	0	0	3	0	2
Stage 2a	11	4	12	5	7	14	4	14	7	4	13	11	10	8	5	5	9	10	13	6	28	17	30	19	15	6	6	6	1	1	7	5	7	10	4	2	0	2	0	1	0	0	1	3	1
Stage 2b	6	7	4	4	6	10	7	12	7	11	17	10	10	8	8	14	8	10	10	11	24	16	24	13	21	3	7	0	4	4	19	8	9	10	9	1	0	1	1	1	0	1	2	1	1
Stage 3	3	7	4	4	4	13	11	10	11	7	20	15	25	13	13	20	24	26	16	25	20	30	24	16	15	7	5	5	4	5	27	20	30	18	23	2	0	1	3	0	0	2	5	3	6
Unknown	5	7	0	7	4	8	3	2	12	10	4	2	3	9	10	5	3	6	7	5	12	10	4	19	13	5	1	1	3	2	2	1	5	10	9	1	1	1	1	0	2	2	0	2	5
Total (n=)	54	55	61	60	57	92	57	72	73	58	82	64	65	55	49	60	60	67	72	73	170	148	154	152	134	34	29	25	26	17	75	52	68	65	68	7	2	6	7	3	2	5	12	10	15

⁵ Data Source: BCCDC

⁶ MSM=men who have sex with men; PWID=people who inject drugs; HET=heterosexual. NIR=No identified risk/exposure.

HIV Cascade of Care

Indicator 5. HIV Cascade of Care

The success of seek, test, treat and retain (STTR) strategies like STOP is reliant on early diagnosis of HIV, linking newly diagnosed HIV-positive persons with ongoing care, retaining persons in HIV-care; initiating ART based on best evidenced practices and maintaining optimal ART adherence to ensure a suppressed viral load. These stages of HIV-care can be summarized as: 1. HIV diagnosis, 2. Linked to HIV care, 3. Retained in HIV care, 4. On ART, 5. Adherent to ART and 6. Achieving a suppressed VL; collectively, they are referred to as the cascade of care. Attrition between any of these stages of HIV-care means a reduction in the potential of ART as a benefit to the HIV-positive individual and as an HIV transmission prevention method on a population level. Thus, when interpreting trends in the cascade of care, we strive to see increases along each step of the cascade of care (i.e. reduced attrition) with the ultimate goal being 100% within each stage of the cascade. Monitoring the Cascade of Care provides a picture as to where deficiencies lie in the delivery and uptake of HIV-care. In this section we present the cascade of care for the period 2015 Q4–2016 Q3 in BC overall and stratified by sex and age for each Health Authority.

Figure 5.1 Estimated Cascade of Care for British Columbia, Year Ending 2016 Q4 ⁷

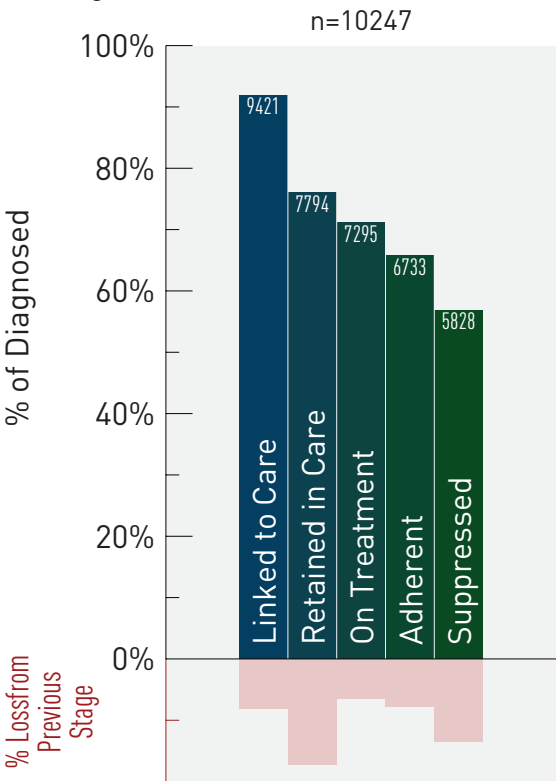
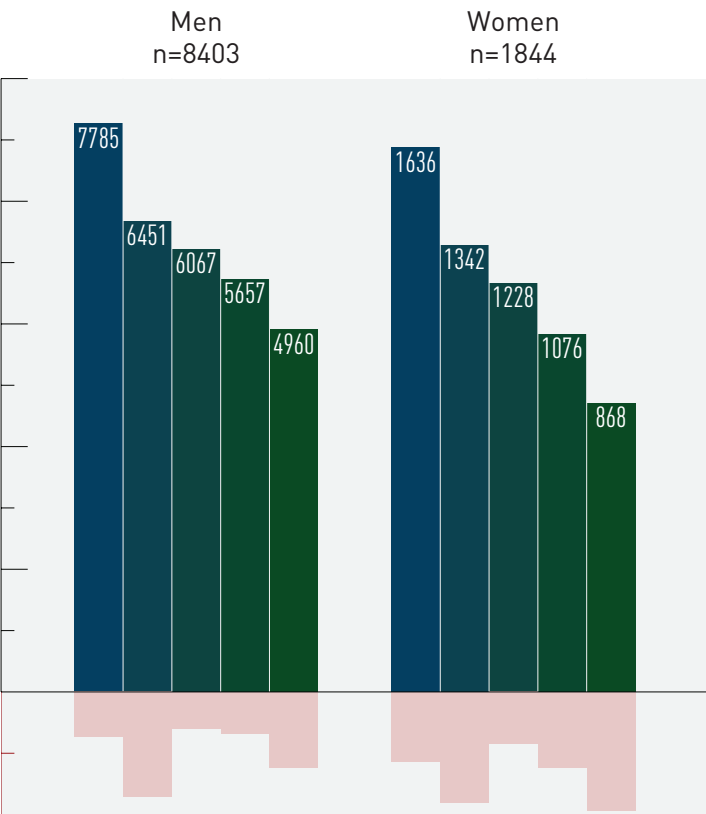


Figure 5.2 Estimated Cascade of Care for BC by Gender, Year Ending 2016 Q4 ⁷



⁷ Data is for the period 2015 Q4–2016 Q3.

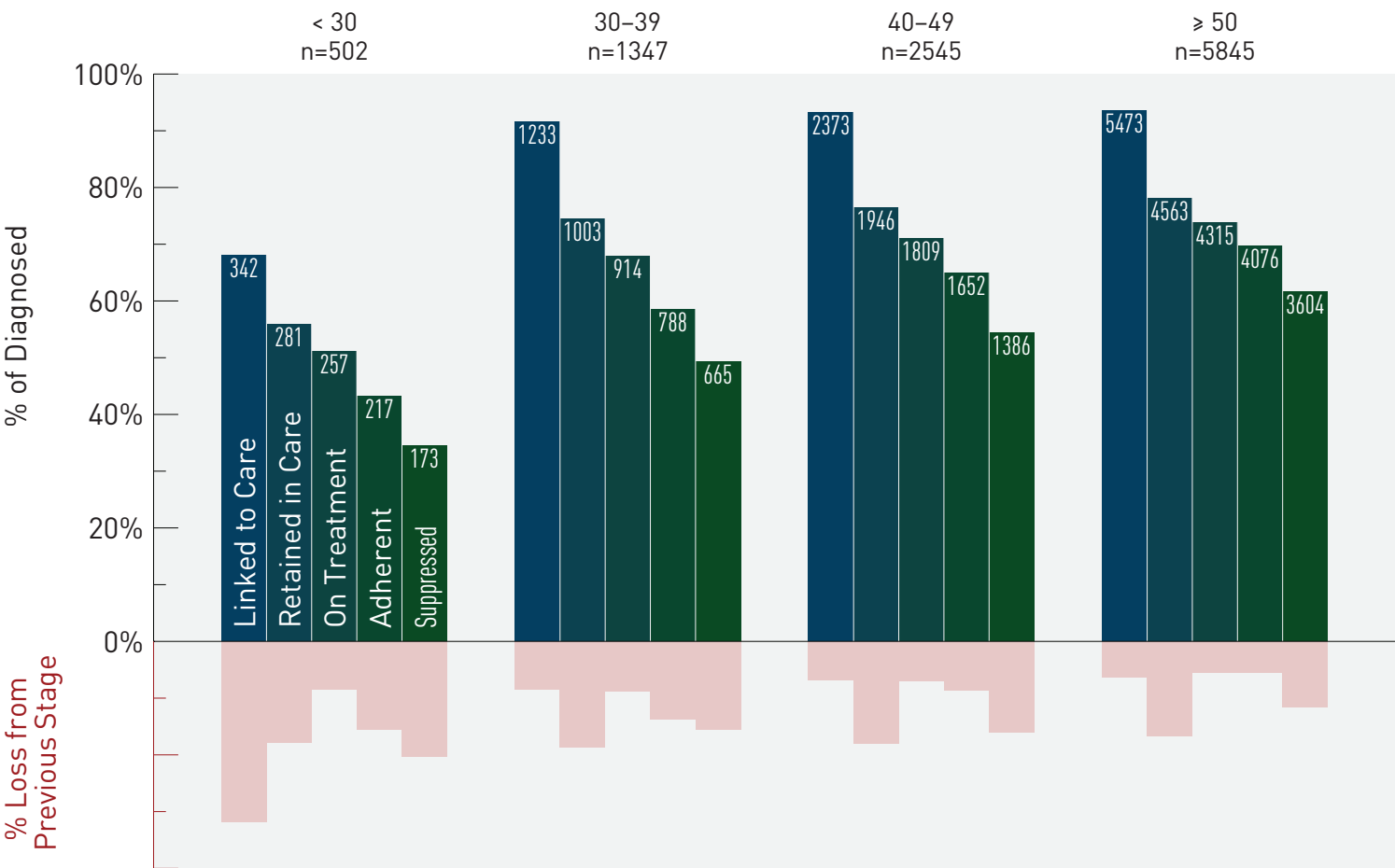
Data Sources:

- i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
- ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider. If the most recent HA of residence is not updated then the designated HA may be incorrect.

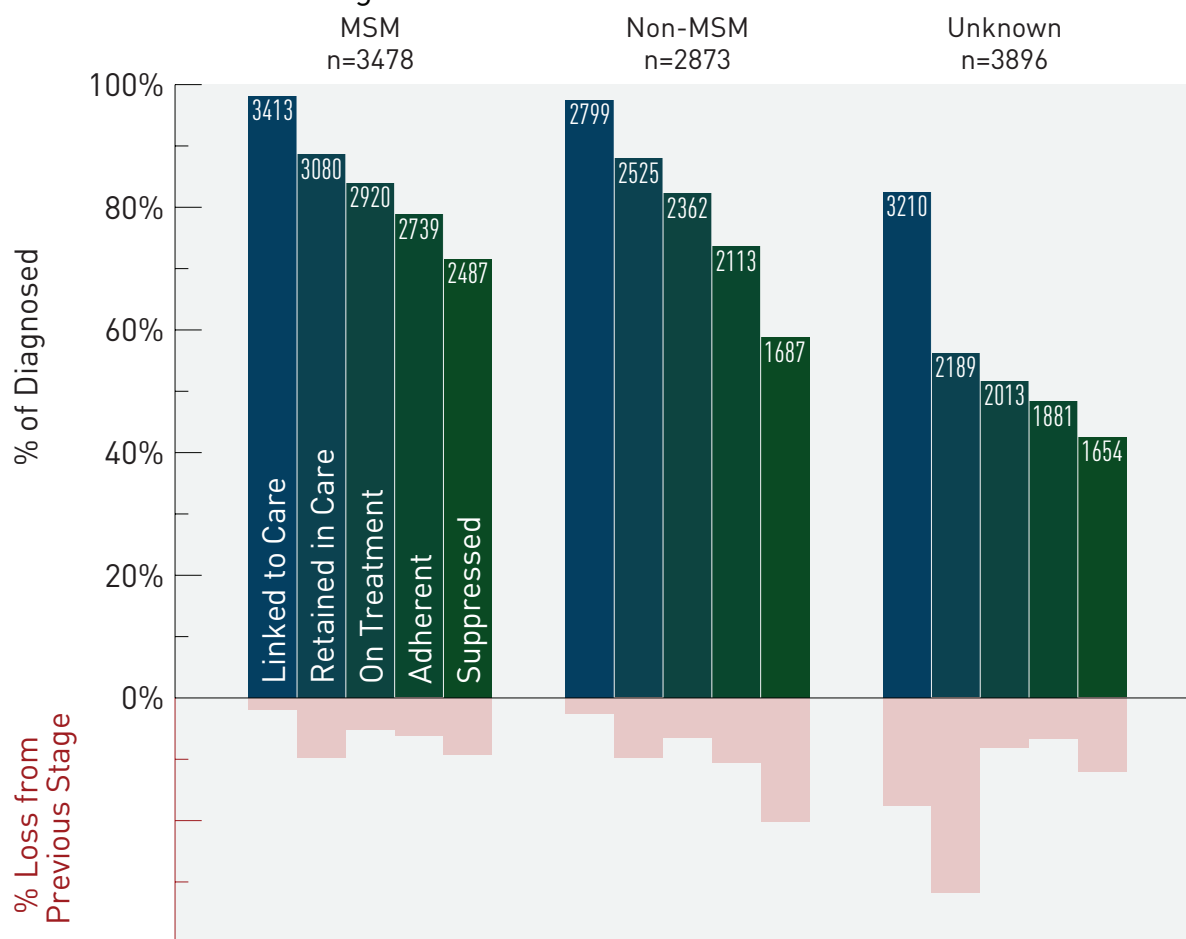
NB: Transgender have been assigned to their biological sex.

Figure 5.3 Estimated Cascade of Care for British Columbia by Age Category, Year Ending 2016 Q4 ⁸



⁸ Data is for the period 2015 Q4–2016 Q3.
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).
Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider.
If the most recent HA of residence is not updated then the designated HA may be incorrect.

Figure 5.4 Estimated Cascade of Care for British Columbia by MSM Status, Year Ending 2016 Q4 ⁹



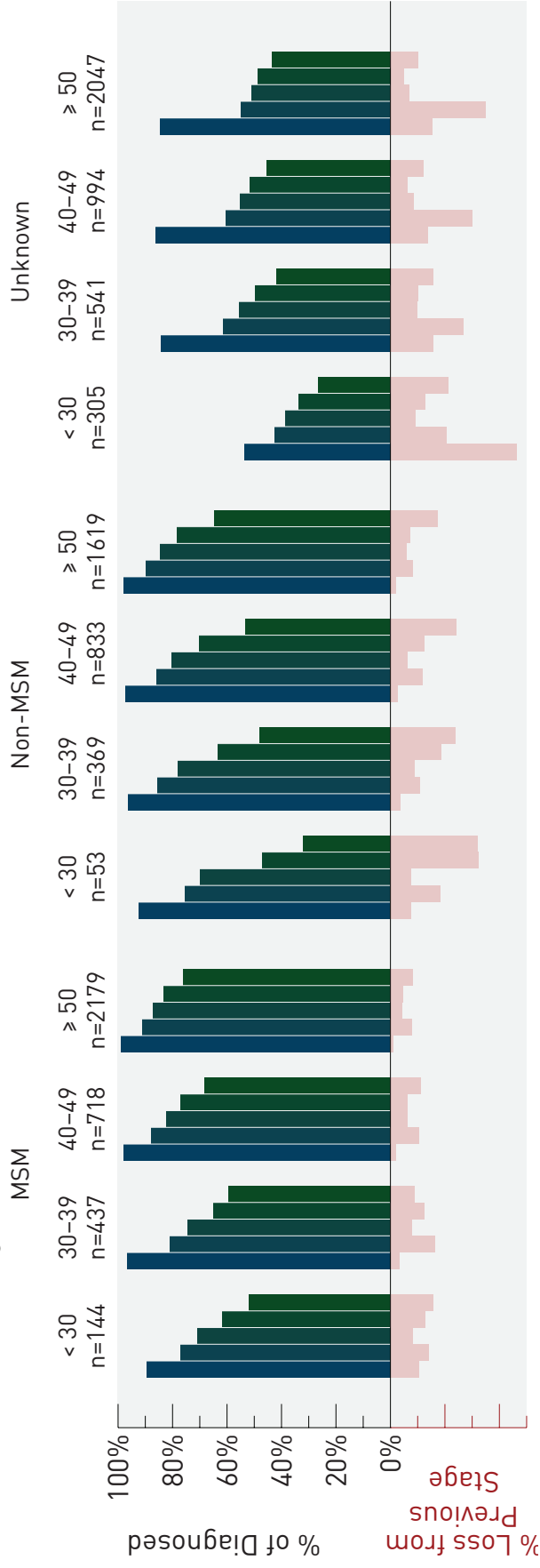
⁹ Data is for the period 2015 Q4–2016 Q3.

Data Sources:

- i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
- ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider. If the most recent HA of residence is not updated then the designated HA may be incorrect.

Figure 5.5 Estimated Cascade of Care for British Columbia by Age Category and MSM Status, Year Ending 2016 Q4⁹



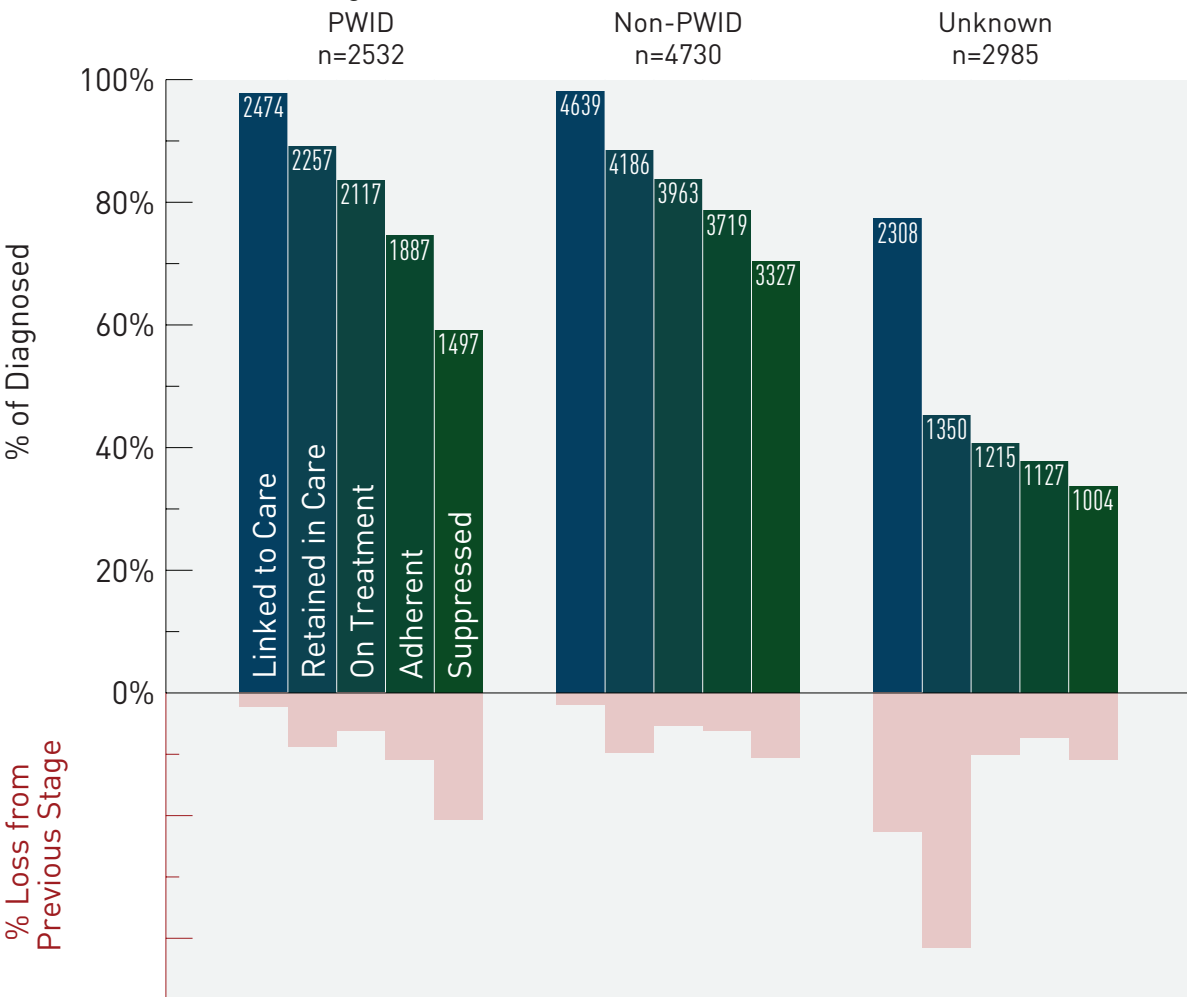
⁹ Data is for the period 2015 Q4–2016 Q3.

Data Sources:

- i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
- ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider. If the most recent HA of residence is not updated then the designated HA may be incorrect.

Figure 5.6 Estimated Cascade of Care for British Columbia by PWID Status, Year Ending 2016 Q4 ⁹



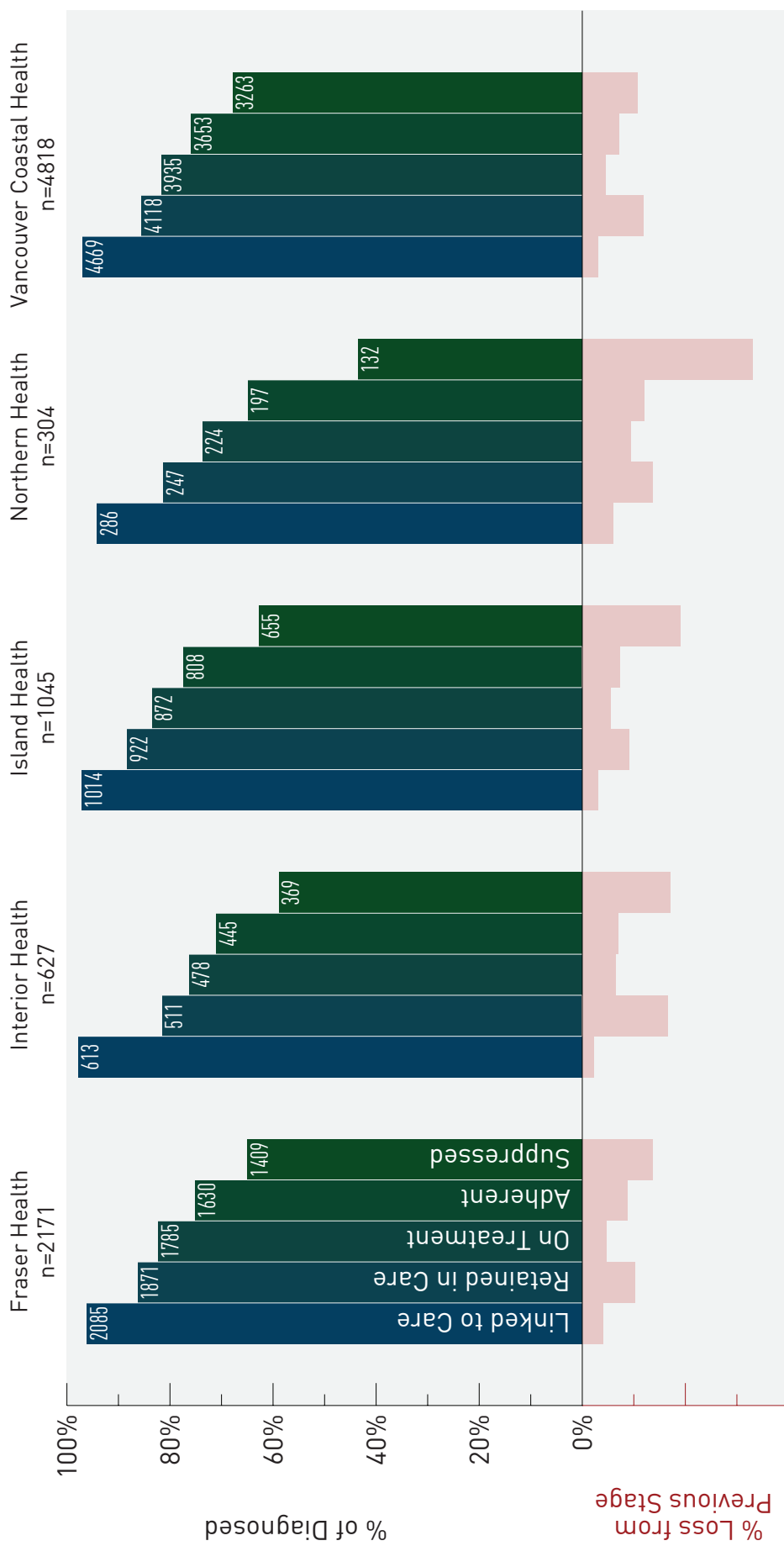
⁹ Data is for the period 2015 Q4–2016 Q3.

Data Sources:

- i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
- ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider. If the most recent HA of residence is not updated then the designated HA may be incorrect.

Figure 5.7 Estimated Cascade of Care for British Columbia by Health Authority, Year Ending 2016 Q4 ⁹



⁹ Data is for the period 2015 Q4–2016 Q3.

Data Sources:

- i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
- ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

Limitations: HA assignment is based on the most recent HA of residence of the patient, if not available of the HIV-care provider. If the most recent HA of residence is not updated then the designated HA may be incorrect.

Programmatic Compliance Score

Indicator 6. Programmatic Compliance Score (PCS)

The Programmatic Compliance Score (PCS) is a summary measure of risk of future death, immunologic failure and virologic failure from all causes for people who are starting ART for the first time. It is composed of patient- and physician-driven effects. PCS scores range from 0–6 with higher scores indicative of poorer health outcomes and greater risk of death. Table 2 provides mortality, immunologic failure and virologic failure probabilities for given PCS scores. We interpret an individual with a $PCS \geq 4$ as being 22 times more likely to die, almost 10 times more likely to have immunologic failure and nearly 4 times as likely to demonstrate virologic failure compared to those individuals with a PCS score of 0. A detailed description of how the PCS score is calculated and its validation can be found in the technical report. In short, PCS scores are calculated by summing the results (yes=1, no=0) of six un-weighted non-performance indicators based on IAS–USA treatment guidelines:

1. having <3 CD4 cell count tests in the first year after starting antiretroviral therapy (ART);
2. having <3 plasma viral load (VL) tests in the first year after starting ART;
3. not having drug resistance testing done prior to starting ART;
4. starting on a non-recommended ART regimen;
5. starting therapy with $CD4 < 200$ cells/ μ L; and
6. not achieving viral suppression within 9 months since ART initiation.

In this section we provide PCS scores and their components over time for the province of BC. A decline to 0%, (i.e., **all individuals having a score of 0**) is the eventual goal.

Table 2. Probability of Mortality, Immunologic Failure and Virologic Failure based on the Programmatic Compliance Score

Programmatic Compliance Score	Mortality Risk Ratio (95% Confidence Interval)	Immunologic Failure Risk Ratio (95% CI)	Virologic Failure Risk Ratio (95% CI)
0 (Best score)	1 (–)	1 (–)	1 (–)
1	3.81 (1.73–8.42)	1.39 (1.04–1.85)	1.32 (1.05–1.67)
2	7.97 (3.70–17.18)	2.17 (1.54–3.04)	1.86 (1.46–2.38)
3	11.51 (5.28–25.08)	2.93 (1.89–4.54)	2.98 (2.16–4.11)
4 or more (Worst score)	22.37 (10.46–47.84)	9.71 (5.72–16.47)	3.80 (2.52–5.73)

Reference: Lima VD, Le A, Nosyk B, Barrios R, Yip B, et al. (2012) Development and Validation of a Composite Programmatic Assessment Tool for HIV Therapy. PLoS ONE 7(11): e47859. doi:10.1371/journal.pone.0047859

Figure 6.1 PCS Components for BC, 2015 Q1–2016 Q4¹⁰

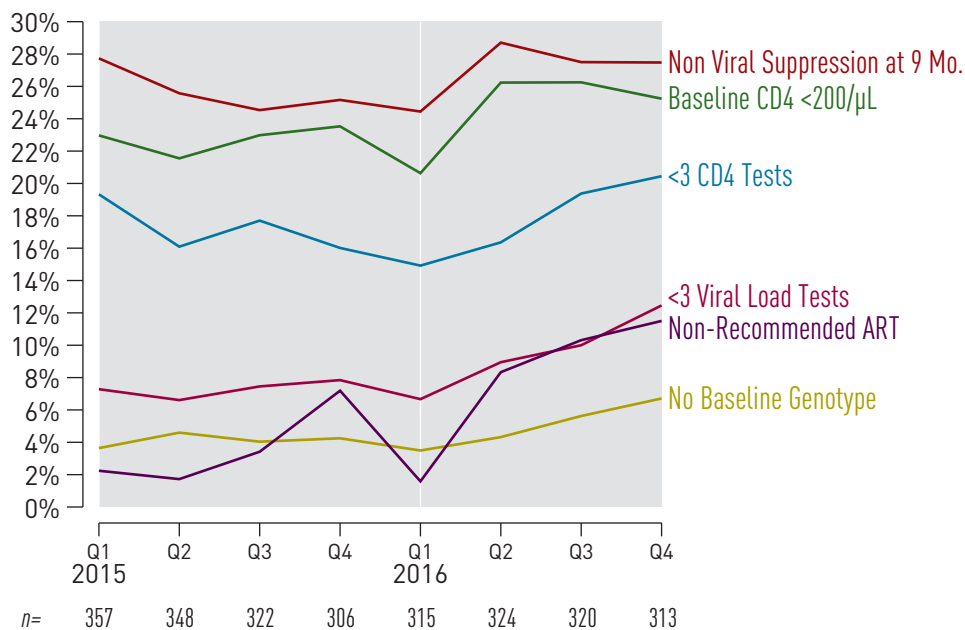
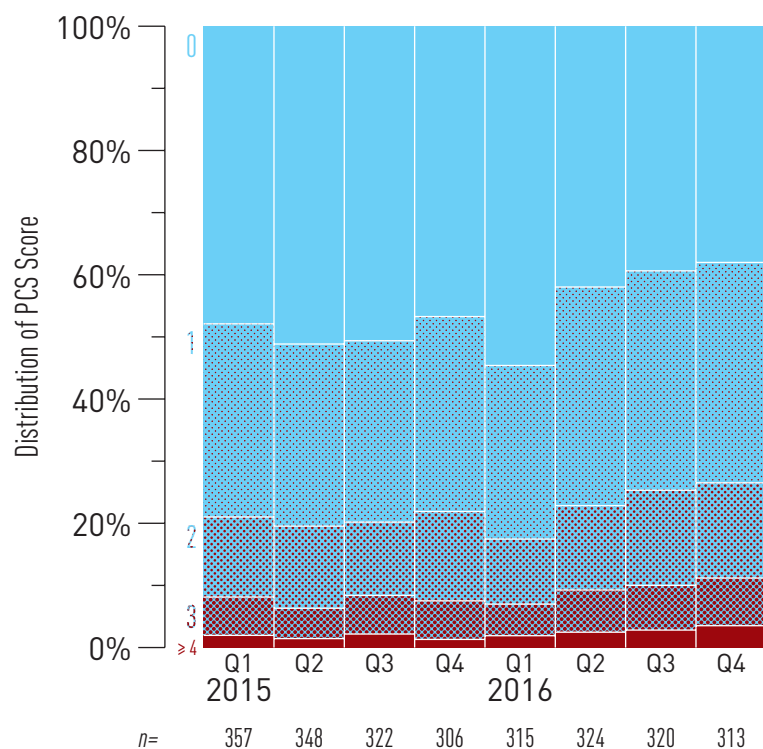


Figure 6.2 Historical Trends for PCS Score for BC, 2015 Q1–2016 Q4^{10,11}



¹⁰ Data Source: British Columbia Centre for Excellence Drug Treatment Program (DTP) Database.
Limitations: CD4 cell count capture is approximately 80%.

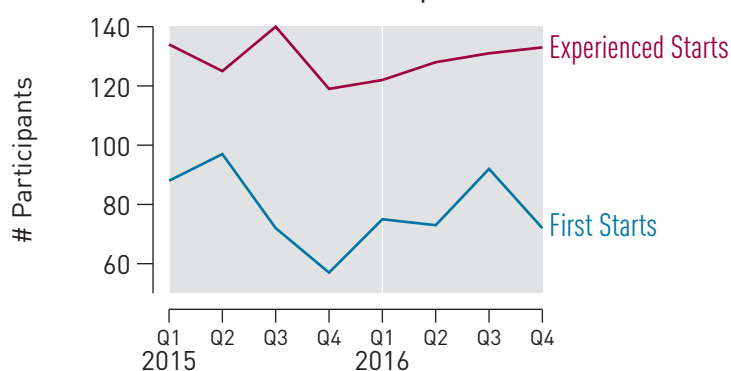
¹¹ Each quarter's data is calculated as the sum of the 4 quarters leading up to it. e.g. 2013 Q1 is calculated from 2012 Q2 – 2013 Q1.
NB: A score of 0 is the best score and a score of 4 or more is the worst score.

Antiretroviral Uptake

In this section we present trends in ART uptake, the number and proportion of new HIV treatment initiations and the number of active and inactive DTP participants. Trends in ART uptake should be interpreted under the consideration of changing BC HIV treatment guidelines. BC HIV treatment guidelines are updated regularly by the BC-CfE Therapeutic Guidelines Committee and reflect those of the International AIDS Society. Most recent changes were made in 2012 and HIV treatment is now recommended for all HIV-positive adults regardless of CD4 cell count; as evidence demonstrates that early initiation of HIV treatment maximizes both the individual's health outcomes as well as the potential of ART as a form of HIV transmission prevention at a population level. As such, trends in the number and proportion of persons on ART and new ART starts (in both naïve and experienced persons) are expected to increase over time at higher CD4 cell counts.

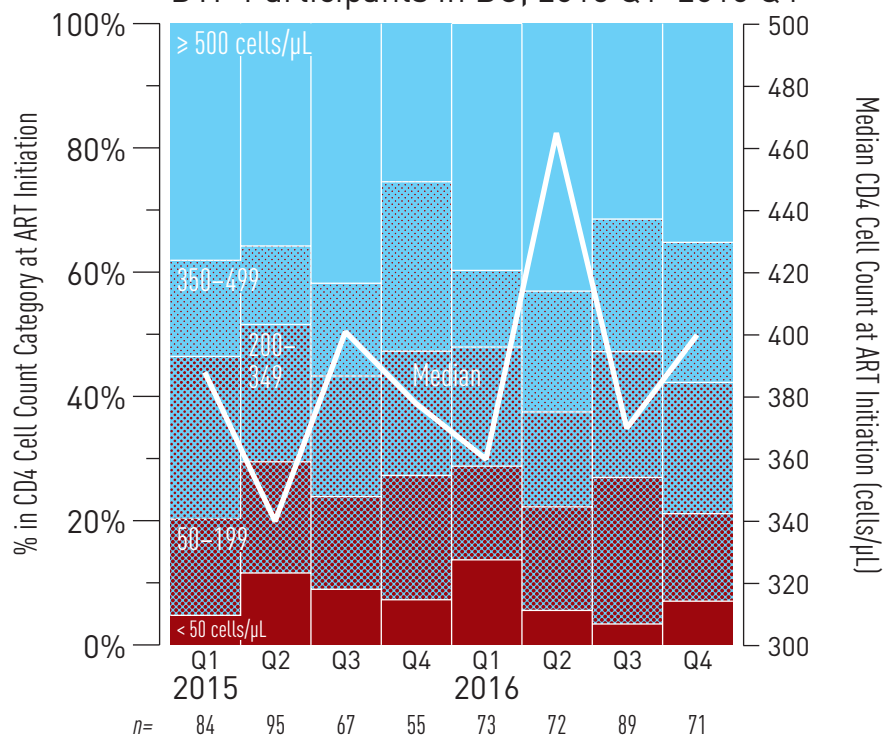
Indicator 7. New Antiretroviral Therapy Starts in BC

Figure 7 BC-CfE Drug Treatment Program Enrollment
New ART Participants in BC, 2015 Q1–2016 Q4 ¹²



Indicator 8. CD4 Cell Count at ART Initiation

Figure 8 CD4 Cell Count at ART Initiation of ART-Naïve
DTP Participants in BC, 2015 Q1–2016 Q4 ¹³



¹² Data Source: Drug Treatment Program Database
Limitation: DTP participants are designated to an HA based on most current residence provided by the participant.

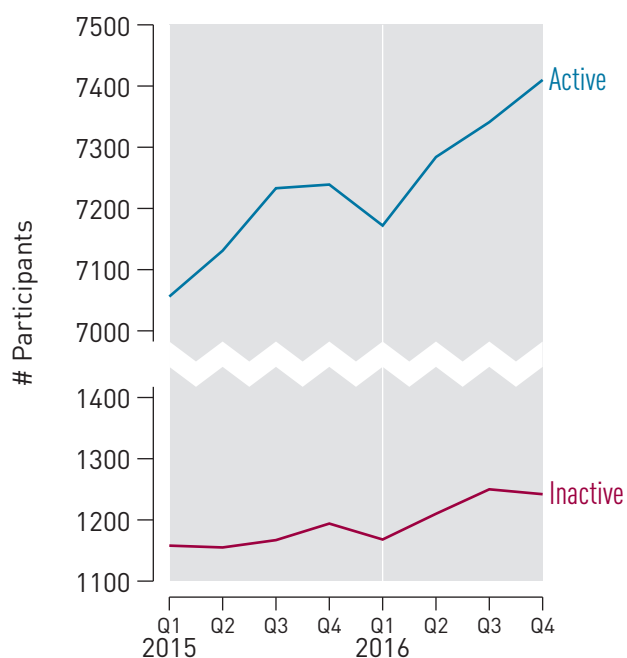
¹³ Data Source: Drug Treatment Program Database
Limitations: CD4 cell count data is approximately 80% complete.

Indicator 9. Active and Inactive DTP Participants

Table 3. Distribution of People on ART for BC, 2016 Q4 ¹⁴

		Fraser	Interior	Island	Northern	Vancouver Coastal	Total BC
Age	< 30	81	23	34	8	138	284
	30–39	272	55	94	51	542	1015
	40–49	513	99	227	60	1008	1907
	≥ 50	953	308	538	108	2296	4204
Gender	Male	1407	385	729	144	3506	6172
	Female	412	100	164	83	478	1238
Exposure	MSM	598	159	266	35	1919	2977
	PWID	453	149	275	110	1106	2094
Total		1819	485	893	227	3984	7410

Figure 9 Active and Inactive DTP Participants in BC, 2015 Q1–2016 Q4 ¹⁵



¹⁴ Data Source: Drug Treatment Program Database

Limitation: DTP participants are designated to an HA based on most current residence provided by the participant.

Definition:

'On antiretroviral therapy' defined as being on treatment in the current quarter

¹⁵ Active DTP participants: An individual who has had medication prescribed at least once in the preceding quarter.

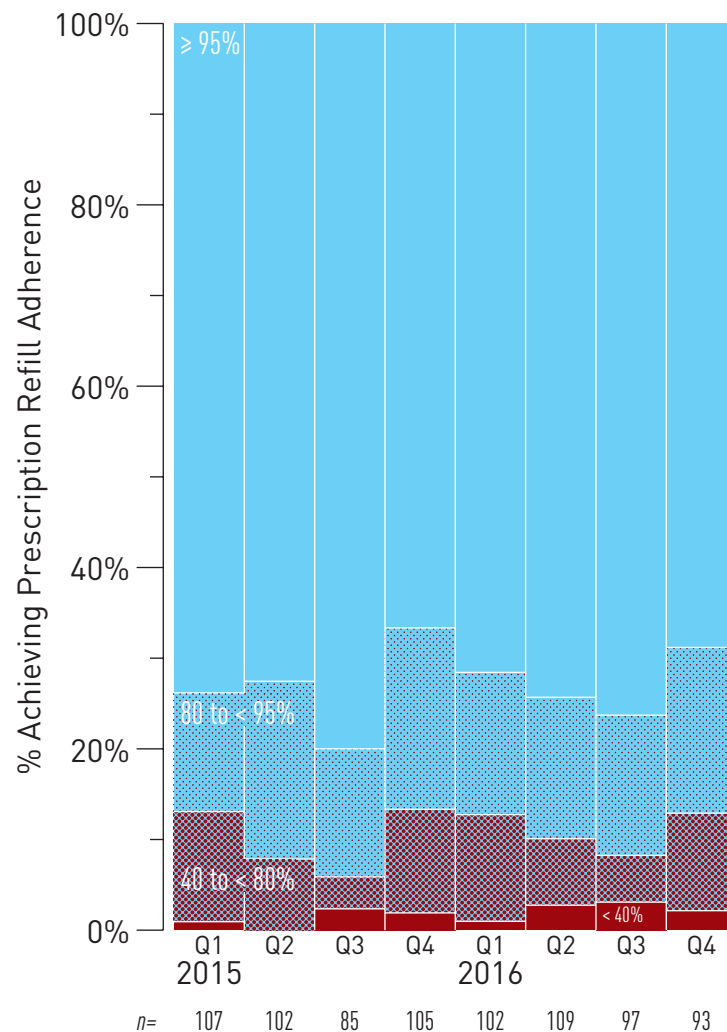
Inactive DTP participants: Persons no longer prescribed drugs through the HIV/AIDS Drug Treatment Program in the last quarter.

Antiretroviral Adherence Level

In this section we present trends in prescription refill adherence levels for individuals in their first year of treatment. Given that the benefits of ART are compromised in the presence of imperfect ART adherence, we expect to see the proportion of persons on ART achieving **near perfect adherence** (ie. $\geq 95\%$) to increase with time. Furthermore, it is important that trends in the proportion of ART users achieving prescription refill adherence of $\geq 95\%$ keep pace with new ART starts and increase among those continuing on ART.

Indicator 10. Antiretroviral Adherence

Figure 10 Distribution of Individuals by Adherence Level in 1st Year of Therapy, Based on Pharmacy Refill Compliance for BC, 2015 Q1–2016 Q4 ¹⁶



¹⁶ Data Source: Drug Treatment Program Database

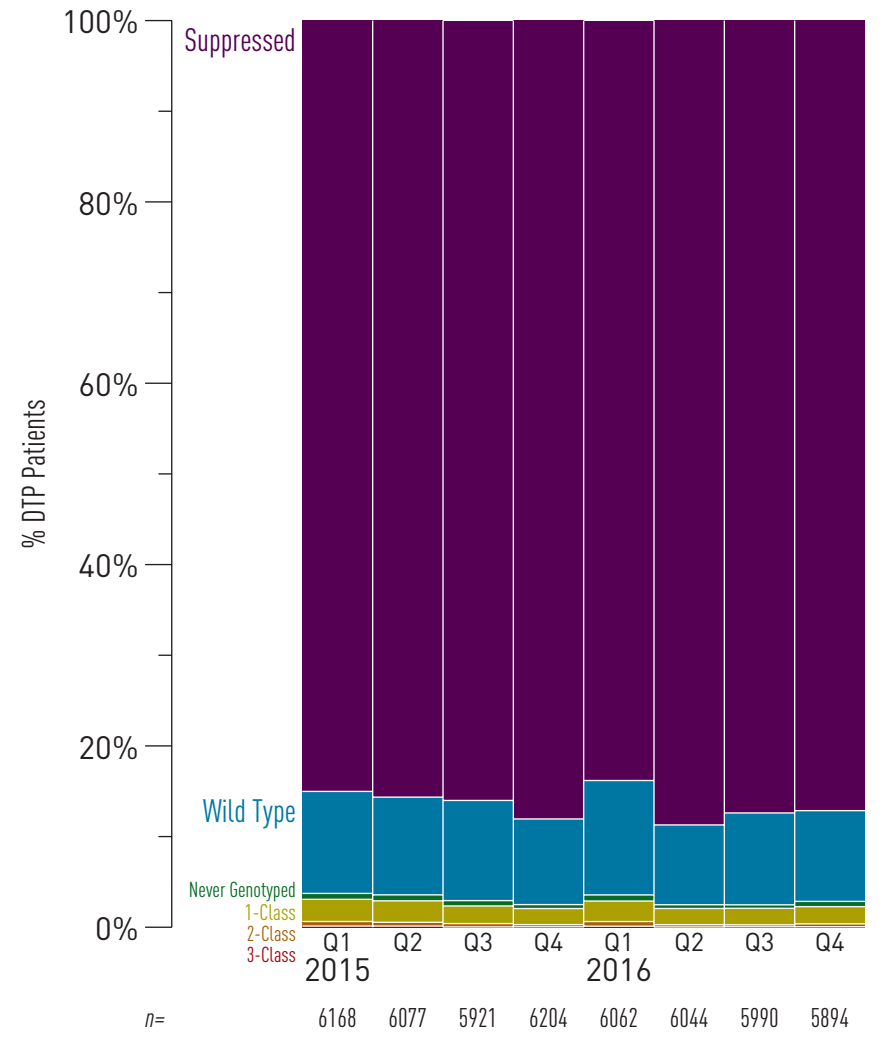
Limitation: Prescription refill adherence is used as a proxy for patient adherence.

Resistance Testing and Results

Indicator 11. Resistance Testing and Results

In this section, we present trends in cumulative resistance testing by resistance category: **Suppressed** (where a DTP participant's viral load is too low to be genotyped); **Wild Type** (where no HIV treatment resistances were discovered), **Never Genotyped**, and Resistances to **one**, **two**, **three**, or **four** HIV treatment classes. Resistance testing prior to ART initiation is recommended in the BC HIV treatment primary care guidelines. Thus, it is expected that trends over time should find all persons enrolled in the DTP to have been genotyped. Trends over time should also show an increase in the proportion of DTP participants achieving a suppressed status and an increase in resistance testing should not lead to an increase in the number of ART resistances occurring.

Figure 11 Cumulative Resistance Testing Results by Resistance Category for BC, 2015 Q1–2016 Q4 ¹⁷



¹⁷ Data Source: Drug Treatment Program Database

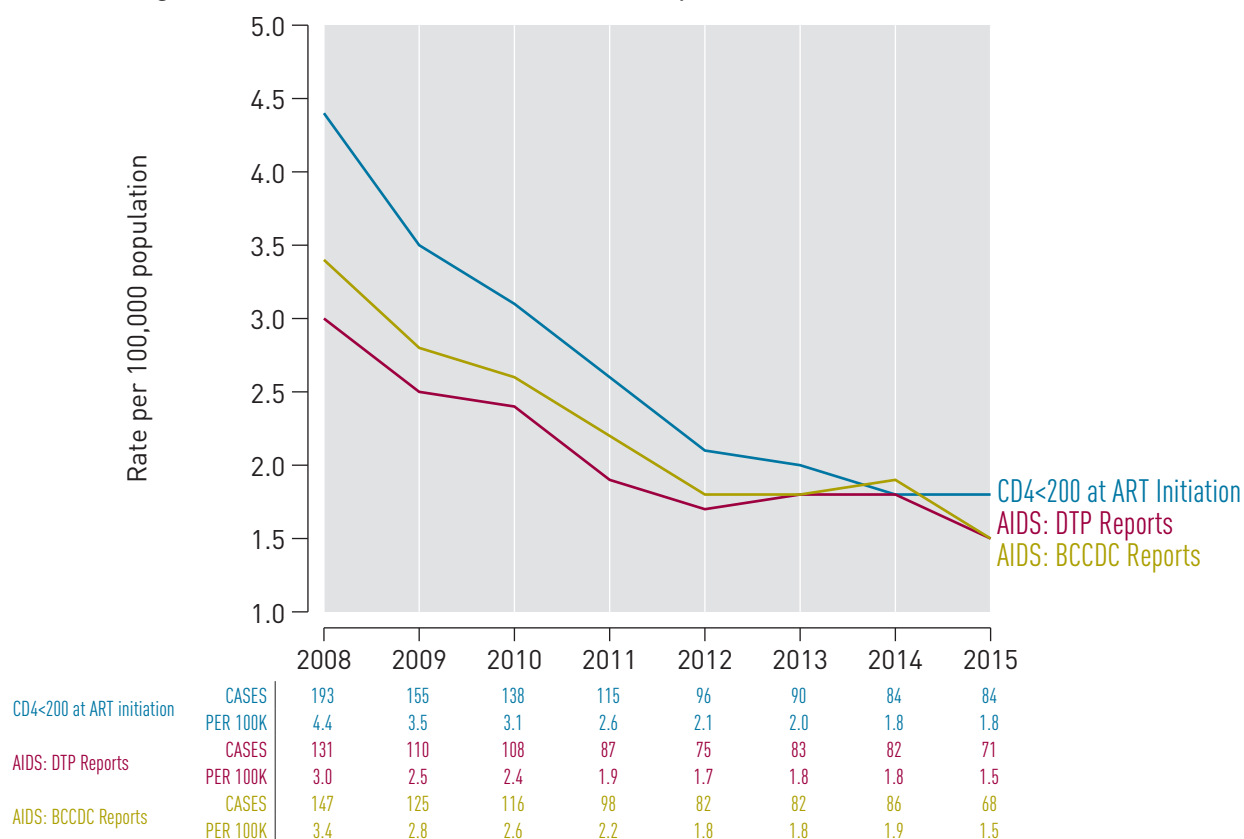
Limitation: DTP participants are designated to a HA based on most current residence provided by the participant.

AIDS-Defining Illness

Indicator 12. AIDS-Defining Illness

Improvements in ART and the expansion of ART province-wide has led to very low numbers of recorded AIDS cases across BC. However, interpreting trends in AIDS cases is challenging as AIDS reporting is passive in BC and it is likely that they are under-reported across all Health Authorities. In addition to under-reporting, methods of reporting AIDS cases are inconsistent across HA's and do not truly reflect the current reality of new AIDS diagnoses. Efforts will need to be made to improve under- and inconsistent reporting of AIDS cases across all HA's. The table below shows AIDS cases using three definitions. First, AIDS cases were defined as the number of physician-reported AIDS defining illness (ADI) in a given year. AIDS case reporting is a passive process and physicians can voluntarily report AIDS cases to the BCCDC or DTP. As such, we have plotted both **BCCDC reports** and **DTP reported AIDS cases**. We also show the proportion of persons **initiating ART with a CD4<200 cells/μL**.

Figure 12 AIDS Case Rate and Reports for BC ¹⁸



¹⁸ Data Source: DTP AIDS cases are obtained from the Drug Treatment Program Database; BCCDC AIDS cases are obtained from the BC-CDC; CD4<200 at ART initiation data came from the DTP database. Indicator 12 also reflects information from BC Vital Statistics. As this information is made available to BC-CFE, we use it to inform the development and refinement of this indicator.

Limitation: AIDS case reporting was investigated using 3 definitions: First, using AIDS cases reported in AIDS case report forms from the DTP; Second, using AIDS cases reported via the BCCDC and third, using a CD4 cell count of <200 cells/μL at time of ART initiation using DTP data. AIDS case reporting is passive in BC, thus; AIDS case reporting is not well captured. The DTP sends out AIDS reporting forms to physicians annually. The BCCDC uses DTP AIDS case reports as well as physician AIDS case reports made directly to the BCCDC. Interpreting AIDS case reports should be done with these limitations in mind. AIDS data is updated annually as very few AIDS cases reports are reported in general and trends would be difficult to notice if reported quarterly.

HIV-Related Mortality

Indicator 13. HIV-Related Mortality

This indicator is currently under revision.

APPENDICES

Indicator 1: Test Episodes (thousands)		2012				2013				2014				2015				2016			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
British Columbia		42.3	41.5	45.0	46.6	54.8	58.0	55.9	54.6	61.9	66.1	71.2	70.4	77.9	76.9	79.8	80.6	88.7	87.7	83.2	80.6
Gender	Female	18.9	18.9	20.8	21.5	25.7	27.5	26.4	25.6	28.7	31.2	33.7	33.7	37.4	37.3	38.7	38.7	42.3	42.6	40.1	38.2
	Male	20.8	20.1	21.6	22.7	26.2	27.9	26.5	26.2	30.0	31.6	33.8	33.7	37.2	36.7	38.3	39.1	43.3	42.5	40.4	39.6
	Other	0.4	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Age	< 30	14.0	13.5	14.8	14.7	15.7	16.7	16.8	16.3	17.4	17.6	19.2	18.9	19.7	19.9	21.8	21.8	22.2	22.6	22.8	21.9
	30–39	10.1	9.7	10.2	10.3	12.2	12.6	12.3	11.9	13.9	13.9	14.6	14.0	16.1	16.0	16.6	16.1	18.6	18.3	17.3	16.6
	40–49	6.9	6.8	6.9	7.6	9.0	9.3	8.7	8.5	9.7	10.1	10.5	10.5	11.6	11.4	11.7	11.8	13.3	12.9	11.8	11.6
	≥ 50	8.8	9.1	10.5	11.7	15.2	16.9	15.2	17.8	21.4	23.5	24.0	27.4	26.9	27.0	28.3	31.7	31.6	28.8	27.8	
POC Tests		2.3	2.1	2.3	2.2	2.6	2.4	2.7	2.6	3.0	3.0	3.3	2.9	2.9	2.6	2.6	2.6	2.7	2.3	2.4	2.4
Fraser Health		10.1	10.1	10.8	11.6	13.5	14.0	13.7	12.9	13.6	14.5	14.9	15.1	16.1	15.8	16.8	17.1	18.5	19.2	17.9	17.1
	Female	4.7	4.9	5.3	5.7	6.6	6.8	6.8	6.1	6.5	6.9	7.2	7.4	7.6	7.6	8.1	8.1	8.8	9.3	8.6	8.2
	Male	5.3	5.1	5.4	5.7	6.6	7.0	6.7	6.5	6.9	7.1	7.3	7.5	8.1	7.8	8.4	8.6	9.3	9.6	9.1	8.7
Interior Health		4.1	4.0	4.2	4.2	4.4	4.7	4.6	4.9	5.3	5.5	5.6	5.9	6.6	7.0	7.9	9.1	10.5	9.8	9.0	8.8
	Female	2.1	2.0	2.1	2.0	2.1	2.3	2.2	2.4	2.6	2.6	2.7	2.8	3.2	3.4	3.9	4.5	5.1	4.9	4.4	4.3
	Male	2.0	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.6	2.8	2.7	2.9	3.2	3.4	3.8	4.4	5.1	4.8	4.4	4.3
Island Health		4.0	3.7	3.8	4.0	4.2	4.5	4.3	4.3	4.9	4.8	4.8	4.9	5.9	6.0	6.4	6.6	7.1	7.2	6.5	6.4
	Female	1.9	1.8	1.9	2.0	2.1	2.2	2.1	2.1	2.3	2.3	2.4	2.4	2.9	3.0	3.2	3.3	3.5	3.7	3.4	3.2
	Male	2.0	1.8	1.8	1.8	2.0	2.1	2.0	1.9	2.2	2.1	2.1	2.1	2.6	2.6	2.8	2.9	3.1	3.2	2.8	2.9
Northern Health		2.3	2.2	2.2	2.3	2.7	2.7	2.6	2.6	3.1	3.0	2.9	3.0	3.7	3.2	3.2	3.2	3.7	3.4	3.1	3.1
	Female	1.2	1.1	1.2	1.2	1.3	1.4	1.3	1.3	1.6	1.5	1.5	1.5	1.9	1.6	1.6	1.6	1.9	1.7	1.5	1.5
	Male	1.1	1.0	1.0	1.1	1.2	1.2	1.1	1.2	1.4	1.3	1.3	1.4	1.6	1.4	1.5	1.4	1.6	1.5	1.4	1.4
Vancouver Coastal Health		21.8	21.4	24.0	24.5	30.1	32.1	30.7	29.9	35.0	38.4	43.0	41.6	45.5	44.8	45.5	44.6	49.0	48.1	46.7	45.2
	Female	9.0	9.0	10.3	10.7	13.6	14.8	14.0	13.6	15.8	17.9	20.0	19.6	21.8	21.6	21.8	21.2	23.0	23.1	22.2	21.0
	Male	10.5	10.3	11.4	11.9	14.3	15.3	14.4	14.3	16.8	18.3	20.4	19.9	21.8	21.4	21.9	21.7	24.1	23.4	22.7	22.3

Indicator 2: Rate of HIV Testing per 100,000		2009		2010		2011		2012		2013		2014		2015	
All British Columbia		2624.8		2645.5		2714.1		3318.2		4193.5		4967.3		5735.3	
Fraser Health		2251.1		2267.0		2330.7		2795.6		3316.2		3593.6		4014.6	
Interior Health		2027.2		2072.3		2093.6		2183.0		2585.1		3011.7		4086.2	
Northern Health		2291.8		2349.7		2434.3		2910.9		3326.7		3818.2		4338.5	
Vancouver Coastal Health		4124.7		4140.0		4342.7		5822.1		8106.2		10292.3		11567.5	
Island Health		1927.0		1919.8		1850.8		1982.7		2153.0		2334.9		2942.1	
Gender	Female	2446.2		2454.2		2523.0		3196.0		4166.6		4939.0		5764.0	
	Male	2694.7		2734.7		2809.1		3383.8		4180.4		4951.9		5656.6	
Age	< 30	2794.4		2801.8		2854.2		3230.8		3684.8		4045.3		4539.1	
	30–39	5089.8		5225.5		5251.7		6072.8		7204.0		8101.8		9007.8	
	40–49	3027.6		3025.1		3124.1		3832.8		4933.2		5705.1		6511.2	
	≥ 50	1240.3		1280.7		1395.5		2168.5		3302.9		4414.9		5355.7	

Indicator 3: New HIV Diagnoses		2012				2013				2014				2015				2016			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
British Columbia		70	55	52	60	49	79	80	57	63	75	63	60	64	61	65	49	57	70	72	59
	By Client Residence	70	55	52	60	49	79	80	57	63	75	63	60	64	61	65	49	57	70	72	59
Gender	By Provider Address	9	10	5	5	6	12	8	5	13	9	13	9	10	4	12	11	10	11	12	7
	Female	61	45	47	55	43	67	72	52	49	65	50	51	54	57	53	38	47	59	60	52
Age	Male	18	14	9	18	9	17	23	15	17	15	13	18	14	14	21	13	19	15	19	18
	< 30	16	17	11	10	16	25	18	11	17	21	25	15	15	17	17	8	19	13	21	20
	30–39	20	11	19	19	12	14	21	19	14	14	7	13	11	19	10	11	11	13	10	10
	40–49	16	13	13	13	12	23	18	12	15	25	18	14	24	11	17	17	8	29	21	11
Exposure	≥ 50	42	34	37	36	27	44	45	38	36	46	34	37	37	38	36	25	28	35		
	MSM	14	7	2	6	4	7	5	9	10	5	3	8	4	4	6	3	1	1		
	PWID	14	12	11	15	15	21	24	8	16	19	20	10	17	15	19	17	12	14		
	HET	0	1	0	1	0	1	5	0	0	1	4	2	2	0	1	0	2	1		
	Other	0	1	2	2	3	6	1	2	1	4	2	3	4	4	3	4	14	19		
NIR/Unknown		0	1	2	2	3	6	1	2	1	4	2	3	4	4	3	4	14	19		
Fraser Health		11	10	10	14	8	14	23	19	15	11	16	17	18	17	15	12	19	20	19	15
	By Client Residence	10	5	7	8	9	8	14	15	11	10	12	13	11	11	15	14	17	15	14	14
	By Provider Address	5	5	0	2	1	5	4	4	3	2	4	5	5	1	7	6	6	2	3	4
	Female	5	5	0	2	1	5	4	4	3	2	4	5	5	1	7	6	6	2	3	4
	Male	6	3	5	12	4	9	10	6	6	4	8	8	3	7	6	5	7	9	3	7
Island Health		3	3	5	12	5	9	10	6	6	4	8	8	3	7	6	5	7	9	3	7
	By Client Residence	5	4	3	0	3	8	3	3	2	5	4	2	1	2	2	1	2	4	4	2
	By Provider Address	5	4	3	0	3	8	3	3	2	5	3	2	1	2	2	1	3	4	4	2
Northern Health		5	4	3	0	3	8	3	3	2	5	3	2	1	2	2	1	2	4	4	2
	By Client Residence	5	4	3	0	3	8	3	3	2	5	3	2	1	2	2	1	2	4	4	2

Indicator 4: Stage of HIV Infection at Baseline

Indicator 1: Stage 0 HIV Infection Baseline																														
	British Columbia					Female					Male					< 30 years					30-39 years					40-49 years				
	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15
Stage 0	64	53	49	64	51	3	6	3	5	9	61	47	45	59	42	14	18	19	28	14	26	18	15	18	16	19	10	10	7	6
1	56	51	58	55	50	8	6	9	13	8	47	44	49	42	42	15	12	22	12	22	21	14	19	18	10	9	16	7	10	7
2a	43	28	46	33	22	8	5	6	4	2	35	23	40	29	20	11	4	12	5	7	14	4	14	7	4	13	11	10	8	5
2b	47	32	36	29	36	10	6	5	5	7	37	26	31	23	28	6	7	4	4	6	10	7	12	7	11	17	10	10	8	8
3	56	57	65	44	49	11	5	7	10	7	45	52	58	34	42	3	7	4	4	4	13	11	10	11	7	20	15	25	13	13
Unknown	22	15	11	35	29	3	1	1	8	5	18	14	10	27	24	5	7	0	7	4	8	3	2	12	10	4	2	3	9	10
Total	288	236	265	260	237	43	29	31	45	38	243	206	233	214	198	54	55	61	60	57	92	57	72	73	58	82	64	65	55	49

	≥ 50 years					MSM					Heterosexual					PWID					Other Exposure					NIR/Unknown				
	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15
Stage 0	5	7	5	11	15	52	42	36	54	34	5	4	7	4	4	7	7	4	4	13	0	0	1	1	0	0	0	1	1	0
1	11	9	10	15	11	34	33	36	31	36	8	6	6	10	1	13	11	13	13	10	1	1	0	1	1	0	0	3	0	2
2a	5	9	10	13	6	28	17	30	19	15	6	6	6	1	1	7	5	7	10	4	2	0	2	0	1	0	0	1	3	1
2b	14	8	10	10	11	24	16	24	13	21	3	7	0	4	4	19	8	9	10	9	1	0	1	1	1	0	1	2	1	1
3	20	24	26	16	25	20	30	24	16	15	7	5	5	4	5	27	20	30	18	23	2	0	1	3	0	0	2	5	3	6
Unknown	5	3	6	7	5	12	10	4	19	13	5	1	1	3	2	2	1	5	10	9	1	1	1	1	0	2	2	0	2	5
Total	60	60	67	72	73	170	148	154	152	134	34	29	25	26	17	75	52	68	65	68	7	2	6	7	3	2	5	12	10	15

Indicator 5: HIV Cascade of Care			Diagnosed	Linked	Retained	On ARVs	Adherent	Suppressed
British Columbia			10247	9421	7794	7295	6733	5828
Gender	Men		8403	7785	6451	6067	5657	4960
	Women		1844	1636	1342	1228	1076	868
Age Category	< 30		502	342	281	257	217	173
	30-39		1347	1233	1003	914	788	665
	40-49		2545	2373	1946	1809	1652	1386
	≥ 50		5845	5473	4563	4315	4076	3604
MSM Status	MSM		3478	3413	3080	2920	2739	2487
	Non-MSM		2873	2799	2525	2362	2113	1687
	Unknown		3896	3210	2189	2013	1881	1654
Age Category and MSM Status	MSM	< 30	144	129	111	102	89	75
		30-39	437	423	354	326	285	260
		40-49	718	704	630	591	553	491
		≥ 50	2179	2157	1985	1901	1812	1661
	Non-MSM	< 30	53	49	40	37	25	17
		30-39	369	355	316	288	234	178
		40-49	833	811	715	669	585	443
		≥ 50	1619	1584	1454	1368	1269	1049
	Unknown	< 30	305	164	130	118	103	81
		30-39	541	456	333	300	269	227
		40-49	994	858	601	549	514	452
		≥ 50	2047	1732	1125	1046	995	894
PWID Status	PWID		2532	2474	2257	2117	1887	1497
	Non-PWID		4730	4639	4186	3963	3719	3327
	Unknown		2985	2308	1350	1215	1127	1004
Health Authority	Fraser Health		2171	2085	1871	1785	1630	1409
	Interior Health		627	613	511	478	445	369
	Island Health		1045	1014	922	872	808	655
	Northern Health		304	286	247	224	197	132
	Vancouver Coastal Health		4818	4669	4118	3935	3653	3263

Indicator 6: Programmatic Compliance Score (PCS)		2015				2016			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
< 3 CD4 Tests		19.3%	16.1%	14.9%	17.7%	16.0%	16.4%	19.4%	20.4%
< 3 Viral Load Tests		7.3%	6.6%	6.7%	7.5%	7.8%	9.0%	10.0%	12.5%
No Baseline Genotype		3.6%	4.6%	3.5%	4.0%	4.2%	4.3%	5.6%	6.7%
Baseline CD4 < 200 cells/μL		23.0%	21.6%	20.6%	23.0%	23.5%	26.2%	26.2%	25.2%
Non-Recommended ART		2.2%	1.7%	1.6%	3.4%	7.2%	8.3%	10.3%	11.5%
Non Viral Suppression at 9 Mo.		27.7%	25.6%	24.4%	24.5%	25.2%	28.7%	27.5%	27.5%
PCS Score: 0		171	178	172	163	143	136	126	119
PCS Score: 1		111	102	88	94	96	114	113	111
PCS Score: 2		46	46	33	38	44	44	49	48
PCS Score: 3		22	17	16	20	19	22	23	24
PCS Score: 4 or more		7	5	6	7	4	8	9	11
Total (n=)		357	348	315	322	306	324	320	313

Indicator 7: New DTP ARV Participants

First Starts	88	97	75	72	57	73	92	72
Experienced Starts	134	125	122	140	119	128	131	133

Indicator 8: CD4 Cell Count Initiation for ARV-Naïve DTP Participants

CD4 ≥ 500	32	34	29	28	14	31	28	25
CD4 350-499	13	12	9	10	15	14	19	16
CD4 200-349	22	21	14	13	11	11	18	15
CD4 50-199	13	17	11	10	11	12	21	10
CD4 < 50	4	11	10	6	4	4	3	5
CD4 MED	388	340	360	401	378	465	370	400
Total (n=)	84	95	73	67	55	72	89	71

Indicator 9: Active and Inactive DTP Participants

Active DTP Participants	7056	7131	7172	7233	7239	7284	7341	7410
Inactive DTP Participants	1158	1155	1168	1167	1194	1210	1250	1242

Indicator 10: Antiretroviral Adherence

≥ 95%	79	74	73	68	70	81	74	64
80% to < 95%	14	20	16	12	21	17	15	17
40% to < 80%	13	8	12	3	12	8	5	10
< 40%	1	0	1	2	2	3	3	2
Total (n=)	107	102	102	85	105	109	97	93

Indicator 11: Resistance Testing and Results

Suppressed	5244	5205	5081	5093	5463	5362	5235	5136
Wild Type	694	655	765	654	586	532	607	590
Never Genotyped	40	40	41	35	27	25	23	34
1-Class	151	144	137	115	110	108	109	112
2-Class	31	25	31	22	15	15	13	19
3-Class	8	8	7	2	3	2	3	3
4-Class	0	0	0	1	0	0	0	0
Total (n=)	6168	6077	6062	5922	6204	6044	5990	5894

Indicator 12: AIDS-Defining Illness

	2008	2009	2010	2011	2012	2013	2014	2015
CD4 < 200 at Cases	193	155	138	115	96	90	84	84
ART initiation <i>Rate per 100,000</i>	4.4	3.5	3.1	2.6	2.1	2.0	1.8	1.8
AIDS Cases Cases	131	110	108	87	75	83	82	71
(DTP Reports) <i>Rate per 100,000</i>	3.0	2.5	2.4	1.9	1.7	1.8	1.8	1.5
AIDS Cases Cases	147	125	116	98	82	82	86	68
(BCCDC Reports) <i>Rate per 100,000</i>	3.4	2.8	2.6	2.2	1.8	1.8	1.9	1.5

Indicator 13: HIV-Related Mortality

	2004	2005	2006	2007	2008	2009	2010	2011
British Columbia	105	146	142	100	79	63	54	59
Per 100 HIV+ Population	1.03	1.40	1.34	0.93	0.72	0.56	0.47	0.50
Per 100,000 Population	2.50	3.43	3.29	2.28	1.80	1.41	1.19	1.29