BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

HIV MONITORING QUARTERLY REPORT

FOR ISLAND HEALTH

THIRD 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

Providence HEALTH CARE
How you want to be treated.

Vancouver CoastalHealth
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

Table of Contents

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

Jennifer May-Hadford, IHA

Kari Harder, NHA

Dr. Neora Pick, PHSA

Dr. Reka Gustafson, VCHA

Dr. Melanie Rusch, VIHA

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.

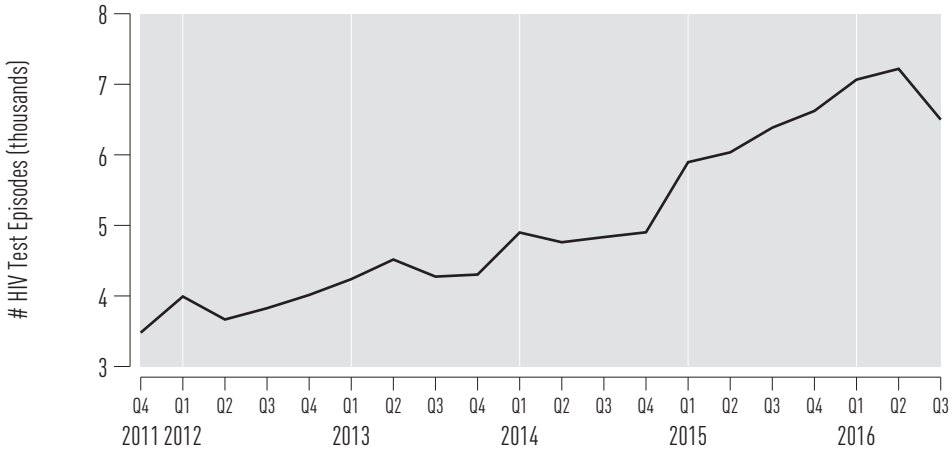
The goals of HA-led STOP-funded initiatives are to work toward achieving these goals. To these ends some outcome measures or indicators of progress have been drafted that should be considered in the design and implementation phases of these initiatives.

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.

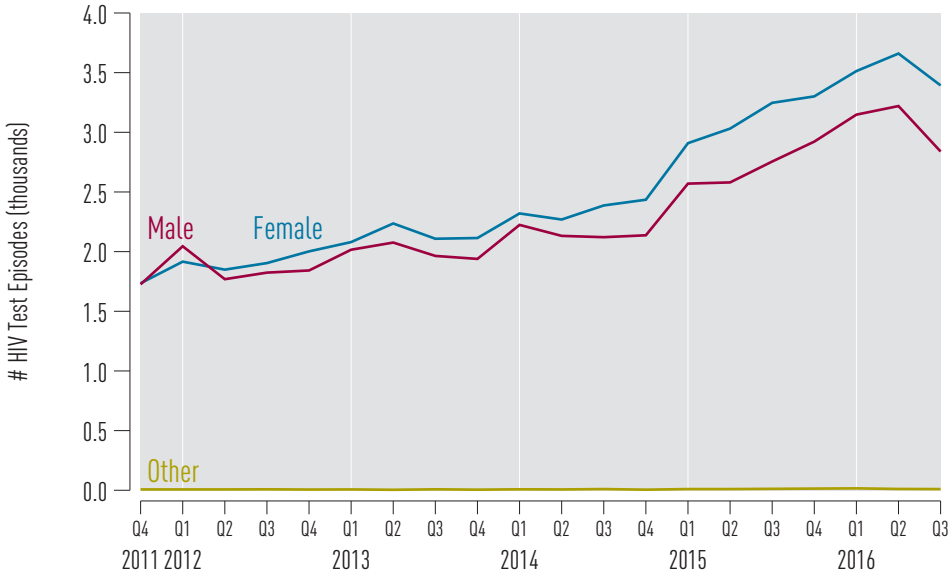
Indicator 1. HIV Testing Episodes

Figure 1.1 HIV Test Episodes for Island Health, 2011 Q4–2016 Q3



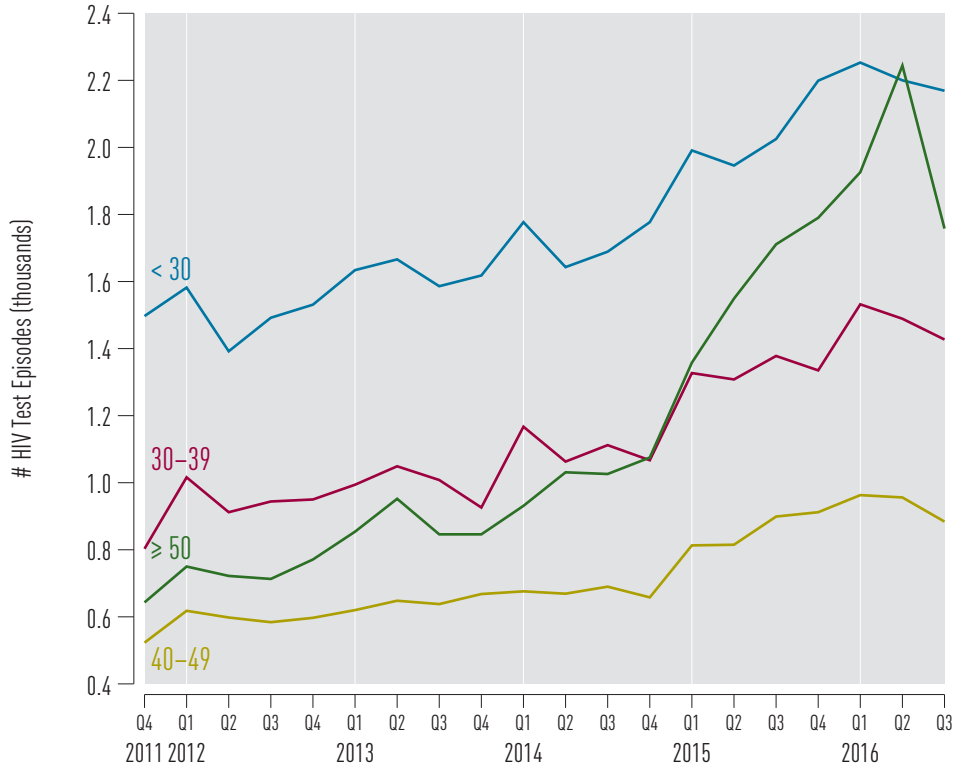
	2011 Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1	Q2	Q3
Island Health	3.5	4.0	3.7	3.8	4.0	4.2	4.5	4.3	4.3	4.9	4.8	4.8	4.9	5.9	6.0	6.4	6.6	7.1	7.2	6.5

Figure 1.2 HIV Test Episodes by Gender for Island Health [1]



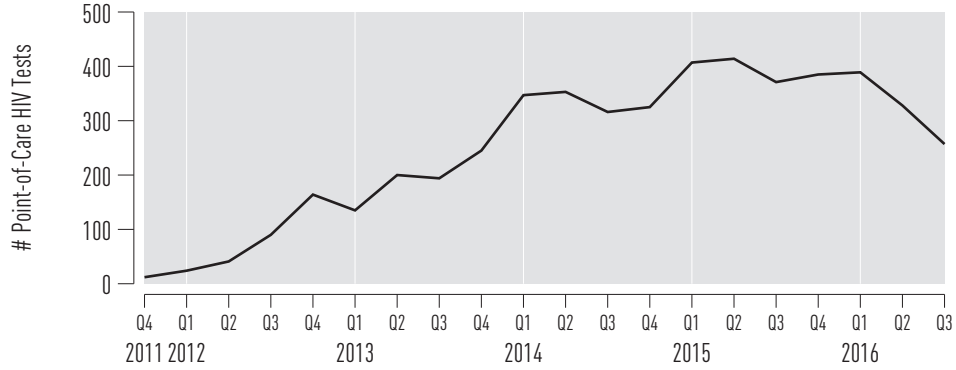
	2011 Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1	Q2	Q3
Female	1.7	1.9	1.8	1.9	2.0	2.1	2.2	2.1	2.1	2.3	2.3	2.4	2.4	2.9	3.0	3.2	3.3	3.5	3.7	3.4
Male	1.7	2.0	1.8	1.8	1.8	2.0	2.1	2.0	1.9	2.2	2.1	2.1	2.1	2.6	2.6	2.8	2.9	3.1	3.2	2.8
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Figure 1.3 HIV Test Episodes by Age Category for Island Health [1,2]



< 30	1.5	1.6	1.4	1.5	1.5	1.6	1.7	1.6	1.6	1.8	1.6	1.7	1.8	2.0	1.9	2.0	2.2	2.3	2.2	2.2
30–39	0.8	1.0	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.2	1.1	1.1	1.1	1.3	1.3	1.4	1.3	1.5	1.5	1.4
40–49	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	0.9
≥ 50	0.6	0.8	0.7	0.7	0.8	0.9	1.0	0.8	0.8	0.9	1.0	1.0	1.1	1.4	1.5	1.7	1.8	1.9	2.2	1.8

Figure 1.4 Point-of-Care HIV Tests for Island Health



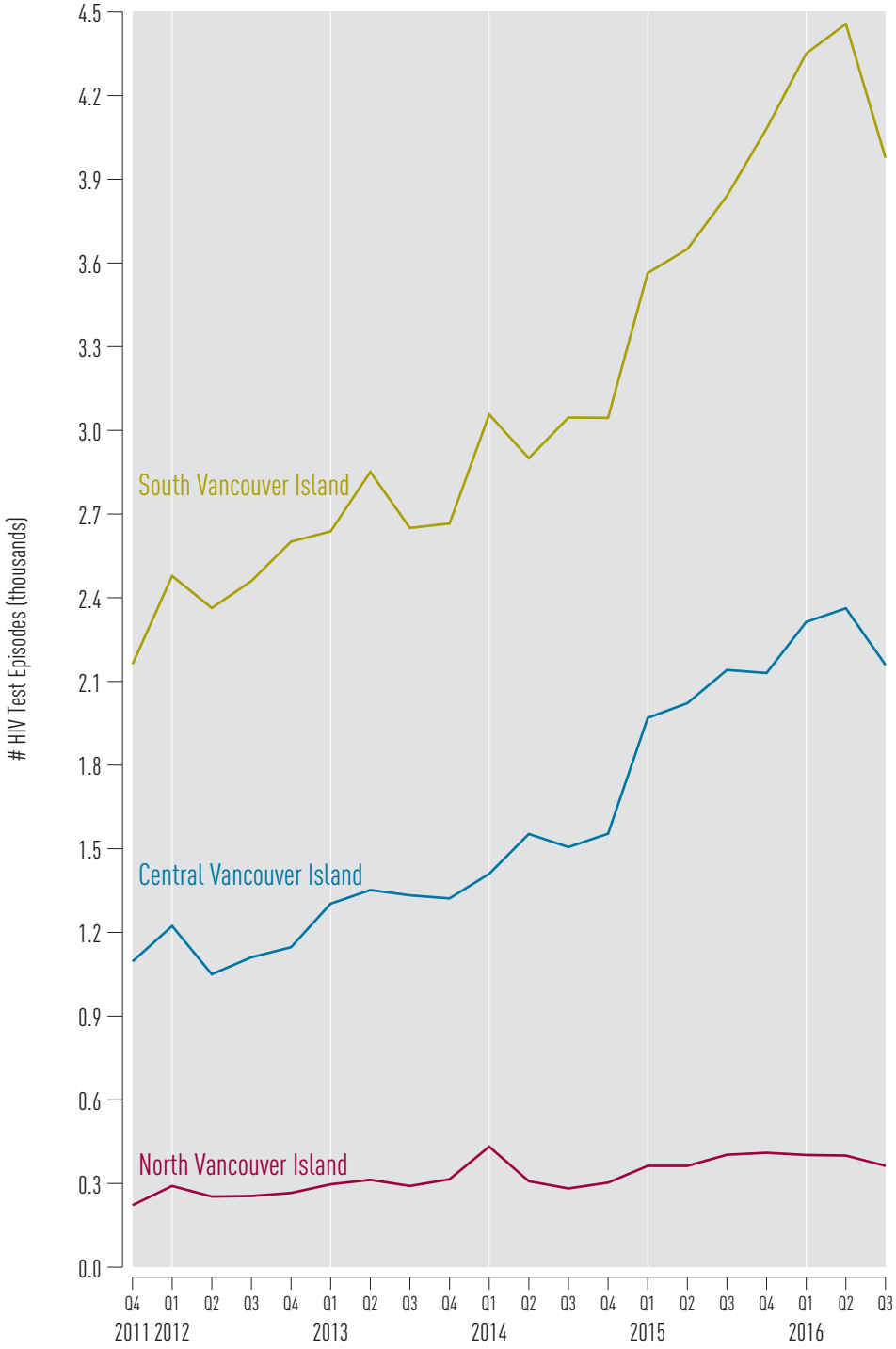
Island Health	12.0	24.0	41.0	90.0	164.0	135.0	200.0	194.0	245.0	347.0	353.0	316.0	325.0	407.0	414.0	371.0	385.0	389.0	328.0	257.0

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 VIHA 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.

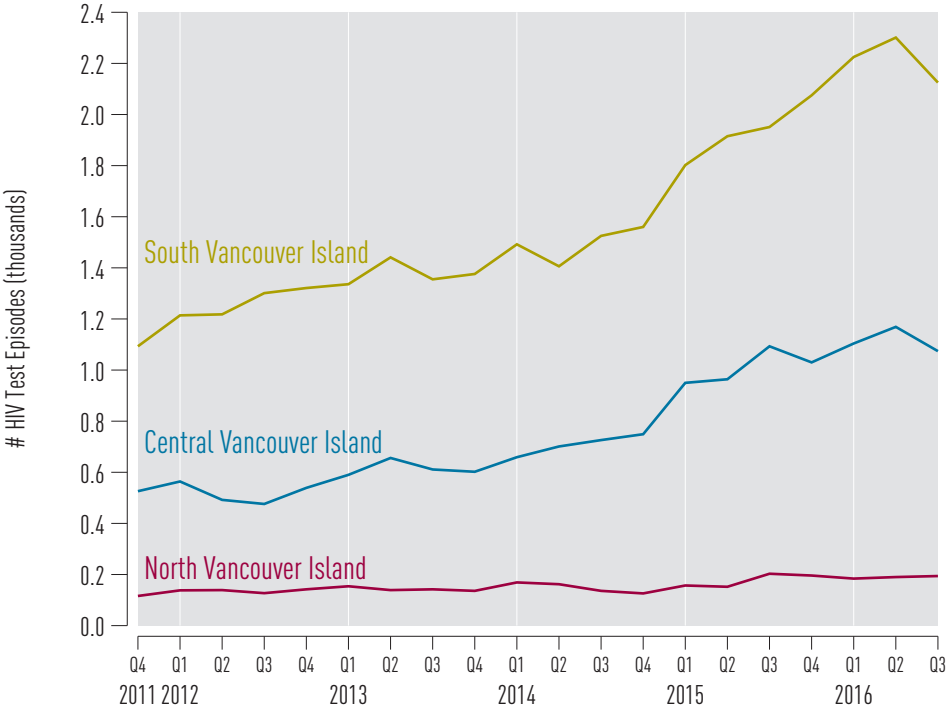
2 *Testing does not include point of care tests.*

Figure 1.5 HIV Test Episodes for Island Health by HSDA, 2011 Q4–2016 Q3 [1]



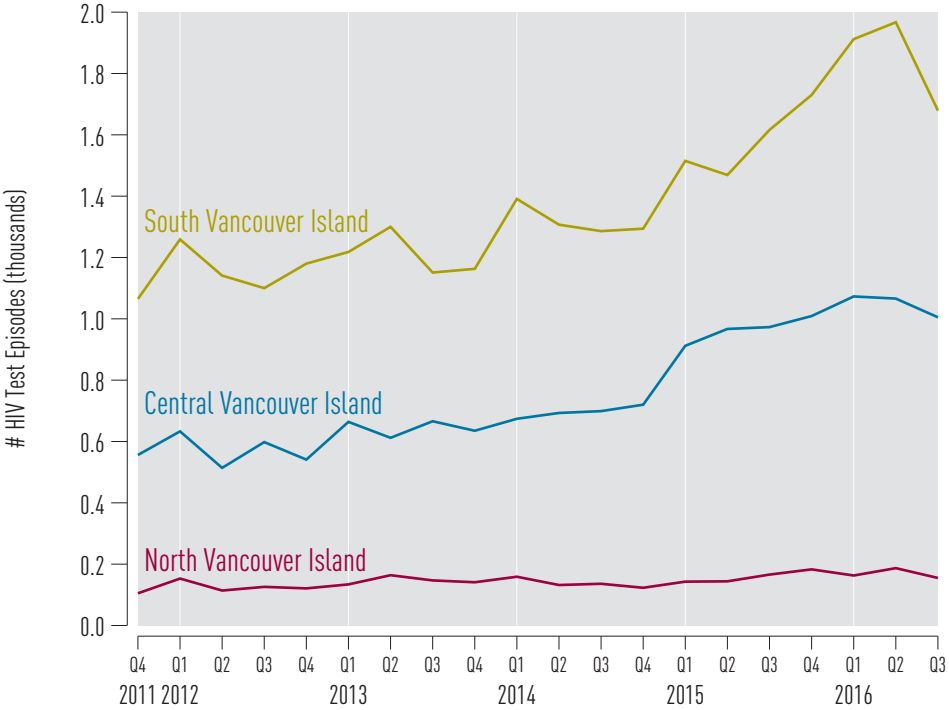
Central Vancouver Island	1.1	1.2	1.1	1.1	1.1	1.3	1.4	1.3	1.3	1.4	1.6	1.5	1.6	2.0	2.0	2.1	2.1	2.3	2.4	2.2
North Vancouver Island	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
South Vancouver Island	2.2	2.5	2.4	2.5	2.6	2.6	2.9	2.6	2.7	3.1	2.9	3.0	3.0	3.6	3.6	3.8	4.1	4.4	4.5	4.0

Figure 1.6 HIV Test Episodes for Non-prenatal Females in Island Health by HSDA [1]



Central Vancouver Island	0.5	0.6	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.9	1.0	1.1	1.0	1.1	1.2	1.1
North Vancouver Island	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
South Vancouver Island	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.3	2.1

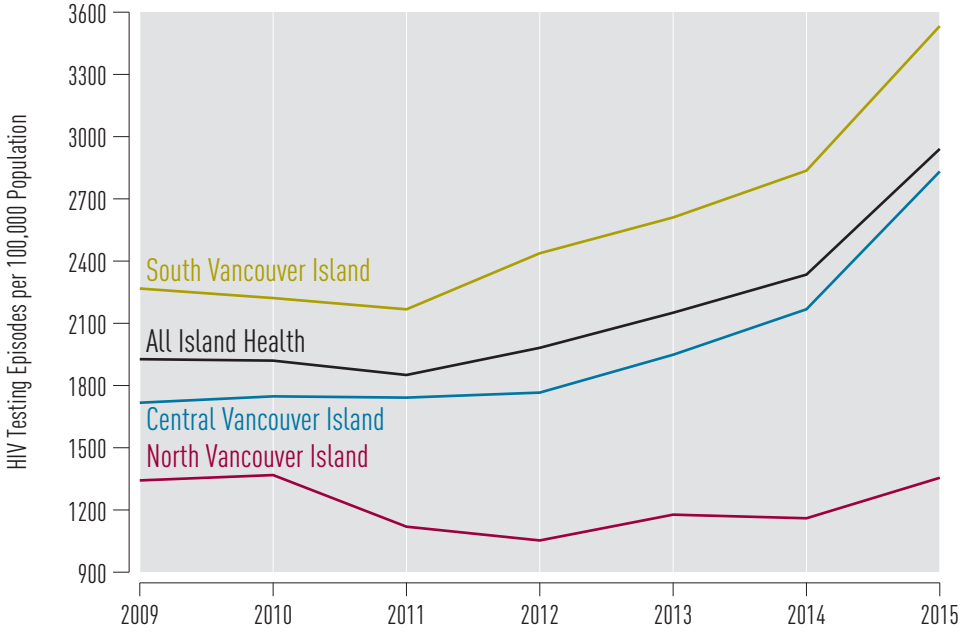
Figure 1.7 HIV Test Episodes for Males in Island Health by HSDA [1]



Central Vancouver Island	0.6	0.6	0.5	0.6	0.5	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.9	1.0	1.0	1.0	1.1	1.1	1.0
North Vancouver Island	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
South Vancouver Island	1.1	1.3	1.1	1.1	1.2	1.2	1.3	1.2	1.2	1.4	1.3	1.3	1.3	1.5	1.5	1.6	1.7	1.9	2.0	1.7

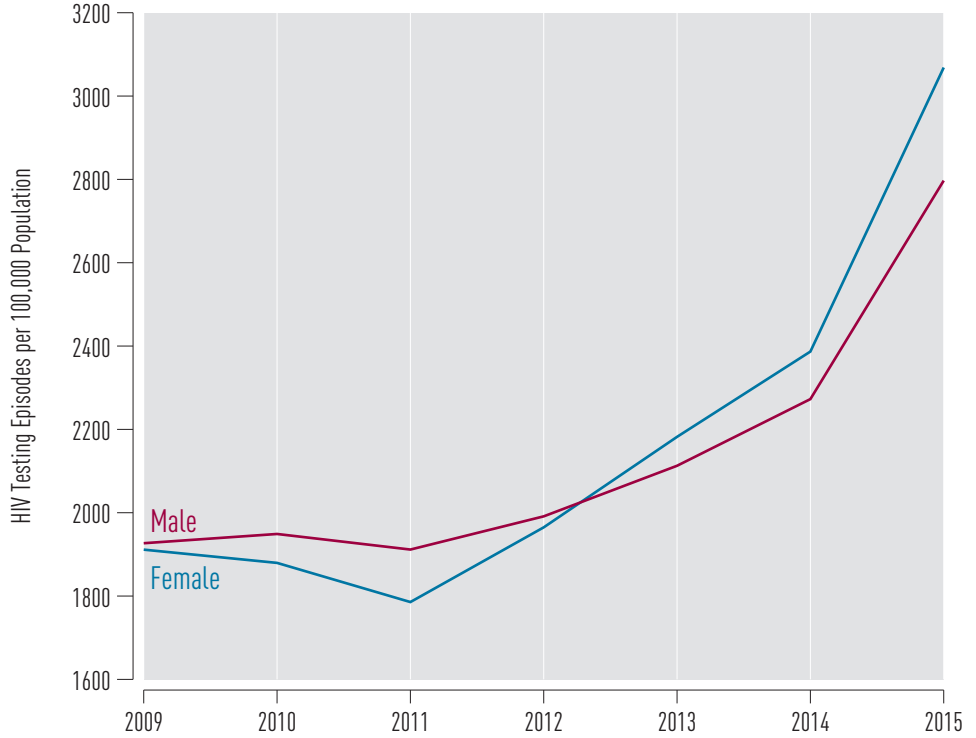
Indicator 2. HIV Testing Rates

Figure 2.1 Rate of HIV Testing for Island Health and HSDAs [2]



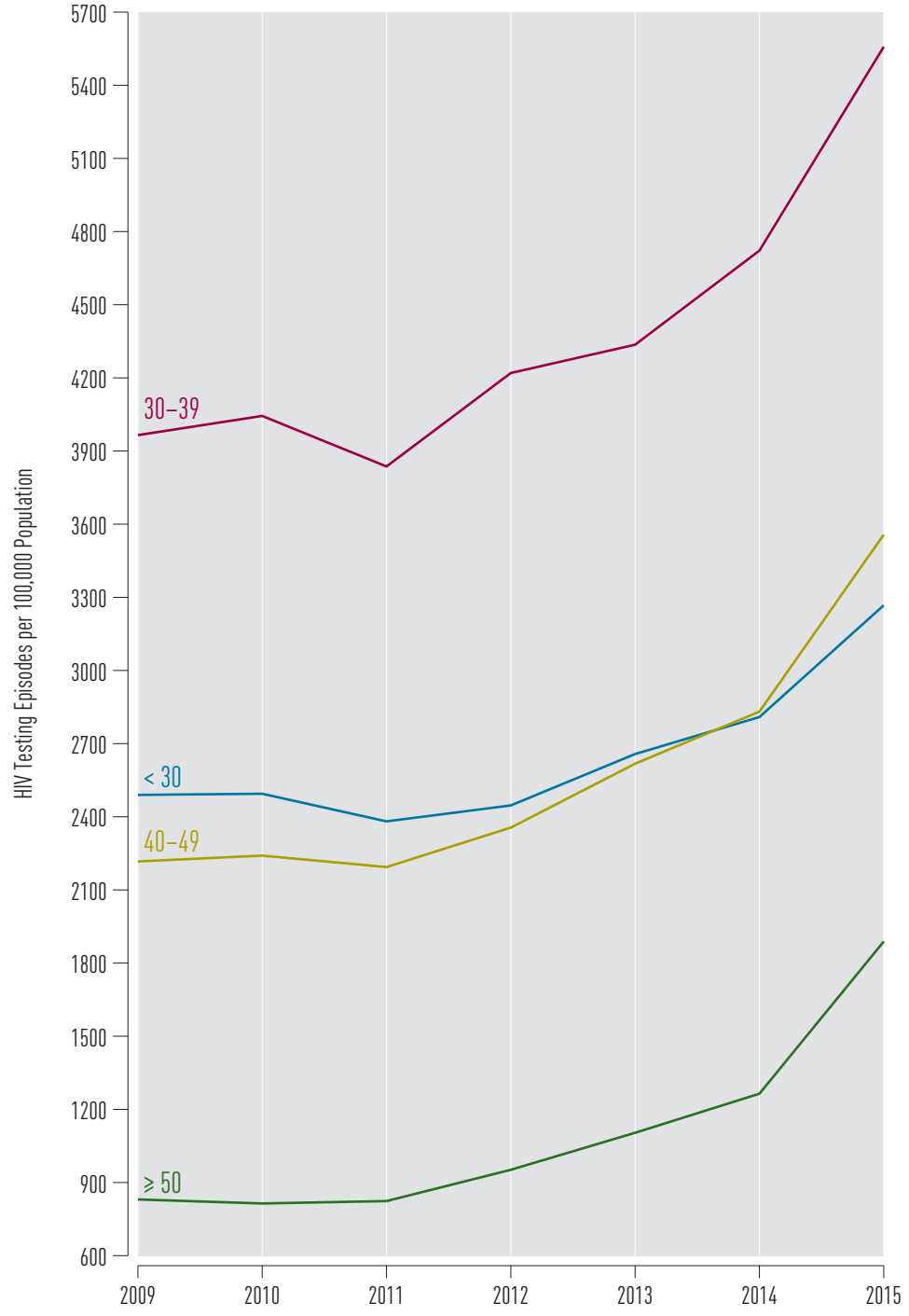
All Island Health	1927.0	1920.0	1850.8	1981.8	2151.0	2334.8	2940.8
Central Vancouver Island	1717.1	1747.8	1741.7	1765.9	1948.4	2167.7	2832.0
North Vancouver Island	1342.5	1368.3	1119.4	1053.1	1177.4	1160.0	1355.2
South Vancouver Island	2267.7	2221.7	2167.4	2437.8	2610.3	2836.0	3533.2

Figure 2.2 Rate of HIV Testing by Gender for Island Health [2]



Female	1911.4	1879.6	1785.6	1964.9	2182.1	2386.8	3068.5
Male	1926.8	1949.0	1911.6	1991.3	2112.7	2272.7	2797.1

Figure 2.3 Rate of HIV Testing by Age Category for Island Health [2]



< 30	2489.7	2494.4	2381.1	2446.5	2657.3	2809.0	3267.2
30–39	3965.1	4043.9	3836.6	4219.9	4336.0	4721.9	5557.8
40–49	2216.7	2240.7	2193.7	2355.5	2617.7	2831.2	3556.9
≥ 50	830.6	814.1	823.9	952.2	1104.0	1264.2	1888.2

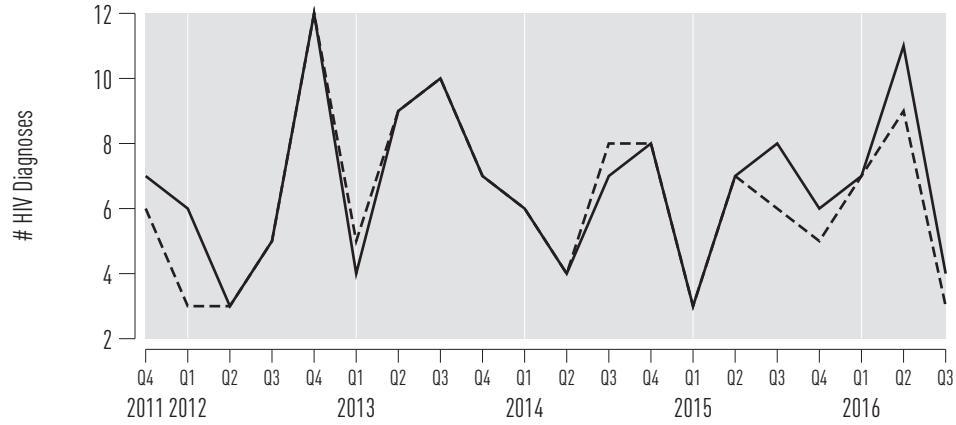
2 *Testing does not include point of care tests.*

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.

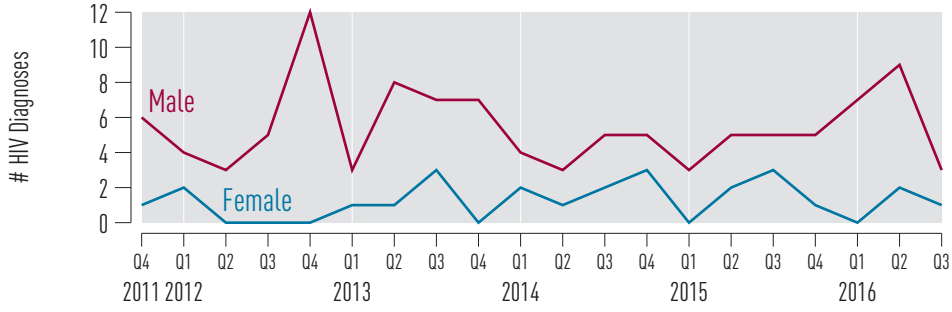
Indicator 3. New HIV Diagnoses

Figure 3.1 New HIV Diagnoses for Island Health [3]



Island Health	7	6	3	5	12	4	9	10	7	6	4	7	8	3	7	8	6	7	11	4
By Provider Address	*6*	*3*	*3*	*5*	*12*	*5*	*9*	*10*	*7*	*6*	*4*	*8*	*8*	*3*	*7*	*6*	*5*	*7*	*9*	*3*

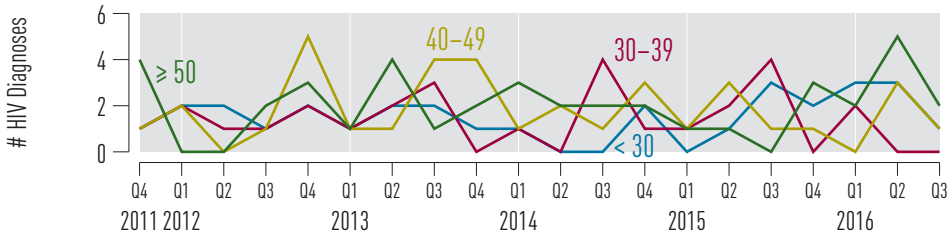
Figure 3.2 New HIV Diagnoses for Island Health by Gender [3]



Female	1	2	0	0	0	1	1	3	0	2	1	2	3	0	2	3	1	0	2	1
Male	6	4	3	5	12	3	8	7	7	4	3	5	5	3	5	5	5	7	9	3

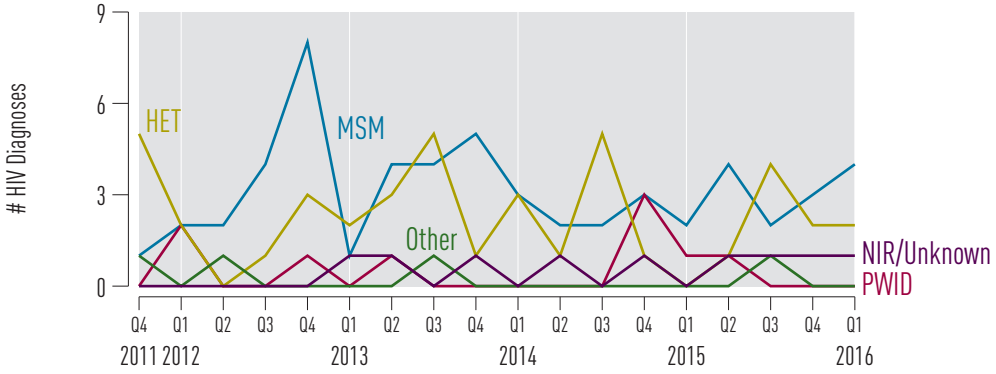
3 *Data Source: BCCDC. When present, "By Provider Address" is graphed as dashed line in same colour.*

Figure 3.3 New HIV Diagnoses for Island Health by Age Category [3]



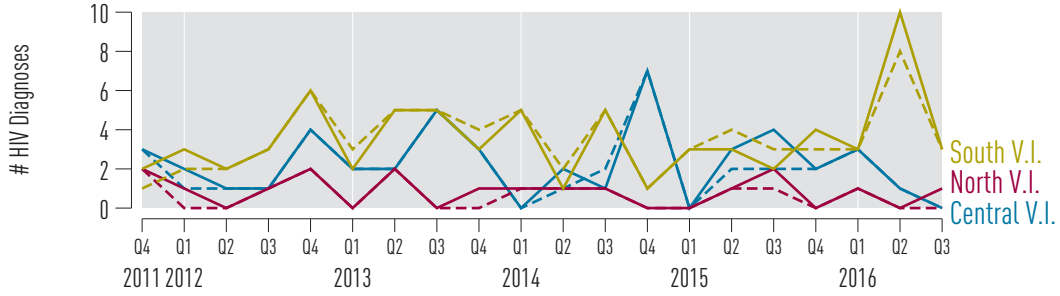
< 30	1	2	2	1	2	1	2	2	1	1	0	0	2	0	1	3	2	3	3	1
30–39	1	2	1	1	2	1	2	3	0	1	0	4	1	1	2	4	0	2	0	0
40–49	1	2	0	1	5	1	1	4	4	1	2	1	3	1	3	1	1	0	3	1
≥ 50	4	0	0	2	3	1	4	1	2	3	2	2	2	1	1	0	3	2	5	2

Figure 3.4 New HIV Diagnoses for Island Health by Exposure Category [3,4]



MSM (men who have sex with men)	1	2	2	4	8	1	4	4	5	3	2	2	3	2	4	2	3	4		
PWID (persons who inject drugs)	0	2	0	0	1	0	1	0	0	0	0	0	3	1	1	0	0	0		
HET (heterosexual)	5	2	0	1	3	2	3	5	1	3	1	5	1	0	1	4	2	2		
Other (other exposure identified)	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0		
NIR/Unknown (no identified exposure)	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	1	1	1		

Figure 3.5 New HIV Diagnoses for Island Health by HSDA [3]



Central Vancouver Island	3	2	1	1	4	2	2	5	3	0	2	1	7	0	3	4	2	3	1	0
By Provider Address	*3*	*1*	*1*	*1*	*4*	*2*	*2*	*5*	*3*	*0*	*1*	*2*	*7*	*0*	*2*	*2*	*2*	*3*	*1*	*0*
North Vancouver Island	2	1	0	1	2	0	2	0	1	1	1	1	0	0	1	2	0	1	0	1
By Provider Address	*2*	*0*	*0*	*1*	*2*	*0*	*2*	*0*	*0*	*1*	*1*	*1*	*0*	*0*	*1*	*1*	*0*	*1*	*0*	*0*
South Vancouver Island	2	3	2	3	6	2	5	5	3	5	1	5	1	3	3	2	4	3	10	3
By Provider Address	*1*	*2*	*2*	*3*	*6*	*3*	*5*	*5*	*4*	*5*	*2*	*5*	*1*	*3*	*4*	*3*	*3*	*3*	*8*	*3*

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.*

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

Updated 2016 Q1: AIDS diagnosis date is no longer used in this indicator.

Figure 4.1 Stage of HIV Infection at Diagnosis for Island Health, 2011–2015 [5]

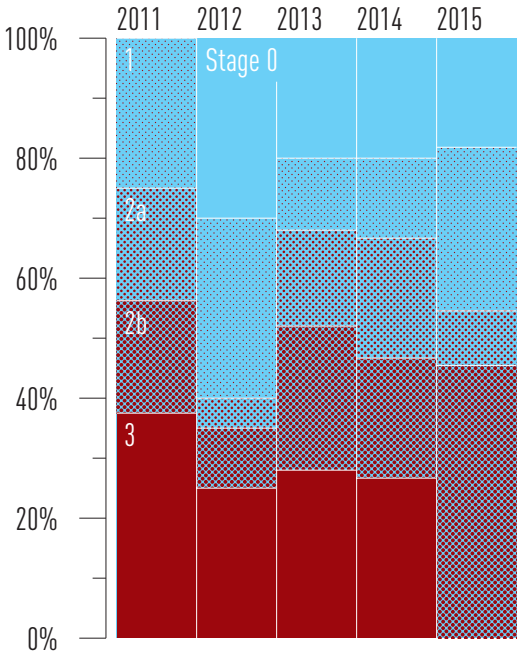
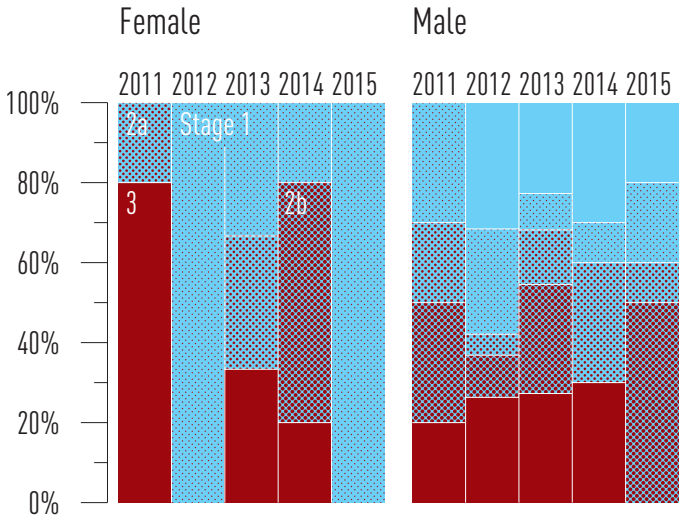


Figure 4.2 Stage of HIV Infection at Diagnosis by Gender for Island Health, 2011–2015 [5]



	Island Health					*Female*					*Male*				
	2011	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15
Stage 0	0	6	5	3	2	0	0	0	0	0	0	6	5	3	2
Stage 1	4	6	3	2	3	0	1	1	1	1	3	5	2	1	2
Stage 2a	3	1	4	3	1	1	0	1	0	0	2	1	3	3	1
Stage 2b	3	2	6	3	5	0	0	0	3	0	3	2	6	0	5
Stage 3	6	5	7	4	0	4	0	1	1	0	2	5	6	3	0
Unknown	3	4	5	11	11	0	0	1	3	4	3	4	4	8	7
Total *(n=)*	19	24	30	26	22	5	1	4	8	5	13	23	26	18	17

5 *Data Source: BCCDC*

Figure 4.3 Stage of HIV Infection at Diagnosis by Age Category for Island Health, 2011–2015 [5]

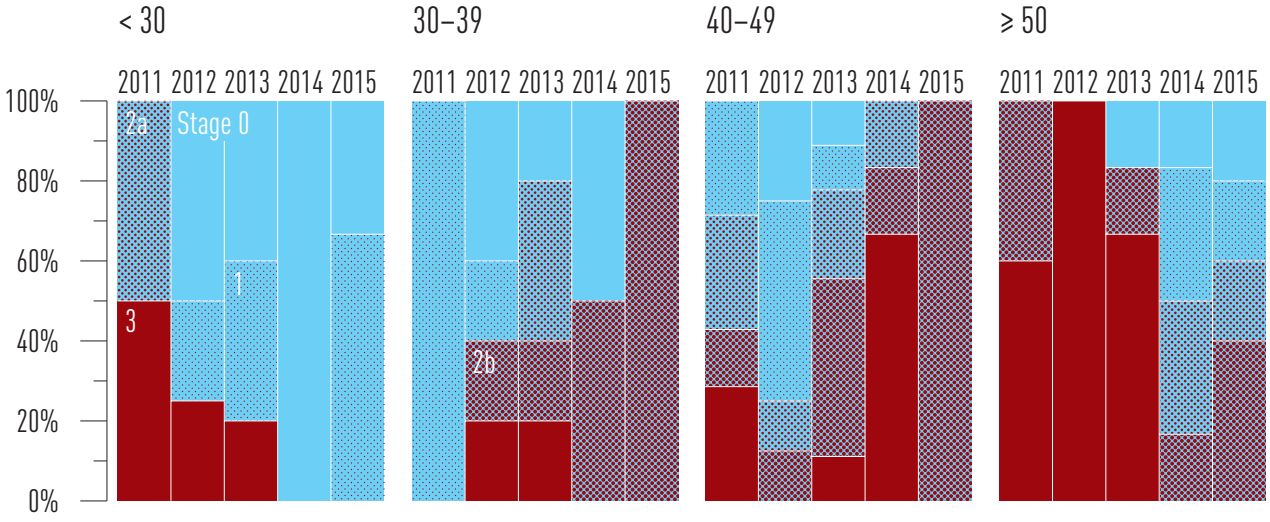
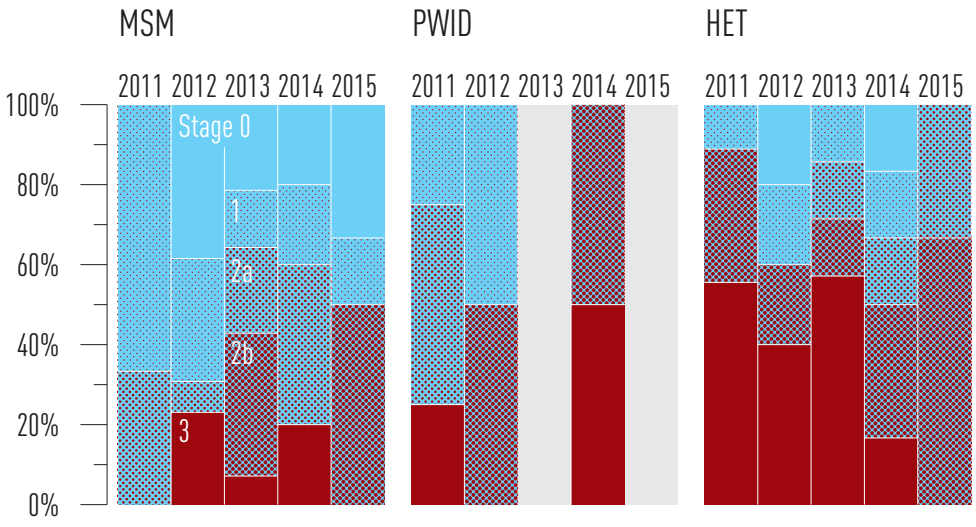


Figure 4.4 Stage of HIV Infection at Diagnosis by Exposure Category for Island Health, 2011–2015 [5,6]



	< 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	0	2	2	1	1	0	2	1	1	0	0	2	1	0	0	0	0	1	1	1	0	5	3	1	2	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0
Stage 1	0	1	2	0	2	2	1	0	0	0	2	4	1	0	0	0	0	0	2	1	2	4	2	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	1
Stage 2a	1	0	0	0	0	0	0	2	0	0	2	1	2	1	0	0	0	0	2	1	1	1	3	2	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Stage 2b	0	0	0	0	0	0	1	1	1	1	1	4	1	2	2	0	1	1	2	0	0	0	5	0	3	3	1	1	2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0
Stage 3	1	1	1	0	0	0	1	1	0	0	2	0	1	4	0	3	3	4	0	0	0	3	1	1	0	5	2	4	1	0	1	0	0	1	0	0	0	0	0	0	0	2	1	0
Unknown	0	1	0	2	2	2	1	1	3	5	1	0	1	2	2	0	2	3	4	2	3	2	1	6	3	0	0	3	4	4	0	1	1	1	2	0	1	0	0	0	0	0	0	2
Total *(n=)*	2	5	5	3	5	4	6	6	5	6	8	8	10	8	4	5	5	9	10	7	6	15	15	11	9	9	5	10	10	7	4	3	1	3	2	0	1	1	0	1	0	0	3	2	3

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 Island Health and stratified by sex and age.

Figure 5.1 Estimated Cascade of Care for Island Health, Year Ending 2016 Q3 [7]

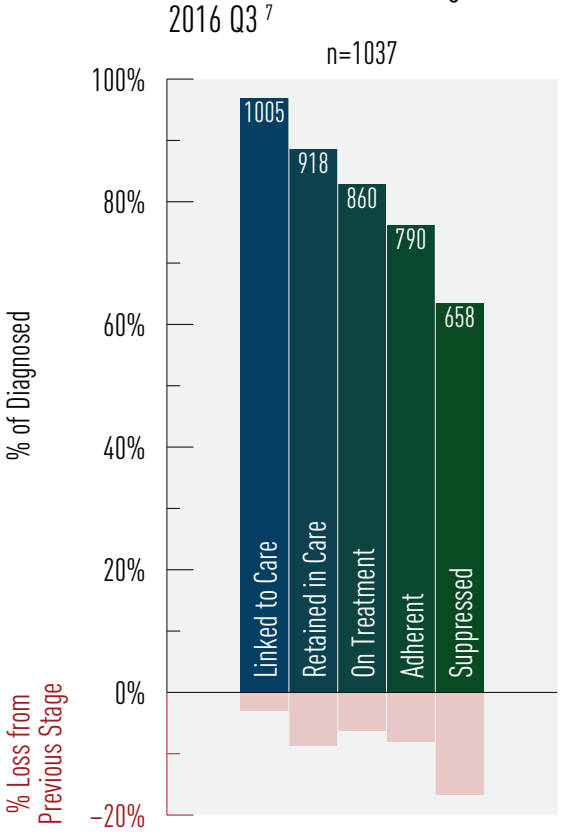
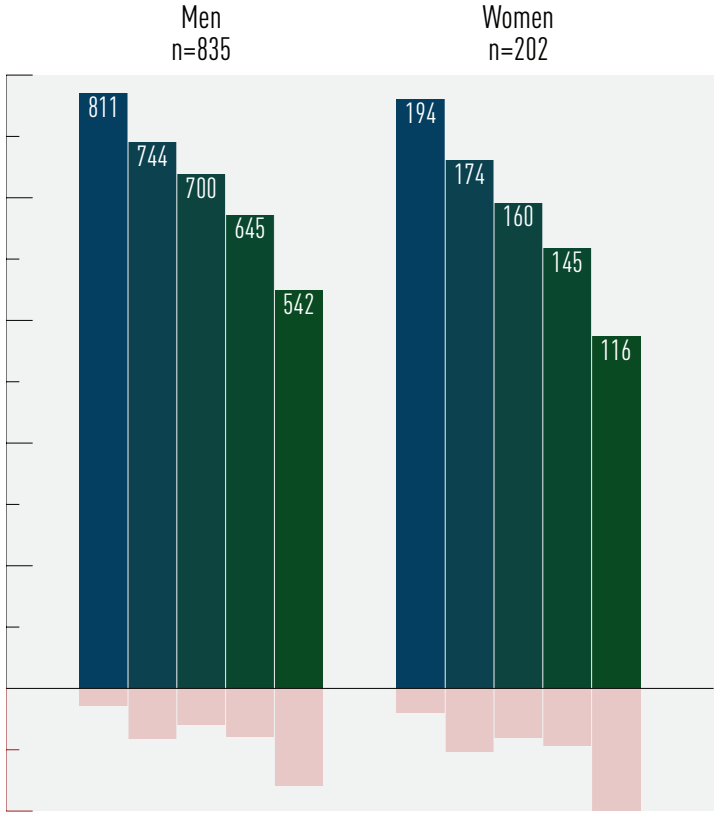


Figure 5.2 Estimated Cascade of Care for Island Health by Gender, Year Ending 2016 Q3 [7]

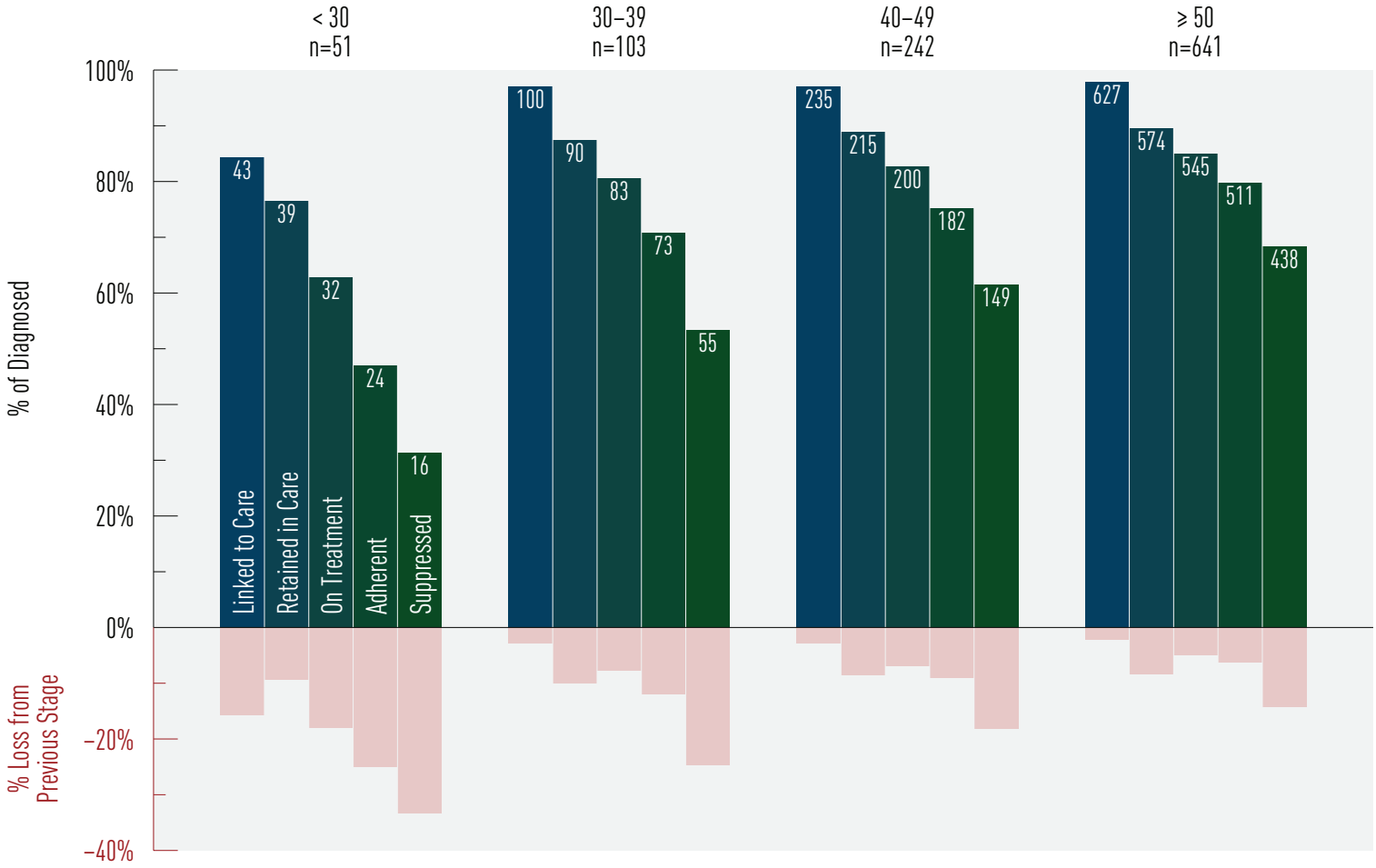


7 *Data is for the period 2015 Q4–2016 Q3.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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.

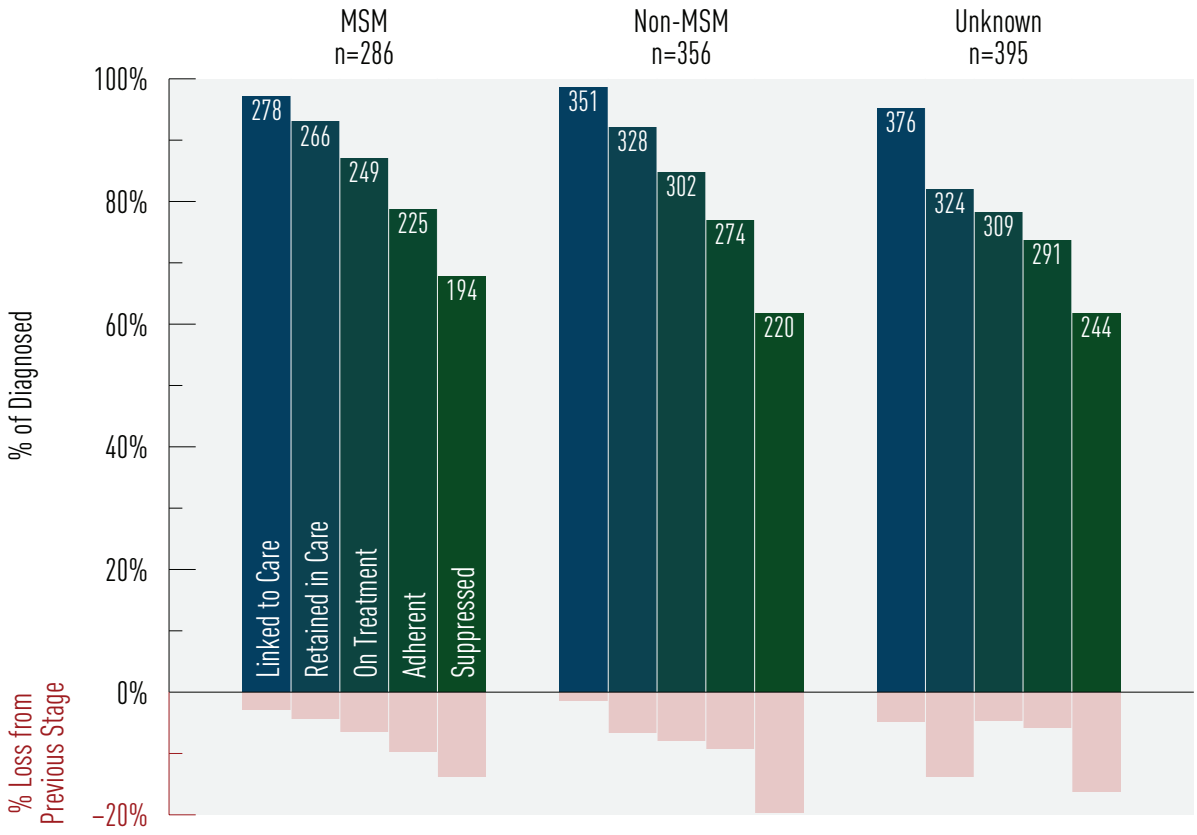
Figure 5.3 Estimated Cascade of Care for Island Health by Age Category, Year Ending 2016 Q3 [8]



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.

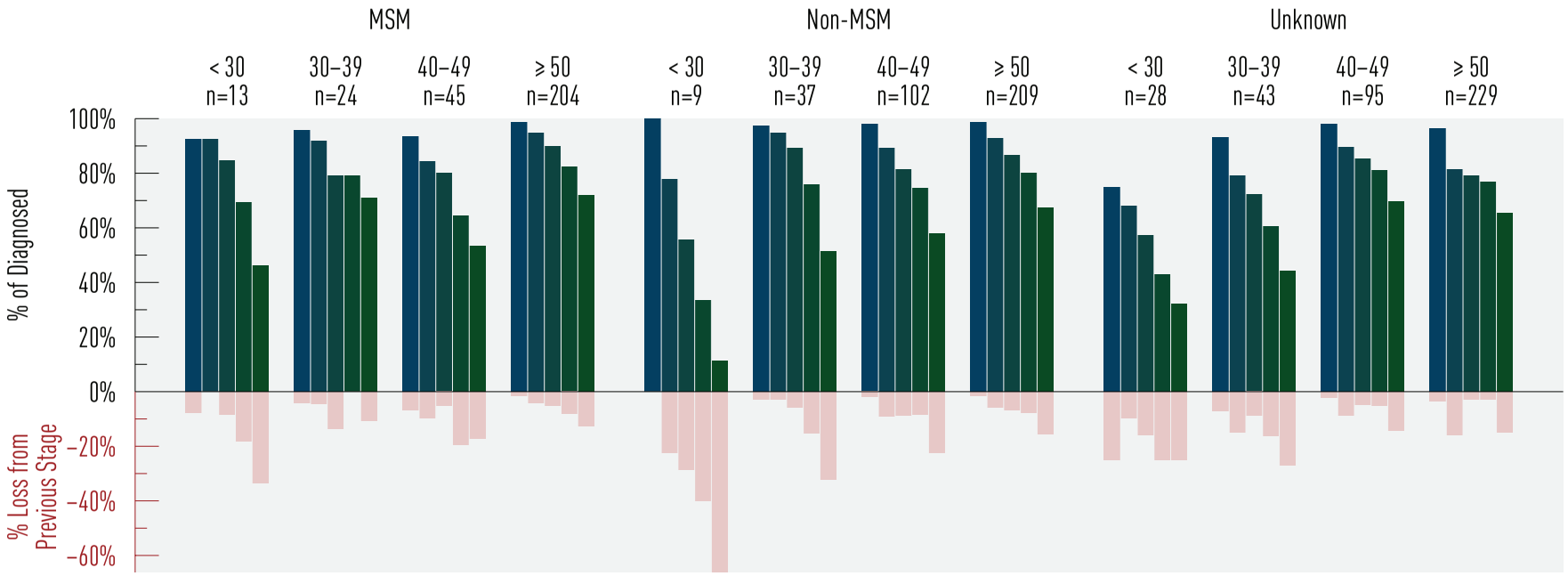
Figure 5.4 Estimated Cascade of Care for Island Health by MSM Status, Year Ending 2016 Q3 [9]



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.

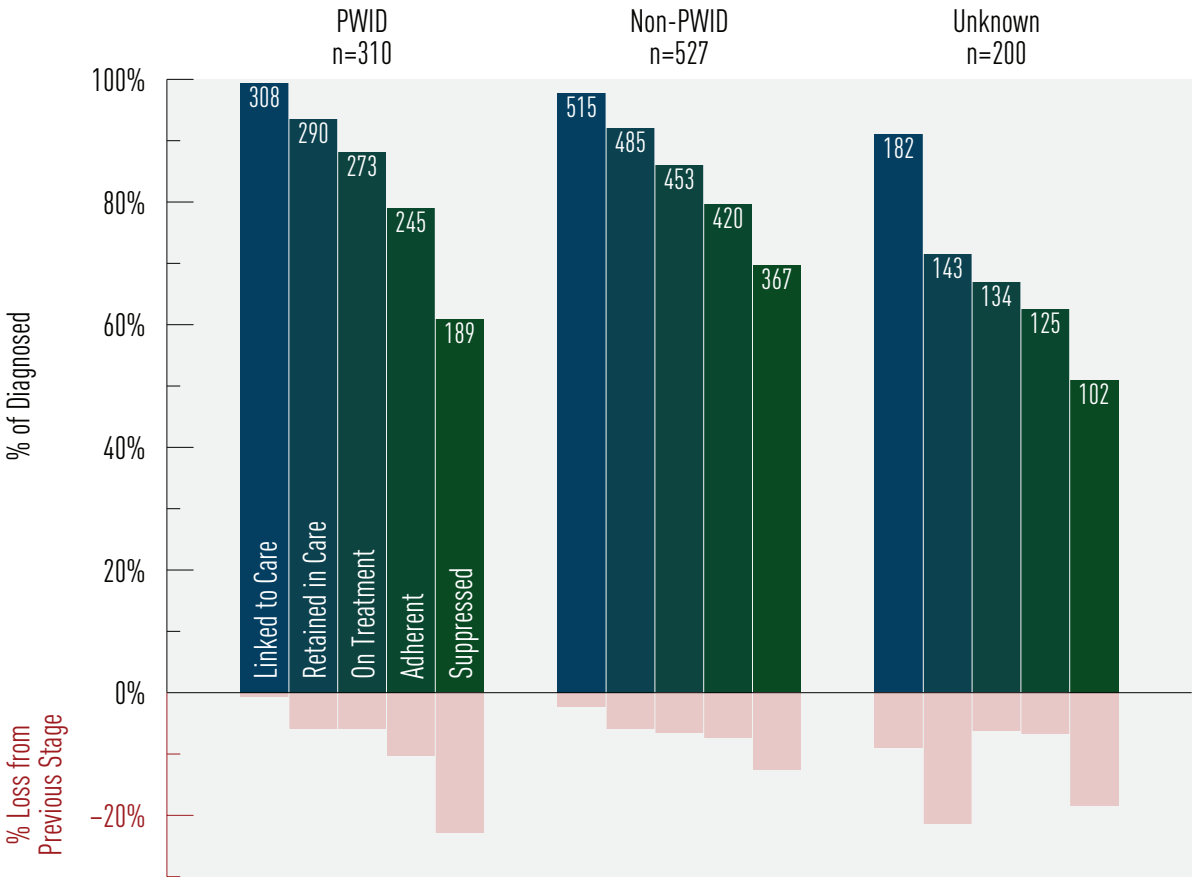
Figure 5.5 Estimated Cascade of Care for Island Health by Age Category and MSM Status, Year Ending 2016 Q3 [9]



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.

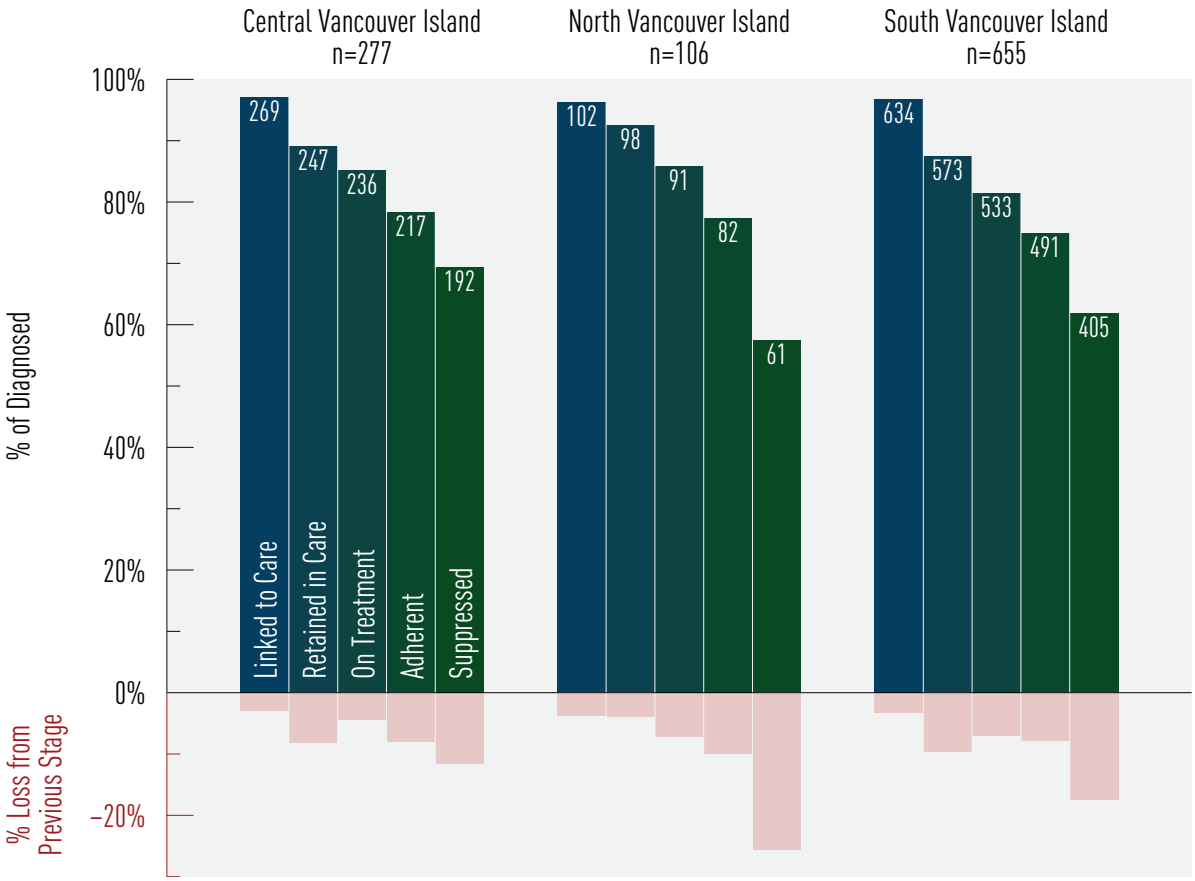
Figure 5.6 Estimated Cascade of Care for Island Health by PWID Status, Year Ending 2016 Q3 [9]



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 Island Health by HSDA, Year Ending 2016 Q3 [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≥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/μL; 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 Island Health, 2014 Q4–2016 Q3 [10]

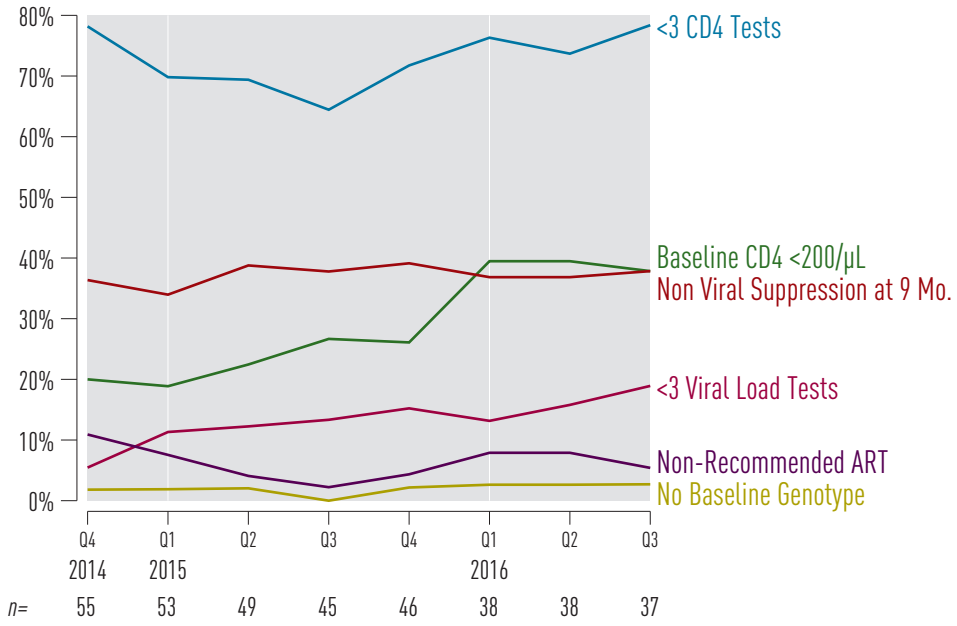
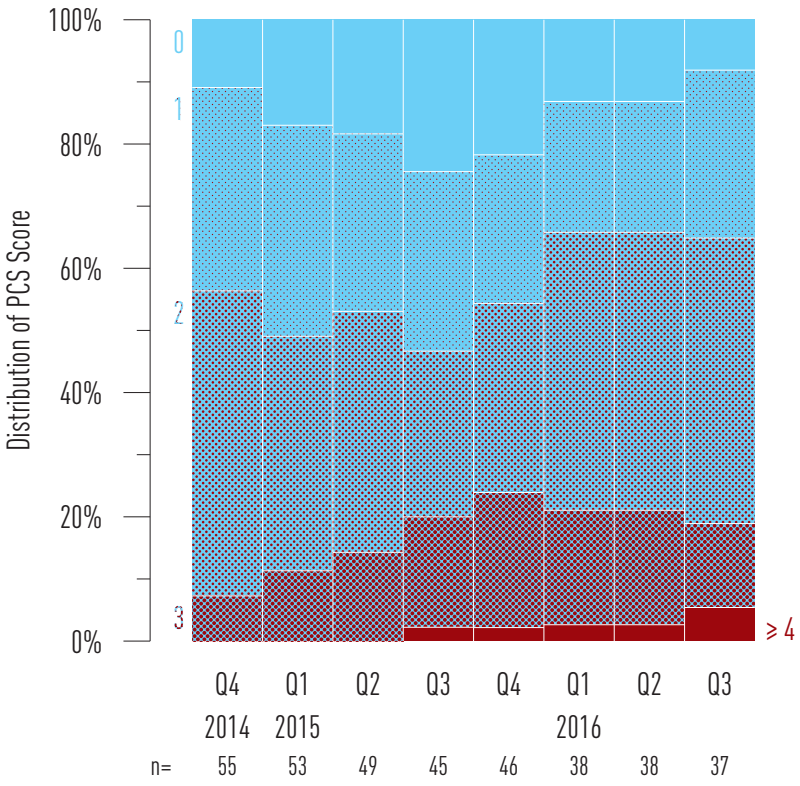


Figure 6.2 Historical Trends for PCS Score for Island Health, 2014 Q4–2016 Q3 [10,11]



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

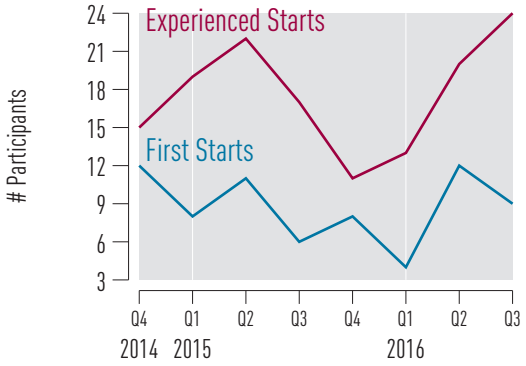
11 *Each quarter's data is calculated as the sum of the 4 quarters leading up to it. e.g. 2013 Q1 is calculated from 2012 Q2 – 2013 Q1. NB: A score of 0 is the best score and a score of 4 or more is the worst score.*

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.

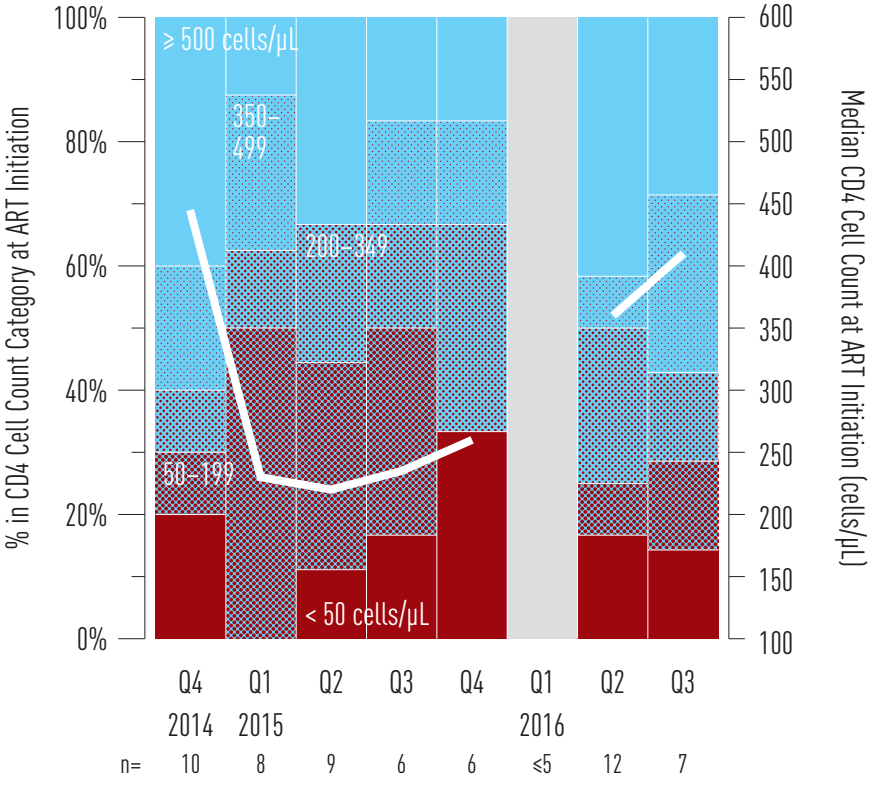
Indicator 7. New Antiretroviral Therapy Starts in Island Health

Figure 7 BC-CfE Drug Treatment Program Enrollment: New ART Participants in Island Health, 2014 Q4–2016 Q3 [12]



Indicator 8. CD4 Cell Count at ART Initiation

Figure 8 CD4 Cell Count at ART Initiation of ART-Naïve DTP Participants in Island Health, 2014 Q4–2016 Q3 [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.

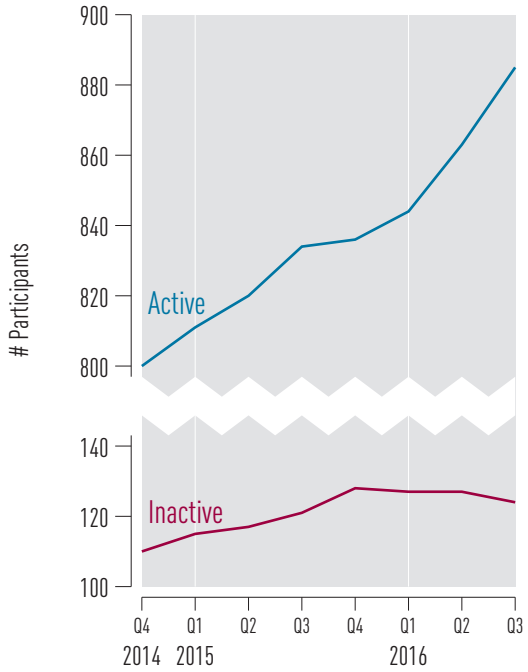
13 *Data Source: Drug Treatment Program Database*
Limitations: CD4 cell count data is approximately 80% complete.

Indicator 9. Active and Inactive DTP Participants

Table 3. Distribution of People on ART for Island Health, 2016 Q3 [14]

Age	< 30	36
	30–39	94
	40–49	218
	≥ 50	537
Gender	Male	721
	Female	164
Exposure	MSM	261
	PWID	278
Total		885

Figure 9 Active and Inactive DTP Participants for Island Health, 2014 Q4–2016 Q3 [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

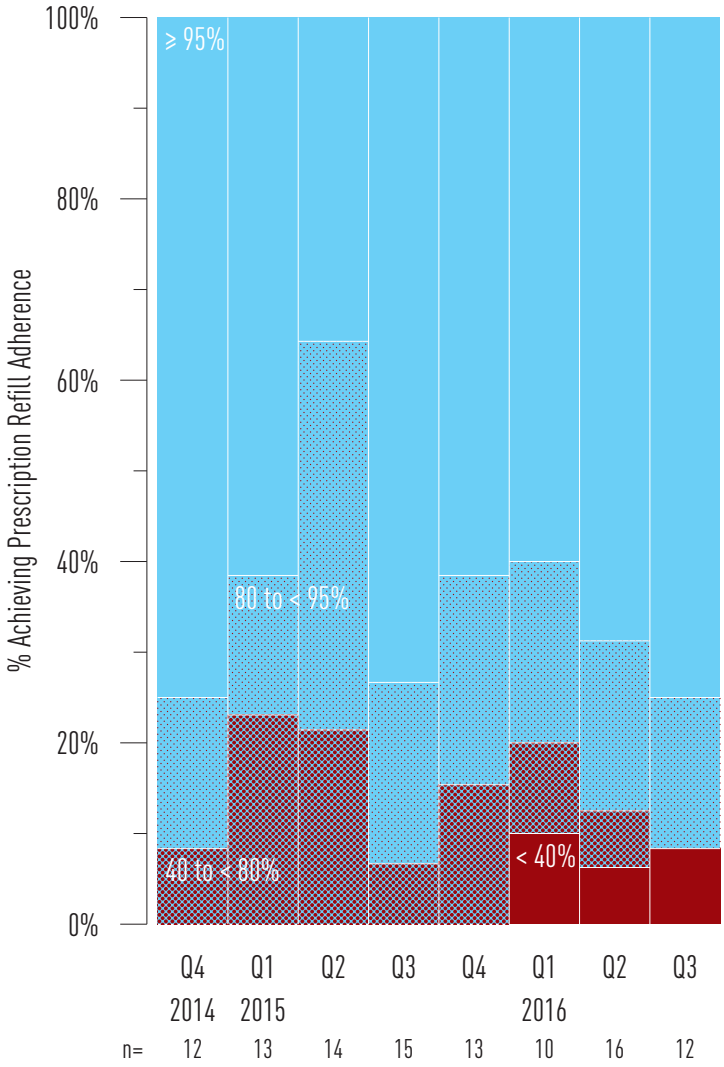
15 *Active DTP participants: An individual who has had medication prescribed at least once in the preceding quarter.*
Inactive DTP participants: Persons no longer prescribed drugs through the HIV/AIDS Drug Treatment Program in the last quarter.

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. ≥95%) to increase with time. Furthermore, it is important that trends in the proportion of ART users achieving prescription refill adherence of ≥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 Island Health, 2014 Q4–2016 Q3 [16]



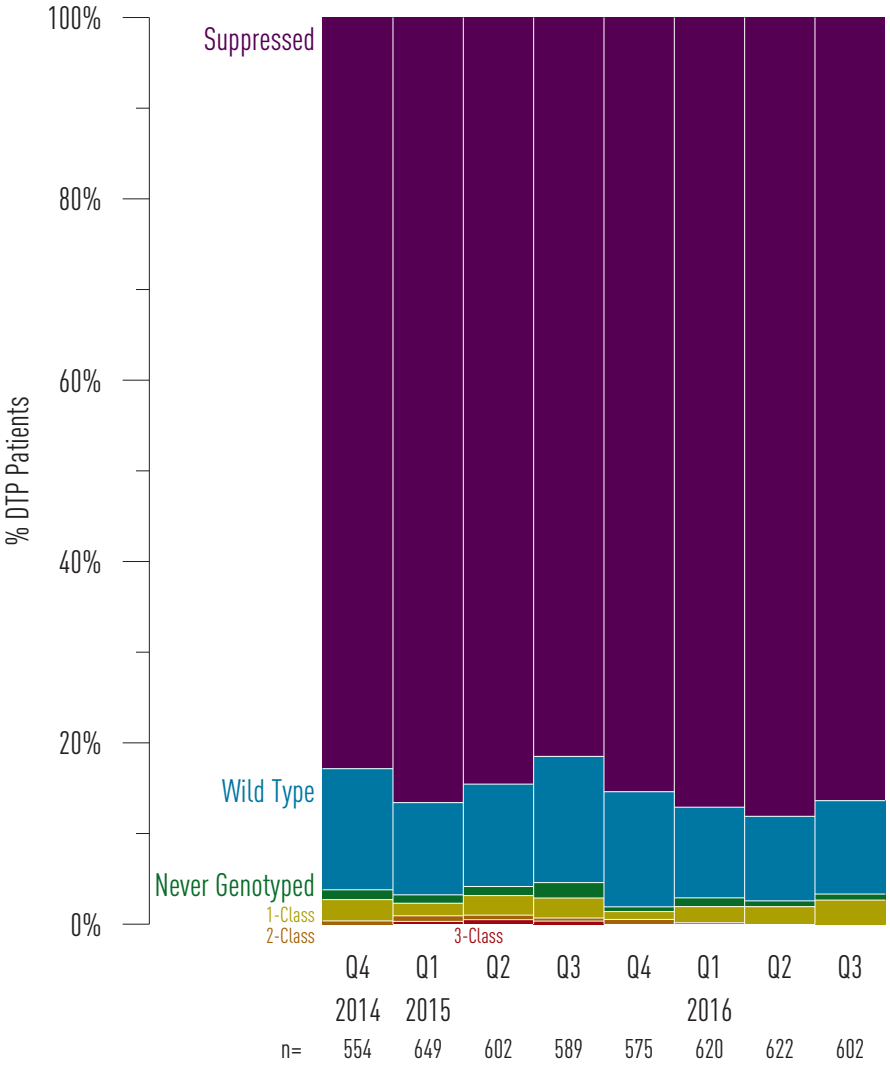
16 *Data Source: Drug Treatment Program Database*
Limitation: Prescription refill adherence is used as a proxy for patient adherence.

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 Island Health, 2014 Q4–2016 Q3 [17]



17 *Data Source: Drug Treatment Program Database*

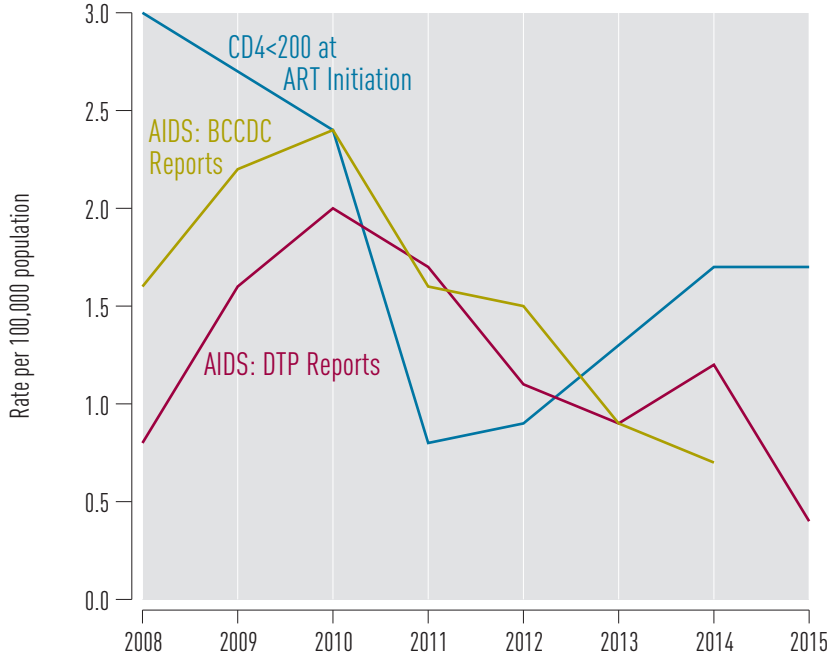
Limitation: DTP participants are designated to a HA based on most current residence provided by the participant.

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 Island Health [18]



		2008	2009	2010	2011	2012	2013	2014	2015
CD4<200 at ART initiation	CASES	22	20	18	6	7	10	13	13
	PER 100K	3.0	2.7	2.4	0.8	0.9	1.3	1.7	1.7
AIDS: DTP Reports	CASES	6	12	15	13	8	7	9	≤ 5
	PER 100K	0.8	1.6	2.0	1.7	1.1	0.9	1.2	0.4
AIDS: BCCDC Reports	CASES	12	16	18	12	11	7	≤ 5	–
	PER 100K	1.6	2.2	2.4	1.6	1.5	0.9	0.7	–

18 *Data Source: DTP AIDS cases are obtained from the Drug Treatment Program Database; BCCDC AIDS cases are obtained from the BCCDC; 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.*

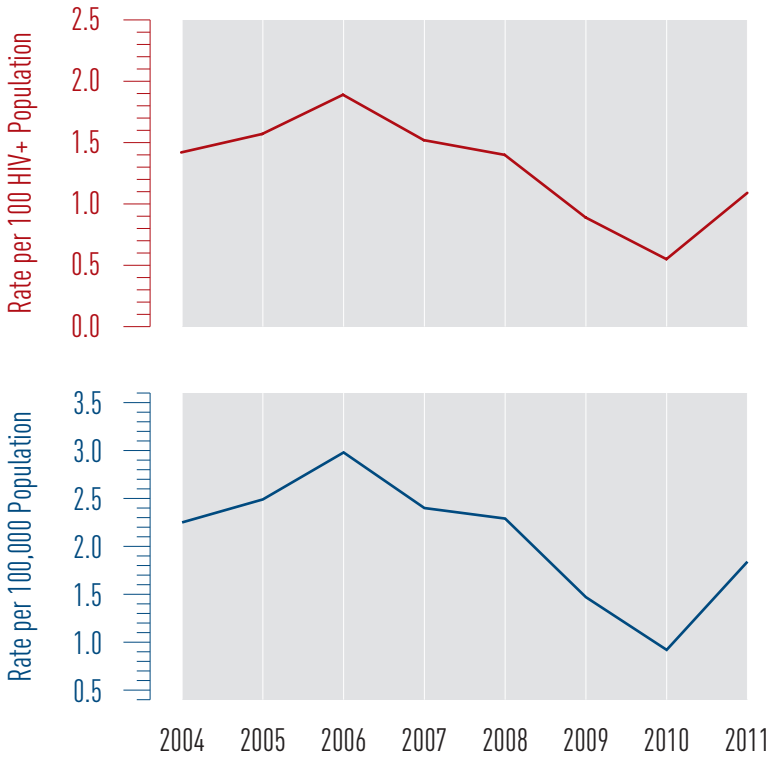
Limitation: AIDS case reporting was investigated using 3 definitions: First, using AIDS cases reported in AIDS case report forms from the DTP; Second, using AIDS cases reported via the BCCDC and third, using a CD4 cell count of <200 cells/μL at time of ART initiation using DTP data. AIDS case reporting 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

Evidence indicates that individuals who initiate treatment with recommended ART in a timely fashion may live near normal lifespans. Excess mortality among HIV positive persons is, therefore, an important measure of HIV care with a goal of minimizing HIV-related mortality in British Columbia.

Figure 13 HIV-Related Deaths by Year for Island Health, 2004–2011 [19]



	2004	2005	2006	2007	2008	2009	2010	2011
HIV-Related Deaths	16	18	22	18	17	11	7	14
Per 100 HIV+ Population	2.25	2.49	2.98	2.40	2.29	1.47	0.92	1.84
Per 100,000 Population	1.42	1.57	1.89	1.52	1.40	0.89	0.55	1.09

19 *Data Source: BC Vital Statistics*

Limitation:

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

2. Mortality data is updated annually.

3. The most recent available data was used.

APPENDICES

Indicator 1: **Test Episodes (thousands)**		2012				2013				2014				2015				2016			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Island Health		3.5	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
Gender	Female	1.7	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
	Male	1.7	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
	Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Age	< 30	1.5	1.6	1.4	1.5	1.5	1.6	1.7	1.6	1.6	1.8	1.6	1.7	1.8	2.0	1.9	2.0	2.2	2.3	2.2	2.2
	30–39	0.8	1.0	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.2	1.1	1.1	1.1	1.3	1.3	1.4	1.3	1.5	1.5	1.4
	40–49	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	0.9
	≥ 50	0.6	0.8	0.7	0.7	0.8	0.9	1.0	0.8	0.8	0.9	1.0	1.0	1.1	1.4	1.5	1.7	1.8	1.9	2.2	1.8
POC Tests *(not in thousands)*		12	24	41	90	164	135	200	194	245	347	353	316	325	407	414	371	385	389	328	257
Central Vancouver Island		1.1	1.2	1.1	1.1	1.1	1.3	1.4	1.3	1.3	1.4	1.6	1.5	1.6	2.0	2.0	2.1	2.1	2.3	2.4	2.2
Female		0.5	0.6	0.5	0.5	0.5	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.9	1.0	1.1	1.0	1.1	1.2	1.1
Male		0.6	0.6	0.5	0.6	0.5	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.9	1.0	1.0	1.0	1.1	1.1	1.0
North Vancouver Island		0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Female		0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Male		0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
South Vancouver Island		2.2	2.5	2.4	2.5	2.6	2.6	2.9	2.6	2.7	3.1	2.9	3.0	3.0	3.6	3.6	3.8	4.1	4.4	4.5	4.0
Female		1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.3	2.1
Male		1.1	1.3	1.1	1.1	1.2	1.2	1.3	1.2	1.2	1.4	1.3	1.3	1.3	1.5	1.5	1.6	1.7	1.9	2.0	1.7

Indicator 2: **Rate of HIV Testing per 100,000**		2009	2010	2011	2012	2013	2014	2015
All Island Health		1927.0	1920.0	1850.8	1981.8	2151.0	2334.8	2940.8
Central Vancouver Island		1717.1	1747.8	1741.7	1765.9	1948.4	2167.7	2832.0
North Vancouver Island		1342.5	1368.3	1119.4	1053.1	1177.4	1160.0	1355.2
South Vancouver Island		2267.7	2221.7	2167.4	2437.8	2610.3	2836.0	3533.2
Gender	Female	1911.4	1879.6	1785.6	1964.9	2182.1	2386.8	3068.5
	Male	1926.8	1949.0	1911.6	1991.3	2112.7	2272.7	2797.1
Age	< 30	2489.7	2494.4	2381.1	2446.5	2657.3	2809.0	3267.2
	30–39	3965.1	4043.9	3836.6	4219.9	4336.0	4721.9	5557.8
	40–49	2216.7	2240.7	2193.7	2355.5	2617.7	2831.2	3556.9
	≥ 50	830.6	814.1	823.9	952.2	1104.0	1264.2	1888.2

Indicator 3: **New HIV Diagnoses**		2012				2013				2014				2015				2016			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Island Health	By Client Residence	7	6	3	5	12	4	9	10	7	6	4	7	8	3	7	8	6	7	11	4
	By Provider Address	*6*	*3*	*3*	*5*	*12*	*5*	*9*	*10*	*7*	*6*	*4*	*8*	*8*	*3*	*7*	*6*	*5*	*7*	*9*	*3*
Gender	Female	1	2	0	0	0	1	1	3	0	2	1	2	3	0	2	3	1	0	2	1
	Male	6	4	3	5	12	3	8	7	7	4	3	5	5	3	5	5	5	7	9	3
Age	< 30	1	2	2	1	2	1	2	2	1	1	0	0	2	0	1	3	2	3	3	1
	30–39	1	2	1	1	2	1	2	3	0	1	0	4	1	1	2	4	0	2	0	0
	40–49	1	2	0	1	5	1	1	4	4	1	2	1	3	1	3	1	1	0	3	1
	≥ 50	4	0	0	2	3	1	4	1	2	3	2	2	2	1	1	0	3	2	5	2
Exposure	MSM	1	2	2	4	8	1	4	4	5	3	2	2	3	2	4	2	3	4		
	PWID	0	2	0	0	1	0	1	0	0	0	0	0	3	1	1	0	0	0		
	HET	5	2	0	1	3	2	3	5	1	3	1	5	1	0	1	4	2	2		
	Other	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0		
	NIR/Unknown	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	1	1	1		
Central Vancouver	By Client Residence	3	2	1	1	4	2	2	5	3	0	2	1	7	0	3	4	2	3	1	0
Island	*By Provider Address*	*3*	*1*	*1*	*1*	*4*	*2*	*2*	*5*	*3*	*0*	*1*	*2*	*7*	*0*	*2*	*2*	*2*	*3*	*1*	*0*
North Vancouver Island	By Client Residence	2	1	0	1	2	0	2	0	1	1	1	1	0	0	1	2	0	1	0	1
	By Provider Address	*2*	*0*	*0*	*1*	*2*	*0*	*2*	*0*	*0*	*1*	*1*	*1*	*0*	*0*	*1*	*1*	*0*	*1*	*0*	*0*
South Vancouver Island	By Client Residence	2	3	2	3	6	2	5	5	3	5	1	5	1	3	3	2	4	3	10	3
	By Provider Address	*1*	*2*	*2*	*3*	*6*	*3*	*5*	*5*	*4*	*5*	*2*	*5*	*1*	*3*	*4*	*3*	*3*	*3*	*8*	*3*

Indicator 4: **Stage of HIV Infection at Baseline**

	Island Health					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	0	6	5	3	2	0	0	0	0	0	0	6	5	3	2	0	2	2	1	1	0	2	1	1	0	0	2	1	0	0
1	4	6	3	2	3	0	1	1	1	1	3	5	2	1	2	0	1	2	0	2	2	1	0	0	0	2	4	1	0	0
2a	3	1	4	3	1	1	0	1	0	0	2	1	3	3	1	1	0	0	0	0	0	0	2	0	0	2	1	2	1	0
2b	3	2	6	3	5	0	0	0	3	0	3	2	6	0	5	0	0	0	0	0	0	1	1	1	1	1	1	4	1	2
3	6	5	7	4	0	4	0	1	1	0	2	5	6	3	0	1	1	1	0	0	0	1	1	0	0	2	0	1	4	0
Unknown	3	4	5	11	11	0	0	1	3	4	3	4	4	8	7	0	1	0	2	2	2	1	1	3	5	1	0	1	2	2
Total	19	24	30	26	22	5	1	4	8	5	13	23	26	18	17	2	5	5	3	5	4	6	6	5	6	8	8	10	8	4

	≥ 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	0	0	1	1	1	0	5	3	1	2	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0
1	0	0	0	2	1	2	4	2	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1
2a	0	0	0	2	1	1	1	3	2	0	0	0	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2b	2	0	1	1	2	0	0	5	0	3	3	1	1	2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
3	3	3	4	0	0	0	3	1	1	0	5	2	4	1	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0
Unknown	0	2	3	4	2	3	2	1	6	3	0	0	3	4	4	0	1	1	1	2	0	1	0	0	0	0	0	0	0	2
Total	5	5	9	10	7	6	15	15	11	9	9	5	10	10	7	4	3	1	3	2	0	1	1	0	1	0	0	3	2	3

Indicator 5: **HIV Cascade of Care**			Diagnosed	Linked	Retained	On ARVs	Adherent	Suppressed
Island Health			1037	1005	918	860	790	658
Gender	Men		835	811	744	700	645	542
	Women		202	194	174	160	145	116
Age Category	< 30		51	43	39	32	24	16
	30-39		103	100	90	83	73	55
	40-49		242	235	215	200	182	149
	≥ 50		641	627	574	545	511	438
MSM Status	MSM		286	278	266	249	225	194
	Non-MSM		356	351	328	302	274	220
	Unknown		395	376	324	309	291	244
Age Category and MSM Status	MSM	< 30	13	12	12	11	9	6
		30-39	24	23	22	19	19	17
		40-49	45	42	38	36	29	24
		≥ 50	204	201	193	183	168	147
	Non-MSM	< 30	9	9	7	5	3	1
		30-39	37	36	35	33	28	19
		40-49	102	100	91	83	76	59
		≥ 50	209	206	194	181	167	141
	Unknown	< 30	28	21	19	16	12	9
		30-39	43	40	34	31	26	19
		40-49	95	93	85	81	77	66
		≥ 50	229	221	186	181	176	150
PWID Status	PWID		310	308	290	273	245	189
	Non-PWID		527	515	485	453	420	367
	Unknown		200	182	143	134	125	102
HSDA	Central Vancouver Island		277	269	247	236	217	192
	North Vancouver Island		106	102	98	91	82	61
	South Vancouver Island		655	634	573	533	491	405

Indicator 6: **Programmatic Compliance Score (PCS)**	2015 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2	2016 Q3
< 3 CD4 Tests	78.2%	69.8%	69.4%	64.4%	71.7%	76.3%	73.7%	78.4%
< 3 Viral Load Tests	5.5%	11.3%	12.2%	13.3%	15.2%	13.2%	15.8%	18.9%
No Baseline Genotype	1.8%	1.9%	2.0%	0.0%	2.2%	2.6%	2.6%	2.7%
Baseline CD4 < 200 cells/μL	20.0%	18.9%	22.4%	26.7%	26.1%	39.5%	39.5%	37.8%
Non-Recommended ART	10.9%	7.5%	4.1%	2.2%	4.3%	7.9%	7.9%	5.4%
Non Viral Suppression at 9 Mo.	36.4%	34.0%	38.8%	37.8%	39.1%	36.8%	36.8%	37.8%
PCS Score: 0	6	9	9	11	10	5	5	3
PCS Score: 1	18	18	14	13	11	8	8	10
PCS Score: 2	27	20	19	12	14	17	17	17
PCS Score: 3	4	6	7	8	10	7	7	5
PCS Score: 4 or more	0	0	0	1	1	1	1	2
Total (n=)	**55**	**53**	**49**	**45**	**46**	**38**	**38**	**37**

Indicator 7: **New DTP ARV Participants**								
First Starts	12	8	11	6	8	4	12	9
Experienced Starts	15	19	22	17	11	13	20	24

Indicator 8: **CD4 Cell Count Initiation for ARV-Naïve DTP Participants**								
CD4 ≥ 500	4	1	3	1	1	-	5	2
CD4 350-499	2	2	0	1	1	-	1	2
CD4 200-349	1	1	2	1	2	-	3	1
CD4 50-199	1	4	3	2	0	-	1	1
CD4 < 50	2	0	1	1	2	-	2	1
CD4 MED	445	230	220	235	260	-	360	410
Total (n=)	**10**	**8**	**9**	**6**	**6**	**≤ 5**	**12**	**7**

Indicator 9: **Active and Inactive DTP Participants**								
Active DTP Participants	800	811	820	834	836	844	863	885
Inactive DTP Participants	110	115	117	121	128	127	127	124

Indicator 10: **Antiretroviral Adherence**								
≥ 95%	9	8	5	11	8	6	11	9
80% to < 95%	2	2	6	3	3	2	3	2
40% to < 80%	1	3	3	1	2	1	1	0
< 40%	0	0	0	0	0	1	1	1
Total (n=)	**12**	**13**	**14**	**15**	**13**	**10**	**16**	**12**

Indicator 11: **Resistance Testing and Results**								
Suppressed	459	562	509	480	491	540	548	520
Wild Type	74	66	68	82	73	62	58	62
Never Genotyped	6	6	6	10	3	6	4	4
1-Class	13	9	13	13	5	11	12	16
2-Class	2	4	3	2	3	1	0	0
3-Class	0	2	3	2	0	0	0	0
4-Class	0	0	0	0	1	0	0	0
Total (n=)	**554**	**649**	**602**	**589**	**576**	**620**	**622**	**602**

Indicator 12: **AIDS-Defining Illness**		2008	2009	2010	2011	2012	2013	2014	2015
CD4 < 200 at	Cases	22	20	18	6	7	10	13	13
ART initiation	*Rate per 100,000*	*3.0*	*2.7*	*2.4*	*0.8*	*0.9*	*1.3*	*1.7*	*1.7*
AIDS Cases	Cases	6	12	15	13	8	7	9	≤ 5
(DTP Reports)	*Rate per 100,000*	*0.8*	*1.6*	*2.0*	*1.7*	*1.1*	*0.9*	*1.2*	*0.4*
AIDS Cases	Cases	12	16	18	12	11	7	≤ 5	-
(BCCDC Reports)	*Rate per 100,000*	*1.6*	*2.2*	*2.4*	*1.6*	*1.5*	*0.9*	*0.7*	-

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