BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

HIV MONITORING QUARTERLY REPORT

FOR VANCOUVER COASTAL HEALTH

FIRST QUARTER 2016

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 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

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Acknowledgements and Contributions

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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 wrote, compiled, edited, and published this monitoring 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. 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

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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.

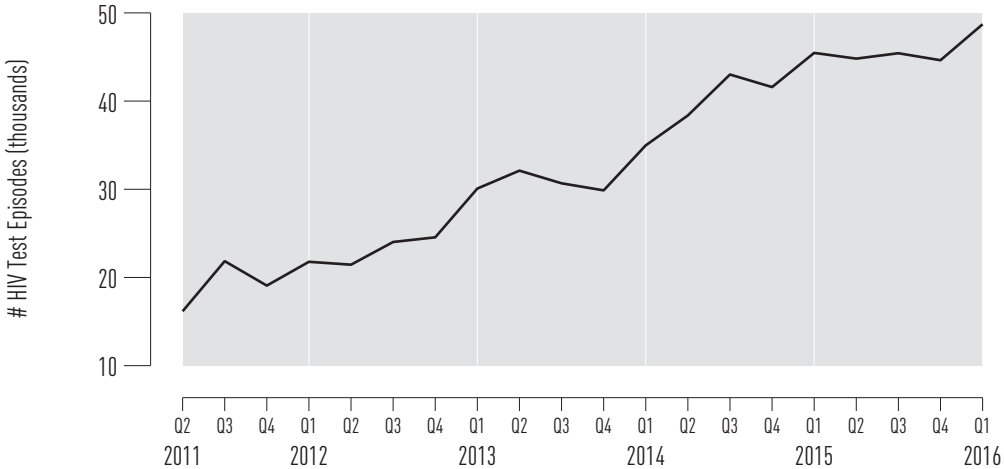
The goals of HA-led STOP-funded initiatives are to work toward achieving these goals. To these ends some outcome measures or indicators of progress have been drafted that should be considered in the design and implementation phases of these initiatives.

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.

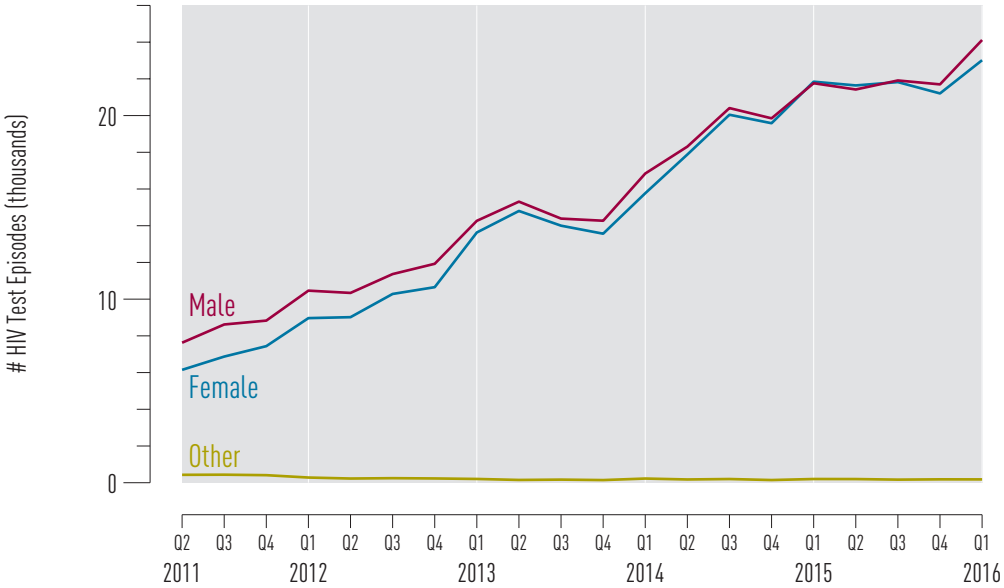
Indicator 1. HIV Testing Episodes

Figure 1.1 HIV Test Episodes for Vancouver Coastal Health



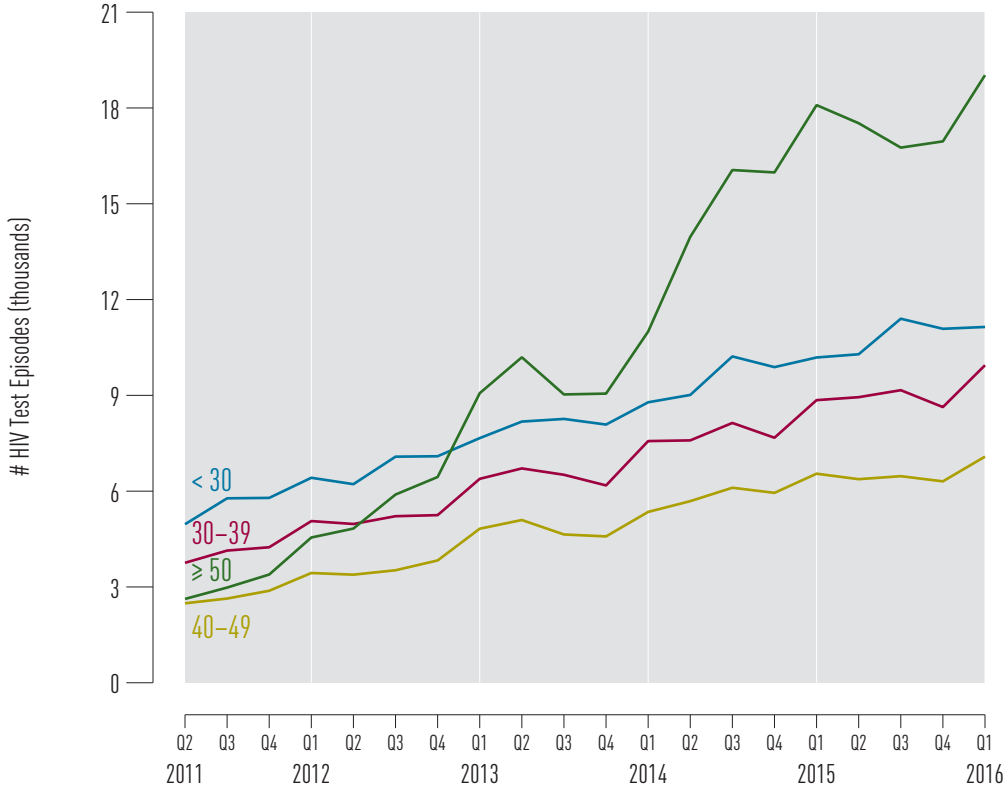
Vancouver Coastal Health	16.2	21.9	19.1	21.8	21.4	24.0	24.6	30.1	32.1	30.7	29.9	35.0	38.4	43.0	41.6	45.5	44.8	45.4	44.6	48.7

Figure 1.2 HIV Test Episodes by Gender for Vancouver Coastal Health [1,2]



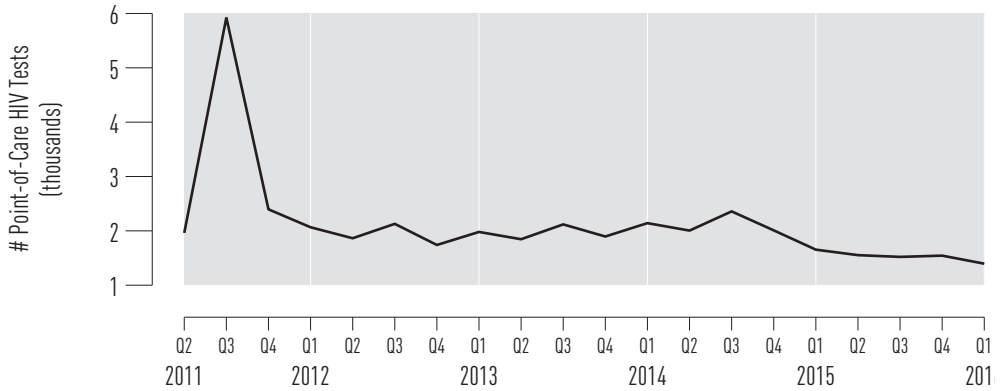
Female	6.1	6.9	7.4	9.0	9.0	10.3	10.7	13.6	14.8	14.0	13.6	15.8	17.9	20.0	19.6	21.8	21.6	21.8	21.2	23.0
Male	7.6	8.6	8.8	10.5	10.3	11.4	11.9	14.3	15.3	14.4	14.3	16.8	18.3	20.4	19.9	21.8	21.4	21.9	21.7	24.1
Other	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2

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



< 30	5.0	5.8	5.8	6.4	6.2	7.1	7.1	7.7	8.2	8.3	8.1	8.8	9.0	10.2	9.9	10.2	10.3	11.4	11.1	11.1
30–39	3.8	4.1	4.2	5.1	5.0	5.2	5.2	6.4	6.7	6.5	6.2	7.6	7.6	8.1	7.7	8.8	8.9	9.2	8.6	9.9
40–49	2.5	2.6	2.9	3.4	3.4	3.5	3.8	4.8	5.1	4.6	4.6	5.3	5.7	6.1	5.9	6.5	6.4	6.5	6.3	7.1
≥ 50	2.6	3.0	3.4	4.5	4.8	5.9	6.4	9.1	10.2	9.0	9.1	11.0	14.0	16.1	16.0	18.1	17.5	16.8	17.0	19.0

Figure 1.4 Point-of-Care HIV Tests for Vancouver Coastal Health



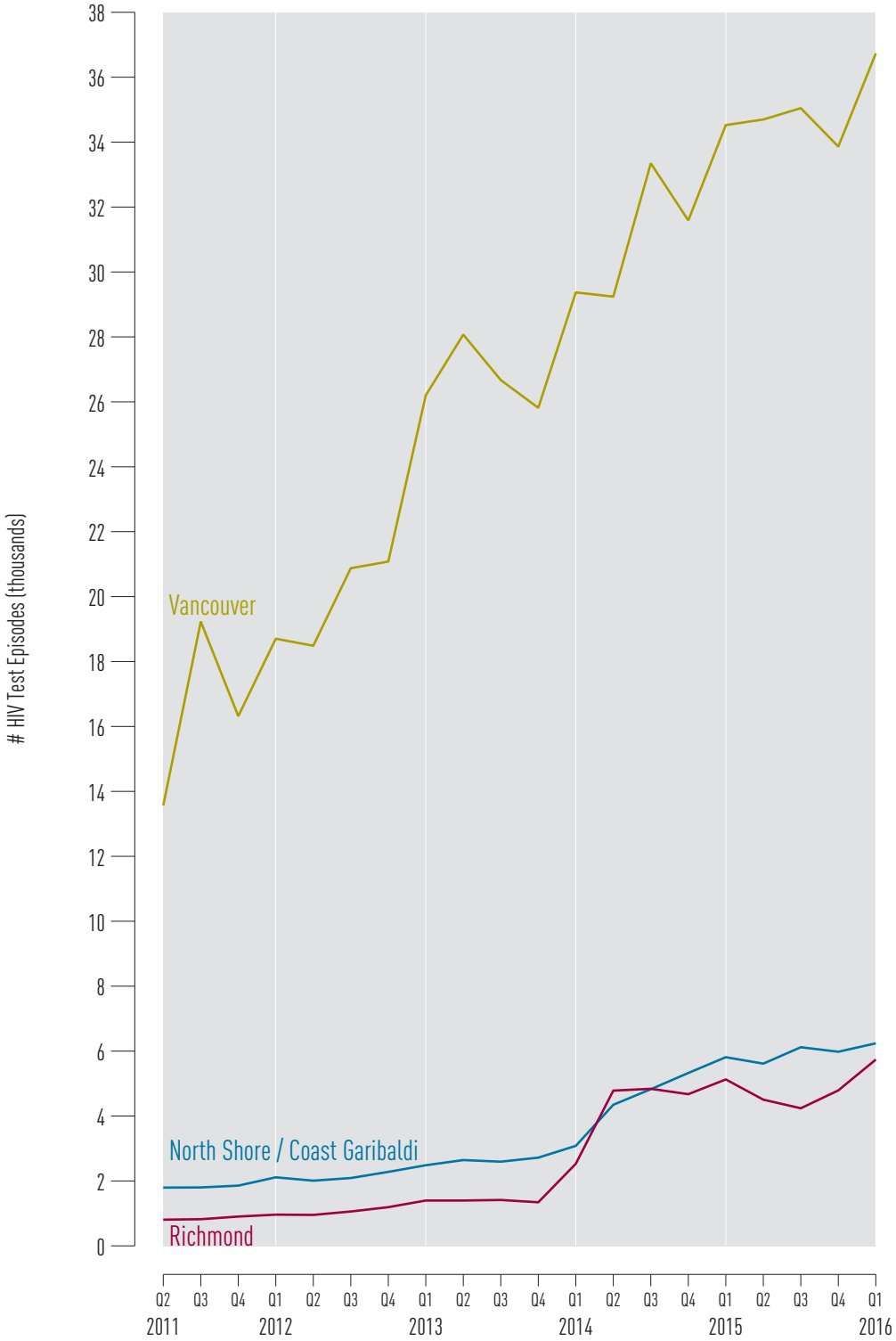
Vancouver Coastal Health	2.0	5.9	2.4	2.1	1.9	2.1	1.7	2.0	1.8	2.1	1.9	2.1	2.0	2.4	2.0	1.7	1.6	1.5	1.5	1.4

1 *Data Source: The BC Public Health Microbiology and Reference Laboratory (BCPHMRL) courtesy of the BC Centre for Disease Control (BCCDC).*

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

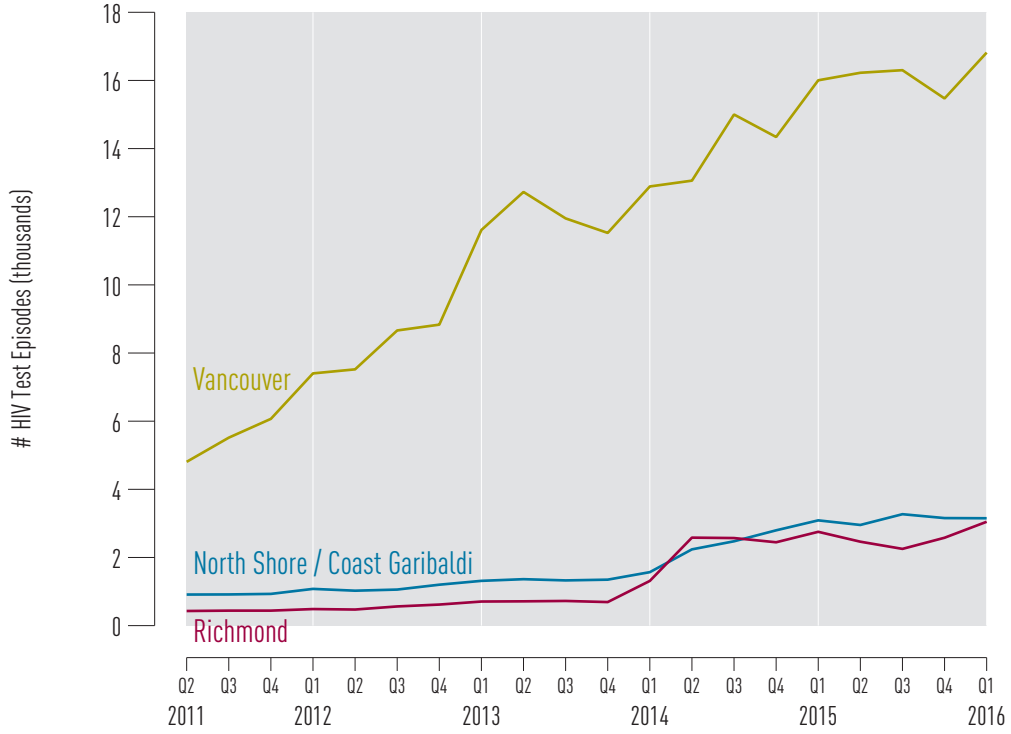
2 *Testing does not include point of care tests.*

Figure 1.5 HIV Test Episodes for Vancouver Coastal Health by HSDA [1]



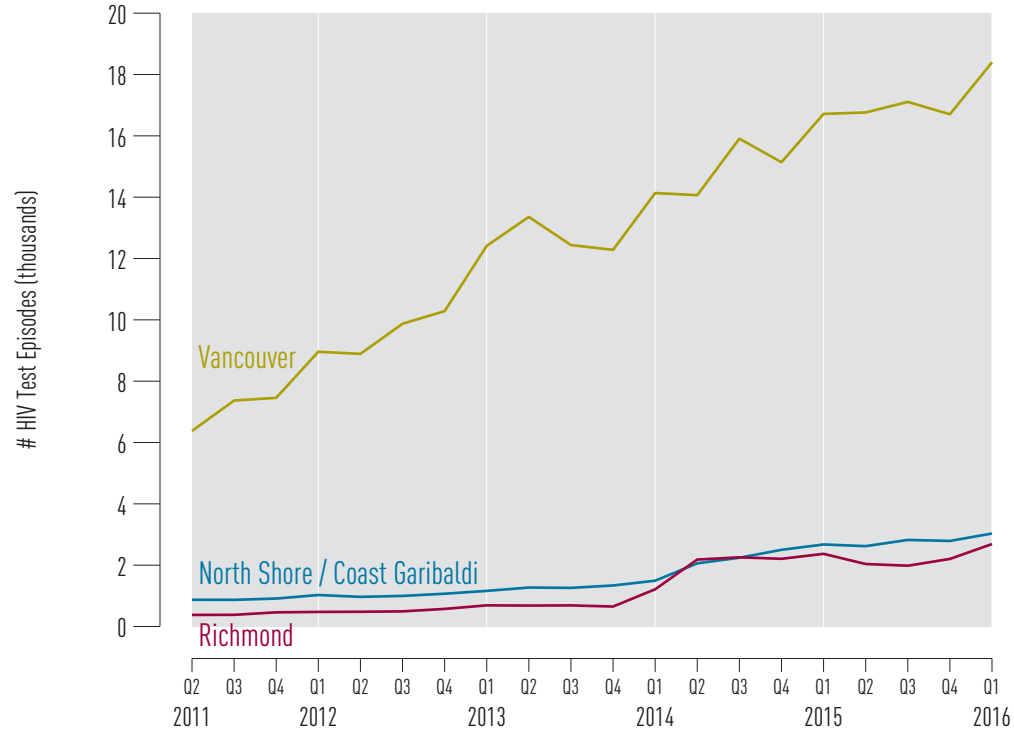
North Shore / Coast Garibaldi	1.8	1.8	1.9	2.1	2.0	2.1	2.3	2.5	2.6	2.6	2.7	3.1	4.3	4.8	5.3	5.8	5.6	6.1	6.0	6.2
Richmond	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.4	1.4	1.4	1.3	2.5	4.8	4.8	4.7	5.1	4.5	4.2	4.8	5.7
Vancouver	13.6	19.2	16.3	18.7	18.5	20.9	21.1	26.2	28.1	26.7	25.8	29.4	29.2	33.3	31.6	34.5	34.7	35.0	33.9	36.7

Figure 1.6 HIV Test Episodes for Non-prenatal Females in Vancouver Coastal Health by HSDA [1,2]



North Shore / Coast Garibaldi	0.9	0.9	0.9	1.1	1.0	1.1	1.2	1.3	1.4	1.3	1.3	1.6	2.2	2.5	2.8	3.1	3.0	3.3	3.2	3.2
Richmond	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	1.3	2.6	2.6	2.4	2.8	2.5	2.3	2.6	3.0
Vancouver	4.8	5.5	6.1	7.4	7.5	8.7	8.8	11.6	12.7	12.0	11.5	12.9	13.1	15.0	14.3	16.0	16.2	16.3	15.5	16.8

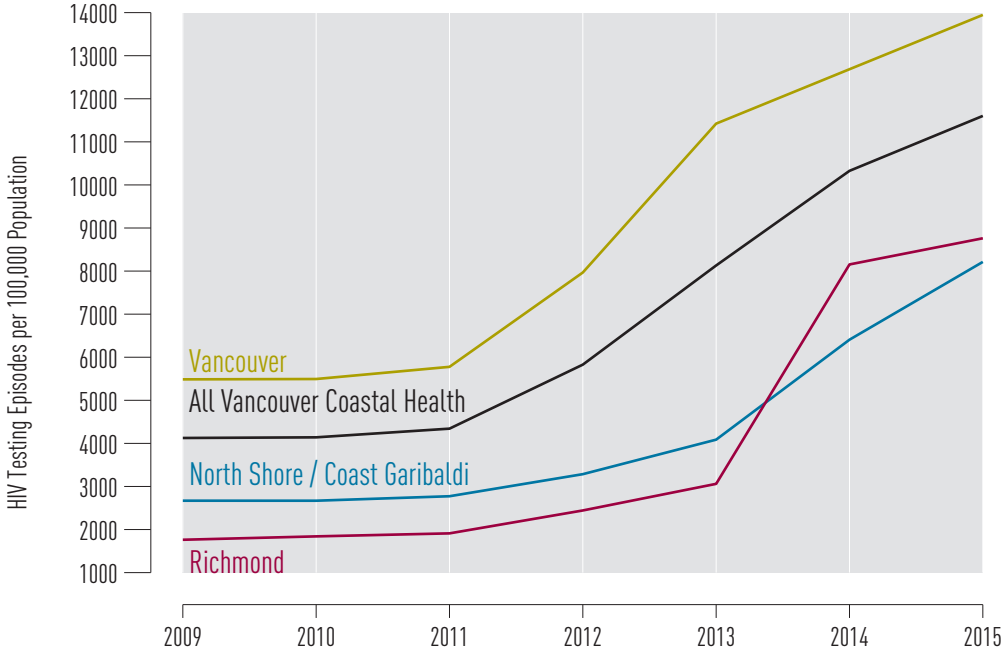
Figure 1.7 HIV Test Episodes for Males in Vancouver Coastal Health by HSDA [1,2]



North Shore / Coast Garibaldi	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.3	1.3	1.3	1.5	2.1	2.2	2.5	2.7	2.6	2.8	2.8	3.0
Richmond	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.7	1.2	2.2	2.3	2.2	2.4	2.0	2.0	2.2	2.7
Vancouver	6.4	7.4	7.5	9.0	8.9	9.9	10.3	12.4	13.4	12.4	12.3	14.1	14.1	15.9	15.1	16.7	16.8	17.1	16.7	18.4

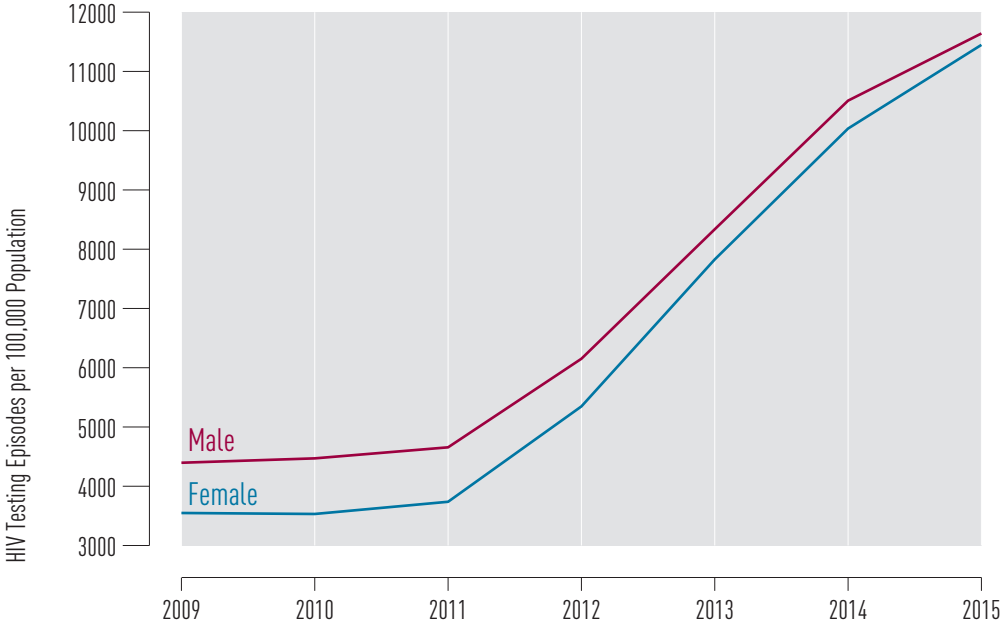
Indicator 2. HIV Testing Rates

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



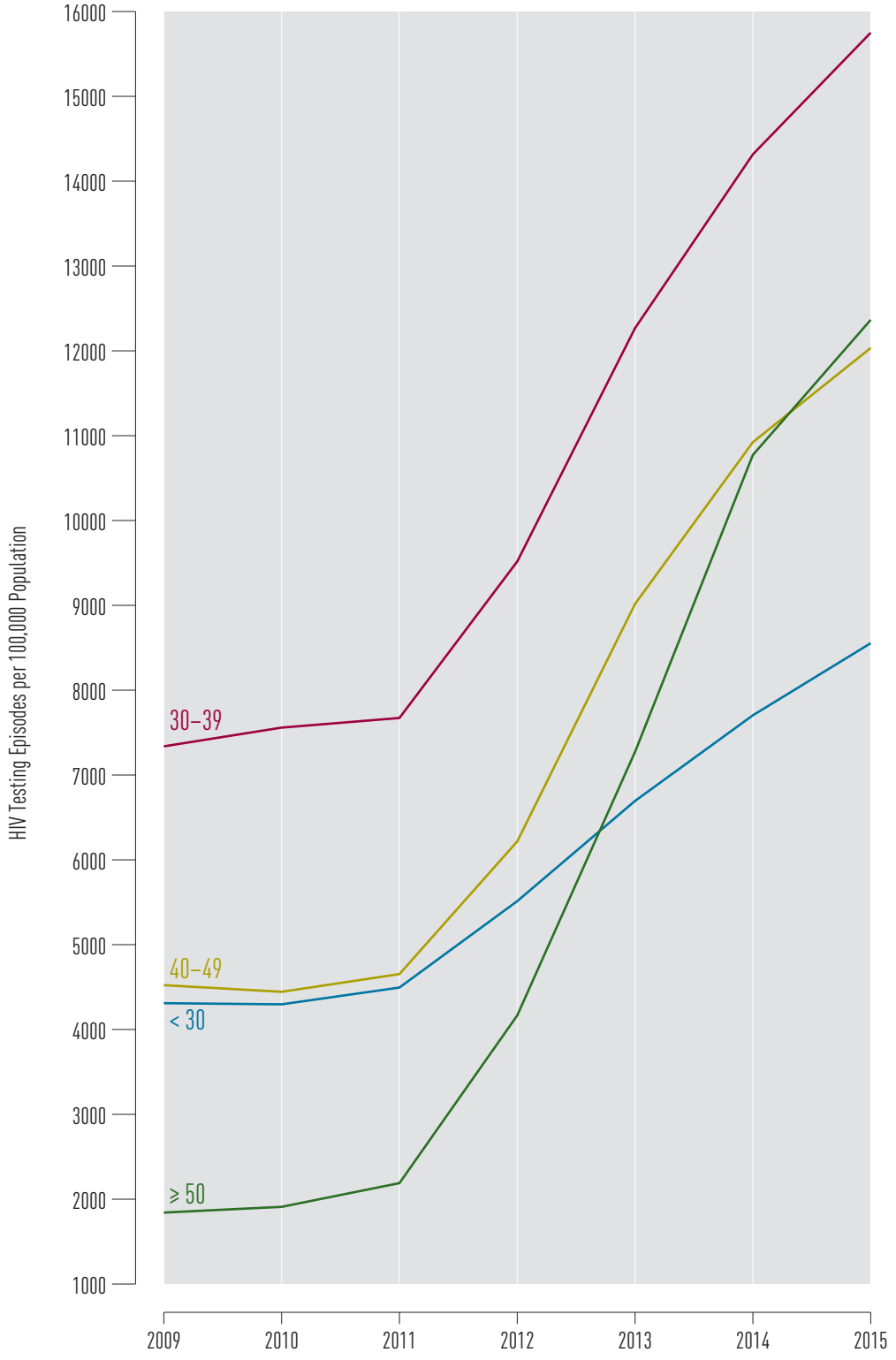
	2009	2010	2011	2012	2013	2014	2015
All Vancouver Coastal Health	4125.4	4140.5	4342.2	5828.4	8130.3	10326.7	11602.2
North Shore / Coast Garibaldi	2669.6	2669.1	2773.1	3285.6	4086.8	6407.0	8213.0
Richmond	1762.8	1841.3	1911.2	2442.9	3060.7	8154.0	8761.6
Vancouver	5486.3	5494.4	5777.0	7967.2	11423.4	12685.9	13946.6

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



	2009	2010	2011	2012	2013	2014	2015
Female	3548.5	3532.1	3737.9	5347.5	7827.6	10036.3	11448.1
Male	4396.4	4470.4	4656.7	6151.6	8336.5	10507.1	11640.6

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



	2009	2010	2011	2012	2013	2014	2015
< 30	4310.5	4296.9	4494.8	5513.4	6694.8	7704.1	8553.8
30–39	7337.9	7558.7	7672.4	9517.1	12268.2	14316.3	15749.8
40–49	4523.0	4444.5	4653.6	6217.3	9017.4	10923.6	12034.1
≥ 50	1842.1	1909.7	2189.3	4166.4	7273.5	10772.9	12365.5

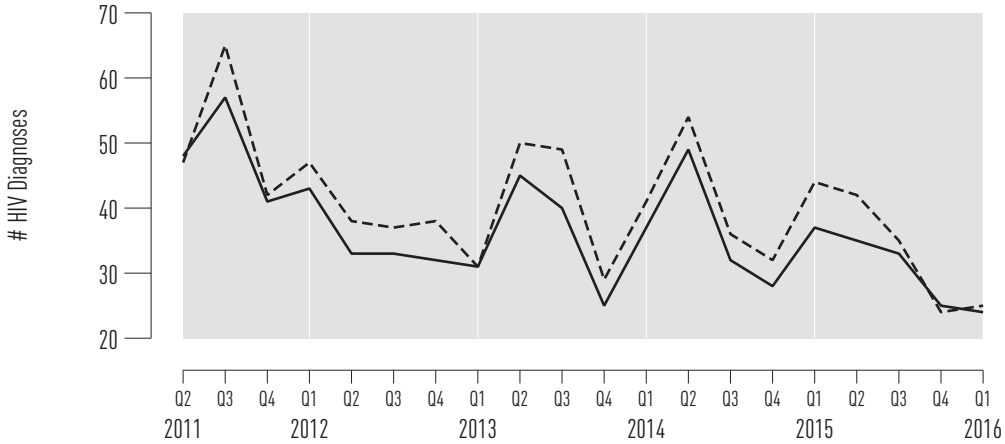
2 *Testing does not include point of care tests.*

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.

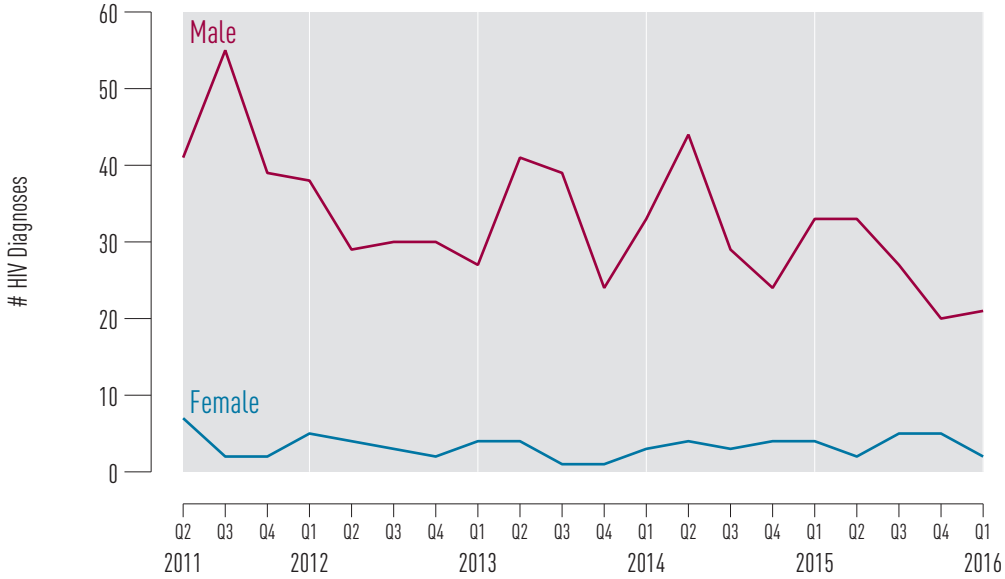
Indicator 3. New HIV Diagnoses

Figure 3.1 New HIV Diagnoses for Vancouver Coastal Health [3]



	Q2 2011	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015	Q2	Q3	Q4	Q1 2016
By Client Residence	48	57	41	43	33	33	32	31	45	40	25	37	49	32	28	37	35	33	25	24
By Provider Address	47	65	42	47	38	37	38	31	50	49	29	41	54	36	32	44	42	35	24	25

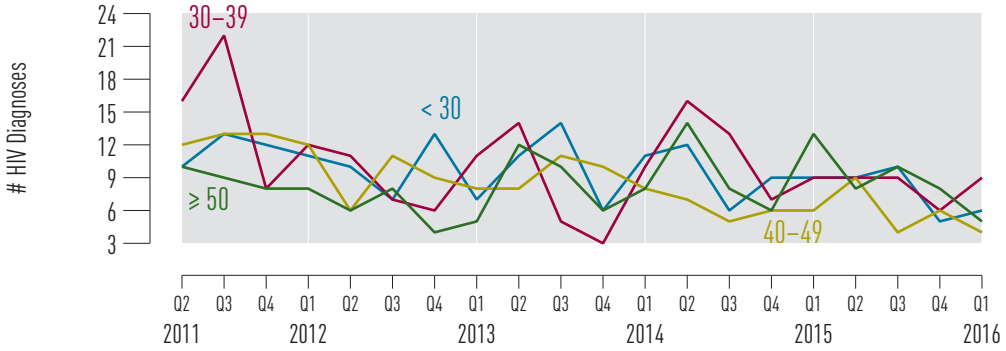
Figure 3.2 New HIV Diagnoses for Vancouver Coastal Health by Gender [3]



	Q2 2011	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015	Q2	Q3	Q4	Q1 2016
Female	7	2	2	5	4	3	2	4	4	1	1	3	4	3	4	4	2	5	5	2
Male	41	55	39	38	29	30	30	27	41	39	24	33	44	29	24	33	33	27	20	21

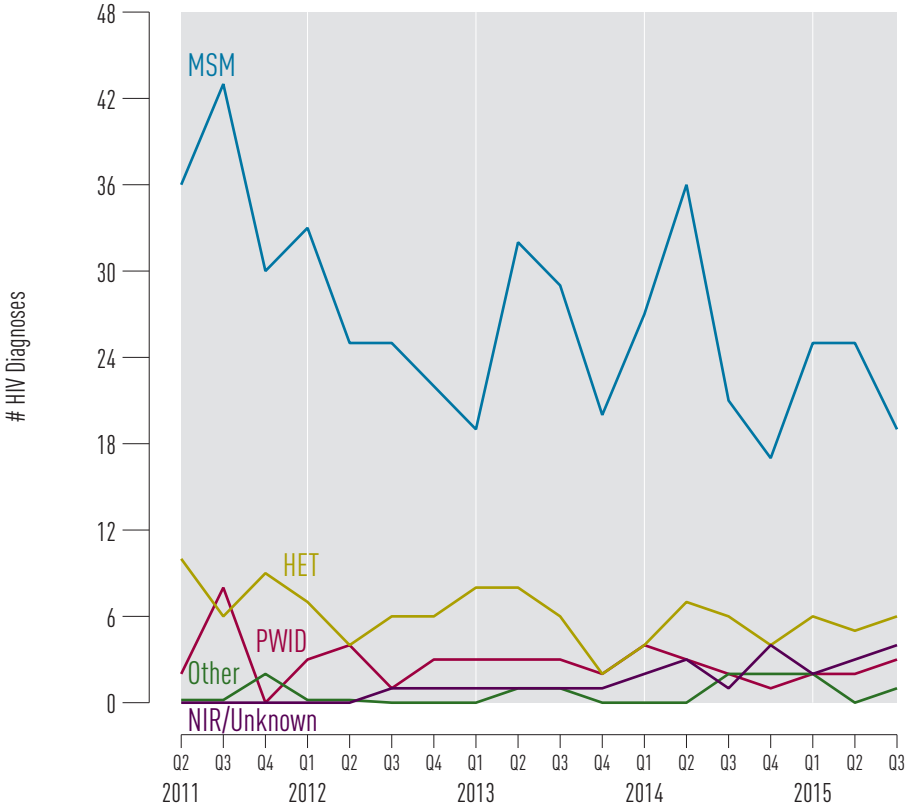
3 *Data Source: BCCDC. When present, "By Provider Address" is graphed as dashed line in same colour.*

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



< 30	10	13	12	11	10	7	13	7	11	14	6	11	12	6	9	9	9	10	5	6
30–39	16	22	8	12	11	7	6	11	14	5	3	10	16	13	7	9	9	9	6	9
40–49	12	13	13	12	6	11	9	8	8	11	10	8	7	5	6	6	9	4	6	4
≥ 50	10	9	8	8	6	8	4	5	12	10	6	8	14	8	6	13	8	10	8	5

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

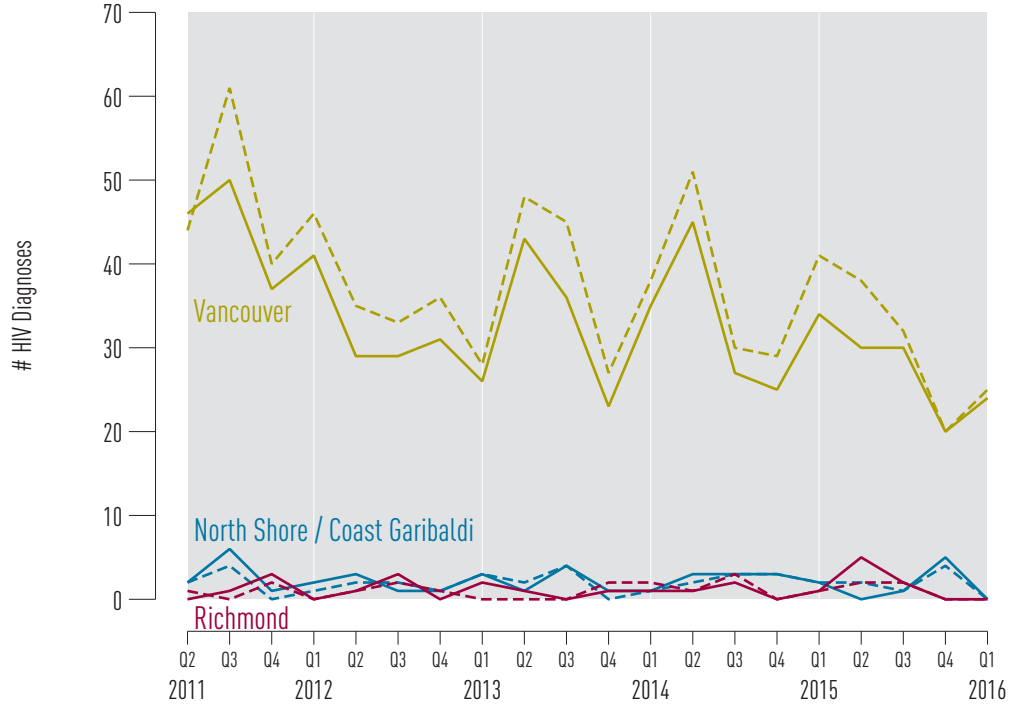


MSM (men who have sex with men)	36	43	30	33	25	25	22	19	32	29	20	27	36	21	17	25	25	19
PWID (persons who inject drugs)	2	8	0	3	4	1	3	3	3	3	2	4	3	2	1	2	2	3
HET (heterosexual)	10	6	9	7	4	6	6	8	8	6	2	4	7	6	4	6	5	6
Other (other exposure identified)	0	0	2	0	0	0	0	0	1	1	0	0	0	2	2	2	0	1
NIR/Unknown (no identified exposure)	0	0	0	0	0	1	1	1	1	1	1	2	3	1	4	2	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 Vancouver Coastal Health by HSDA [3]



North Shore / Coast Garibaldi	2	6	1	2	3	1	1	3	1	4	1	1	3	3	3	2	0	1	5	0
By Provider Address	*2*	*4*	*0*	*1*	*2*	*2*	*1*	*3*	*2*	*4*	*0*	*1*	*2*	*3*	*3*	*2*	*2*	*1*	*4*	*0*
Richmond	0	1	3	0	1	3	0	2	1	0	1	1	1	2	0	1	5	2	0	0
By Provider Address	*1*	*0*	*2*	*0*	*1*	*2*	*1*	*0*	*0*	*0*	*2*	*2*	*1*	*3*	*0*	*1*	*2*	*2*	*0*	*0*
Vancouver	46	50	37	41	29	29	31	26	43	36	23	35	45	27	25	34	30	30	20	24
By Provider Address	*44*	*61*	*40*	*46*	*35*	*33*	*36*	*28*	*48*	*45*	*27*	*38*	*51*	*30*	*29*	*41*	*38*	*32*	*20*	*25*

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

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

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

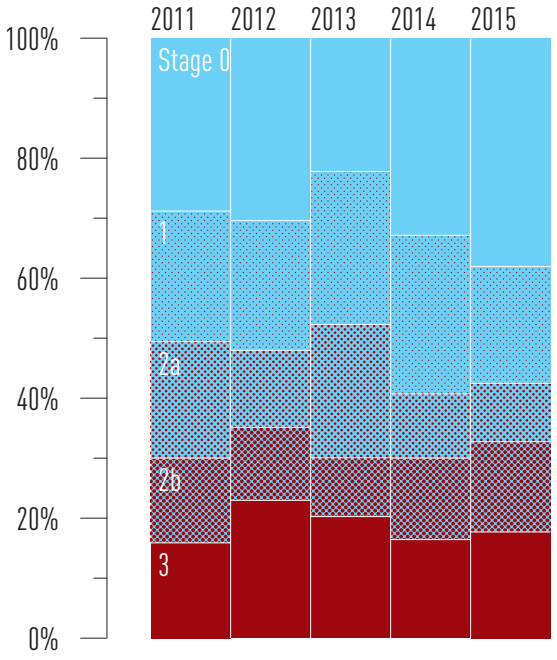
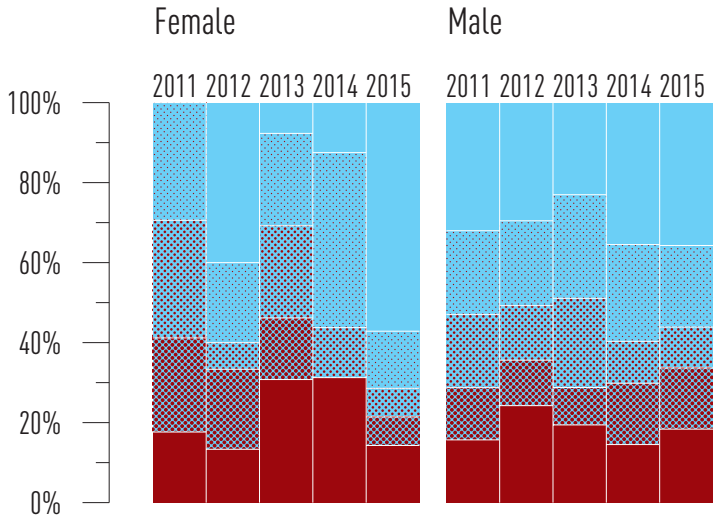


Figure 4.2 Stage of HIV Infection at Diagnosis by Gender for Vancouver Coastal Health, 2011–2015 [5]



	Vancouver Coastal					*Female*					*Male*				
	2011	'12	'13	'14	'15	'11	'12	'13	'14	'15	'11	'12	'13	'14	'15
Stage 0	49	45	34	46	43	0	6	1	2	8	49	39	32	44	35
Stage 1	37	32	39	37	22	5	3	3	7	2	32	28	36	30	20
Stage 2a	33	19	34	15	11	5	1	3	2	1	28	18	31	13	10
Stage 2b	24	18	15	19	17	4	3	2	0	1	20	15	13	19	15
Stage 3	27	34	31	23	20	3	2	4	5	2	24	32	27	18	18
Unknown	17	9	5	18	29	0	1	0	2	7	16	8	5	16	22
Total *(n=)*	187	157	158	158	142	17	16	13	18	21	169	140	144	140	120

5 *Data Source: BCCDC*

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

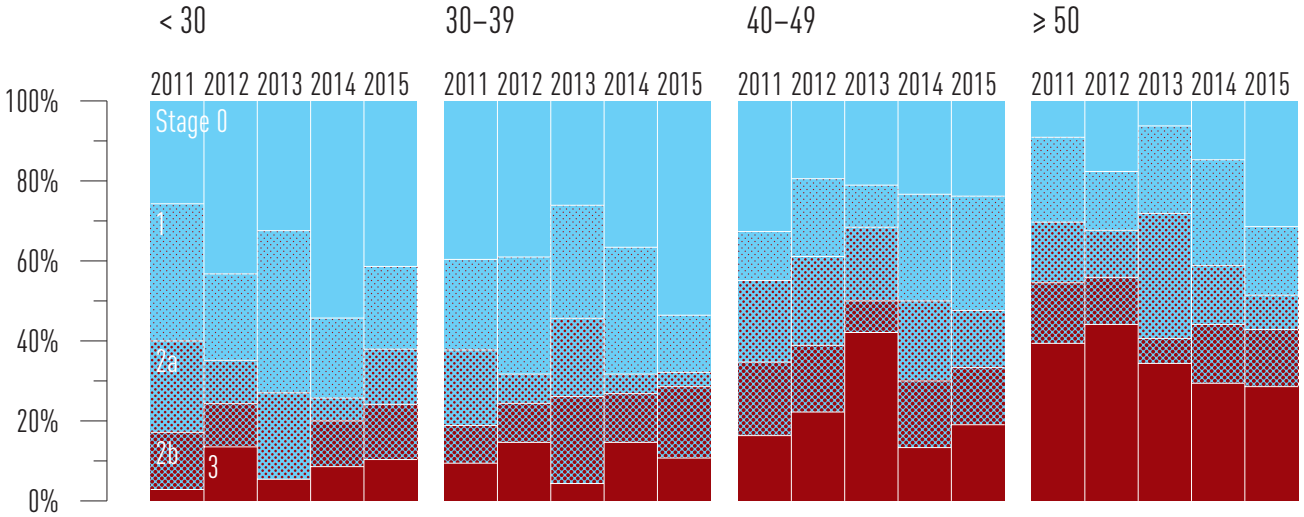
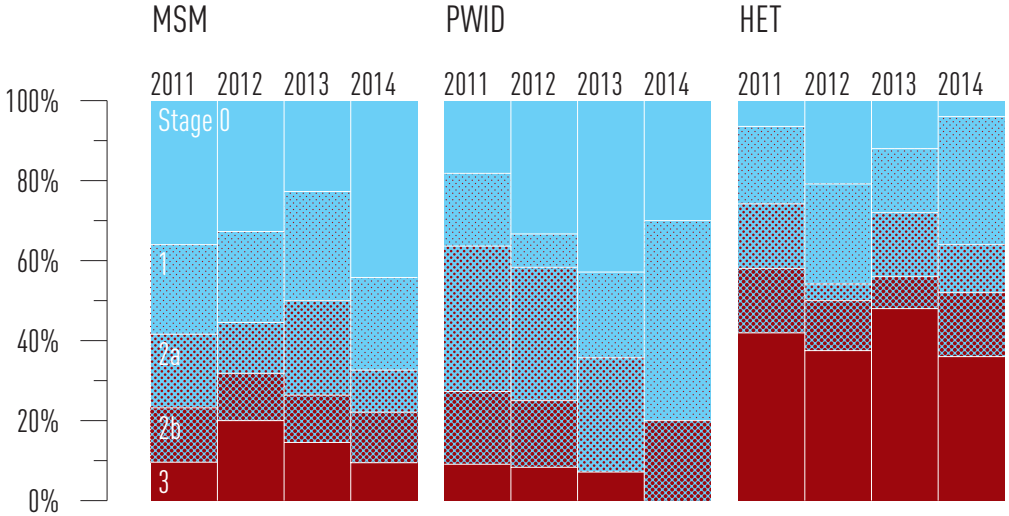


Figure 4.4 Stage of HIV Infection at Diagnosis by Exposure Category for Vancouver Coastal Health, 2011–2014 [5,6]



	< 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	11	12	13	14	11	12	13	14	11	12	13	14	11	12	13	14
Stage 0	9	16	12	19	12	21	16	12	15	15	16	7	8	7	5	3	6	2	5	11	45	36	25	42	2	4	6	3	2	5	3	1	0	0	0	0	0	0	0	0
Stage 1	12	8	15	7	6	12	12	13	13	4	6	7	4	8	6	7	5	7	9	6	28	25	30	22	2	1	3	5	6	6	4	8	1	0	0	1	0	0	2	1
Stage 2a	8	4	8	2	4	10	3	9	2	1	10	8	7	6	3	5	4	10	5	3	23	14	26	10	4	4	4	0	5	1	4	3	1	0	0	0	0	0	0	2
Stage 2b	5	4	0	4	4	5	4	10	5	5	9	6	3	5	3	5	4	2	5	5	17	13	13	12	2	2	0	2	5	3	2	4	0	0	0	0	0	0	0	1
Stage 3	1	5	2	3	3	5	6	2	6	3	8	8	16	4	4	13	15	11	10	10	12	22	16	9	1	1	1	0	13	9	12	9	1	0	0	3	0	2	2	2
Unknown	4	5	1	3	5	7	2	1	7	8	2	0	0	3	6	4	2	3	5	10	13	7	3	13	2	0	0	0	1	1	0	1	1	0	2	0	0	1	0	4
Total *(n=)*	39	42	38	38	34	60	43	47	48	36	51	36	38	33	27	37	36	35	39	45	138	117	113	108	13	12	14	10	32	25	25	26	4	0	2	4	0	3	4	10

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 Q2–2016 Q1 in Vancouver Coastal Health and stratified by sex and age.

Figure 5.1 Estimated Cascade of Care for Vancouver Coastal Health, Year Ending 2016 Q1 [7]

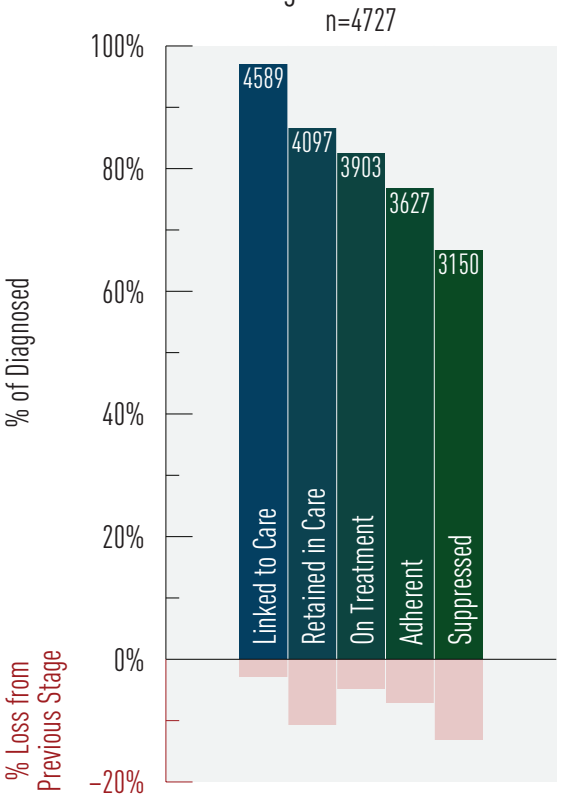
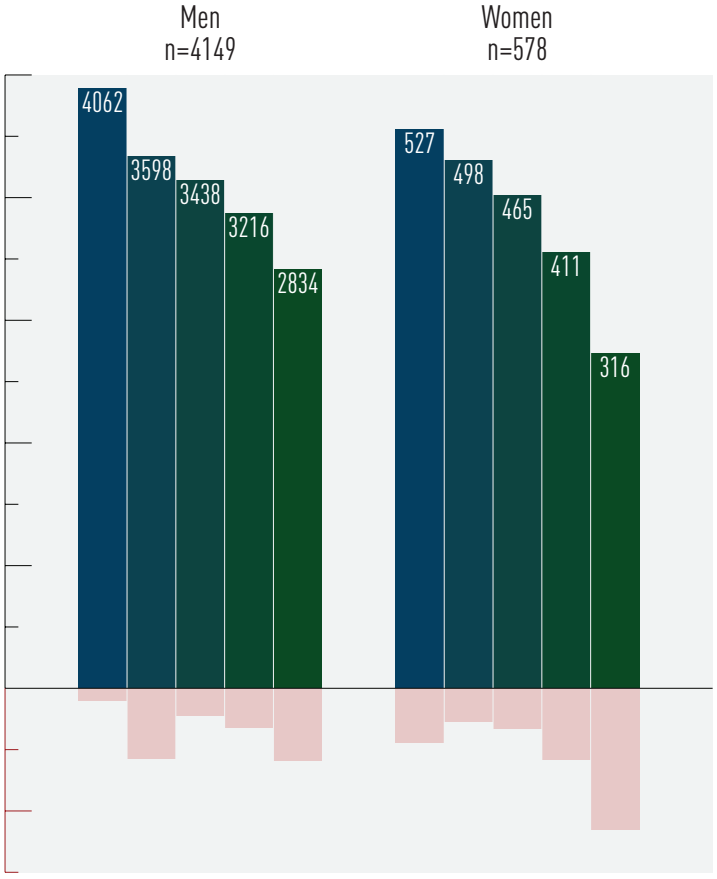


Figure 5.2 Estimated Cascade of Care for Vancouver Coastal Health by Gender, Year Ending 2016 Q1 [7]

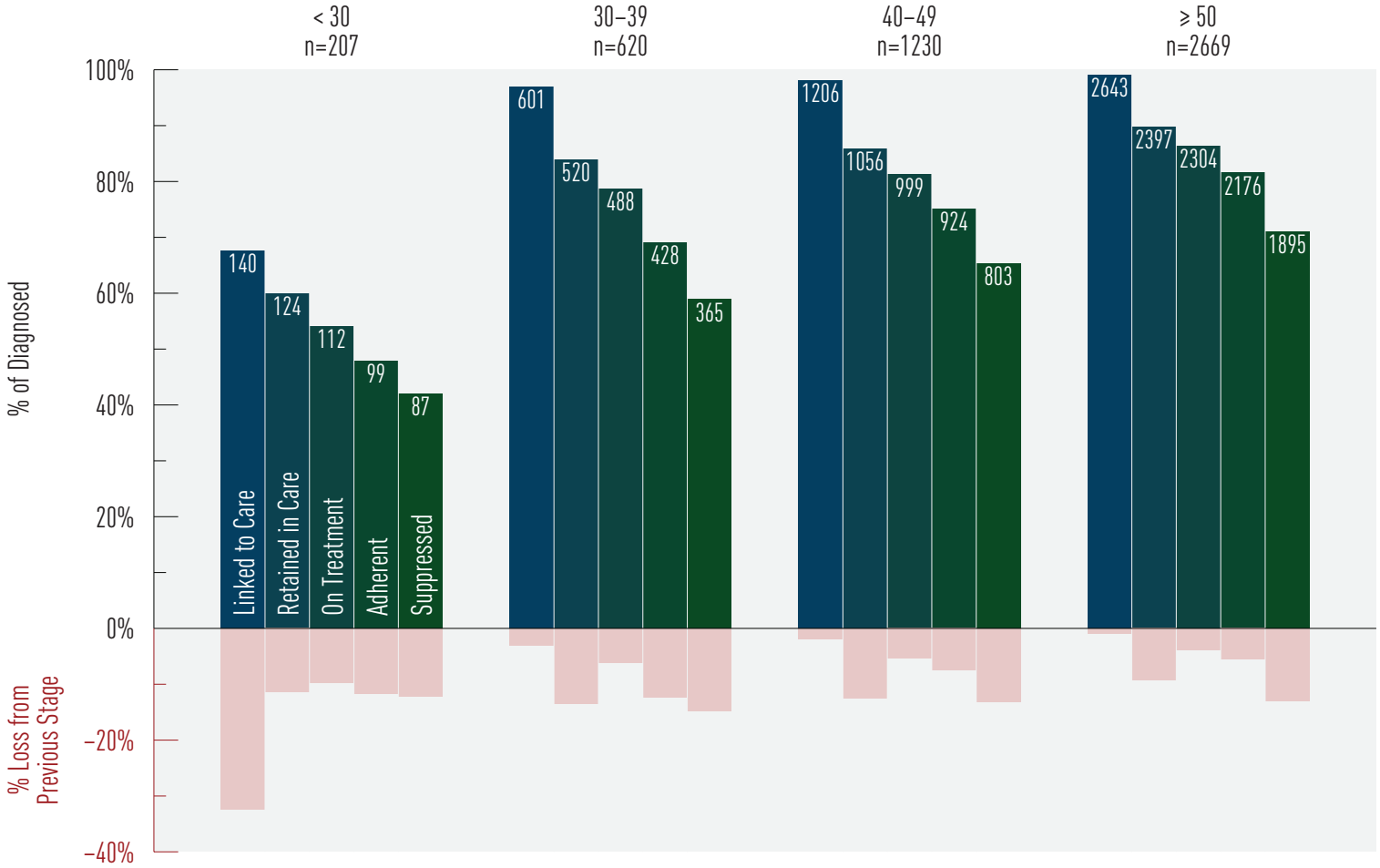


7 *Data is for the period 2015 Q2–2016 Q1.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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.

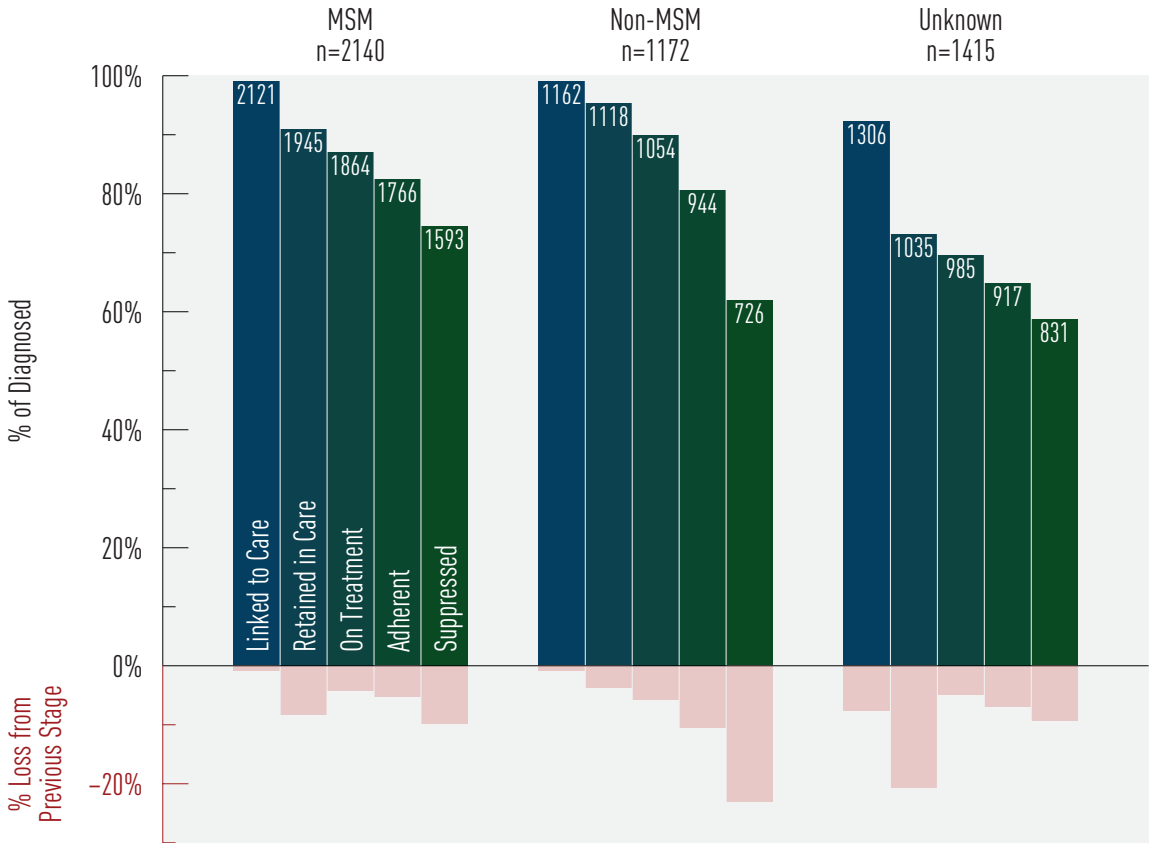
Figure 5.3 Estimated Cascade of Care for Vancouver Coastal Health by Age Category, Year Ending 2016 Q1 [8]



8 *Data is for the period 2015 Q2–2016 Q1.*
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.

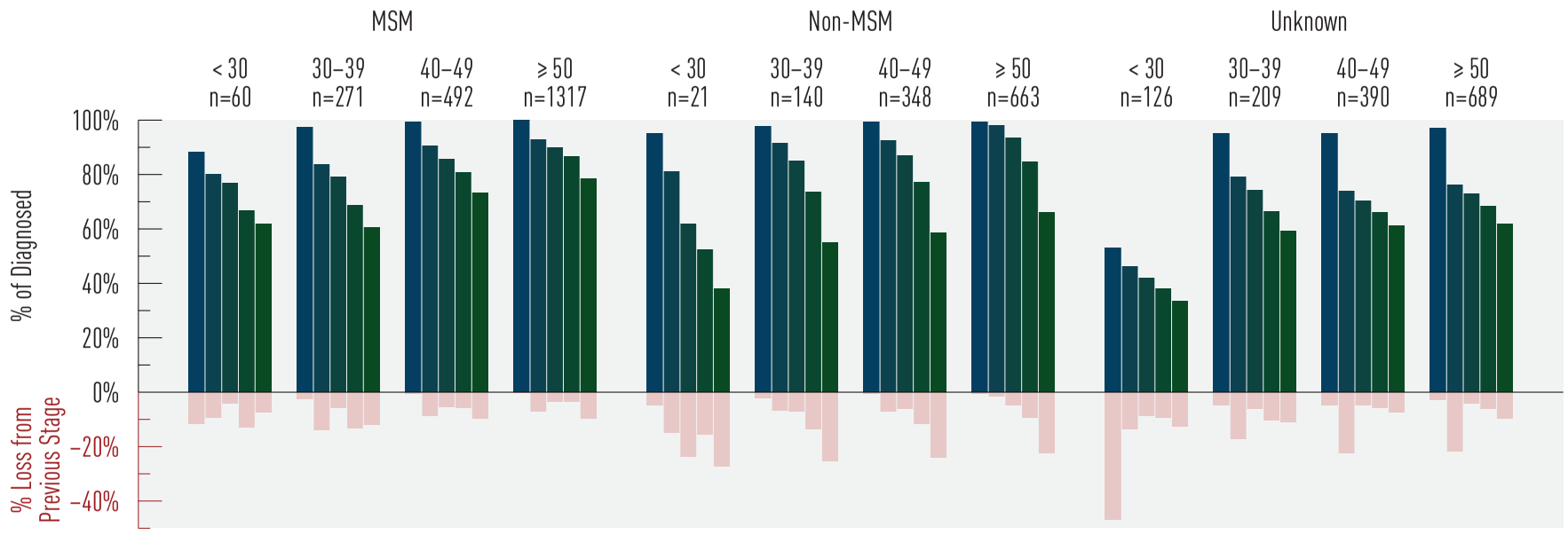
Figure 5.4 Estimated Cascade of Care for Vancouver Coastal Health by MSM Status, Year Ending 2016 Q1 [9]



9 *Data is for the period 2015 Q2–2016 Q1.*
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.

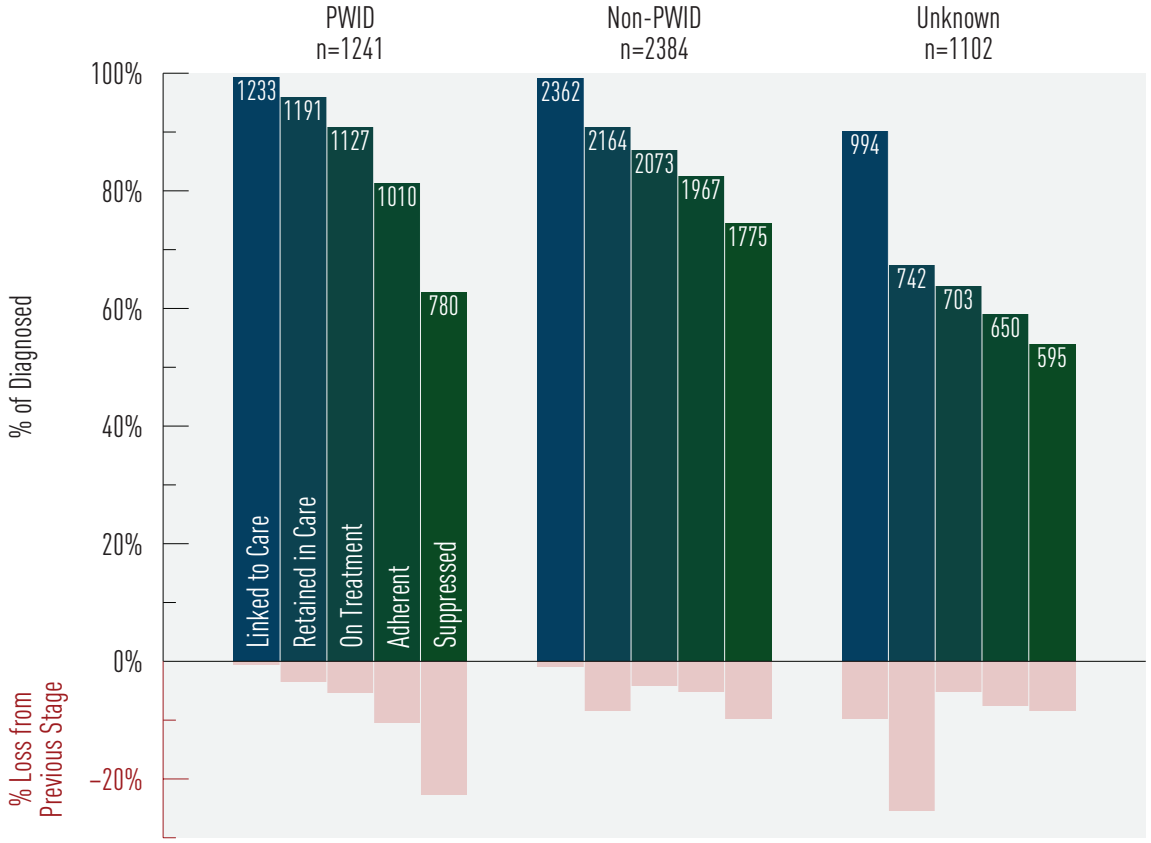
Figure 5.5 Estimated Cascade of Care for Vancouver Coastal Health by Age Category and MSM Status, Year Ending 2016 Q1 [9]



9 *Data is for the period 2015 Q2–2016 Q1.*
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.

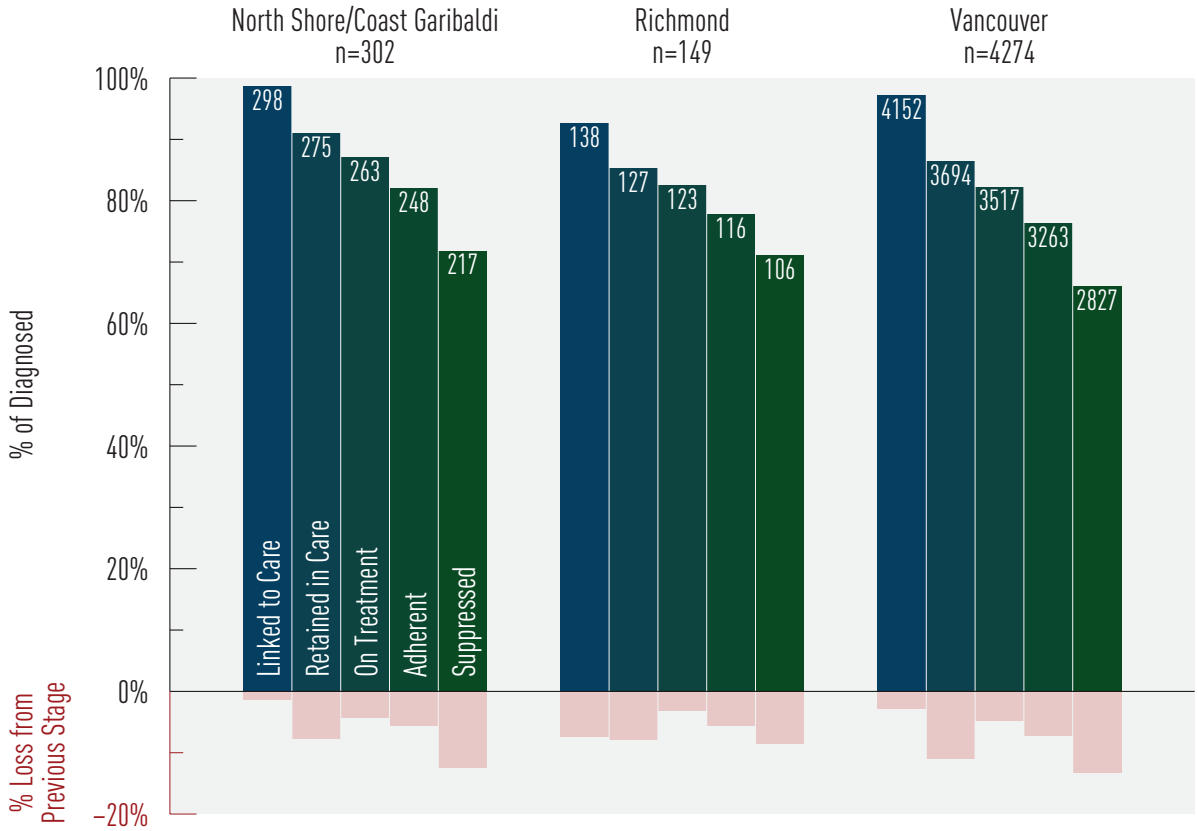
Figure 5.6 Estimated Cascade of Care for Vancouver Coastal Health by PWID Status, Year Ending 2016 Q1 [9]



9 *Data is for the period 2015 Q2–2016 Q1.*
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 Vancouver Coastal Health by HSDA, Year Ending 2016 Q1 [9]



9 *Data is for the period 2015 Q2–2016 Q1.*
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 1 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 Vancouver Coastal Health, 2014 Q2–2016 Q1 [10]

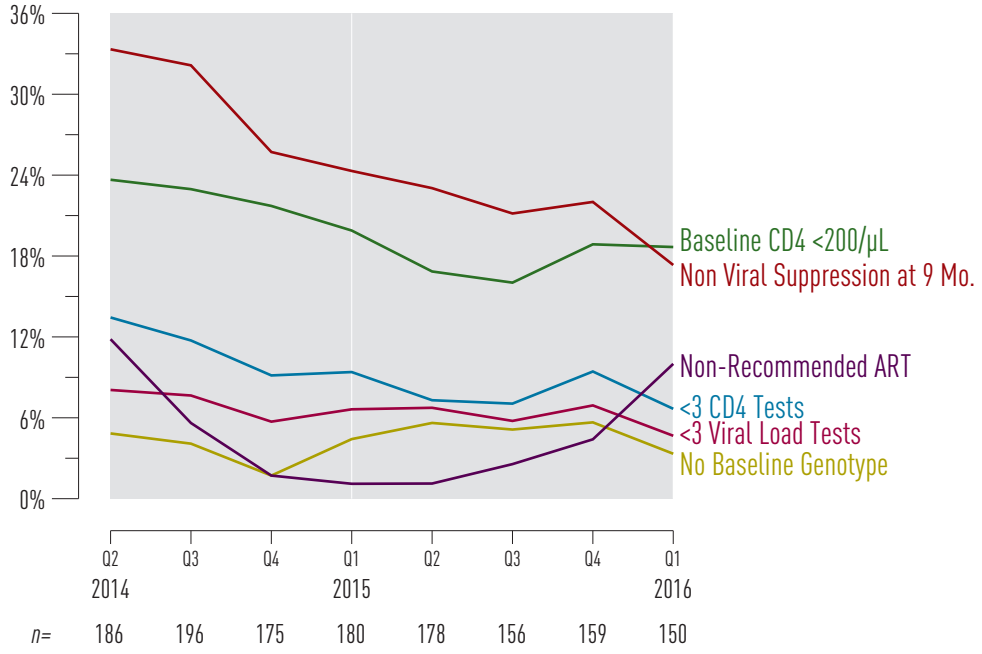
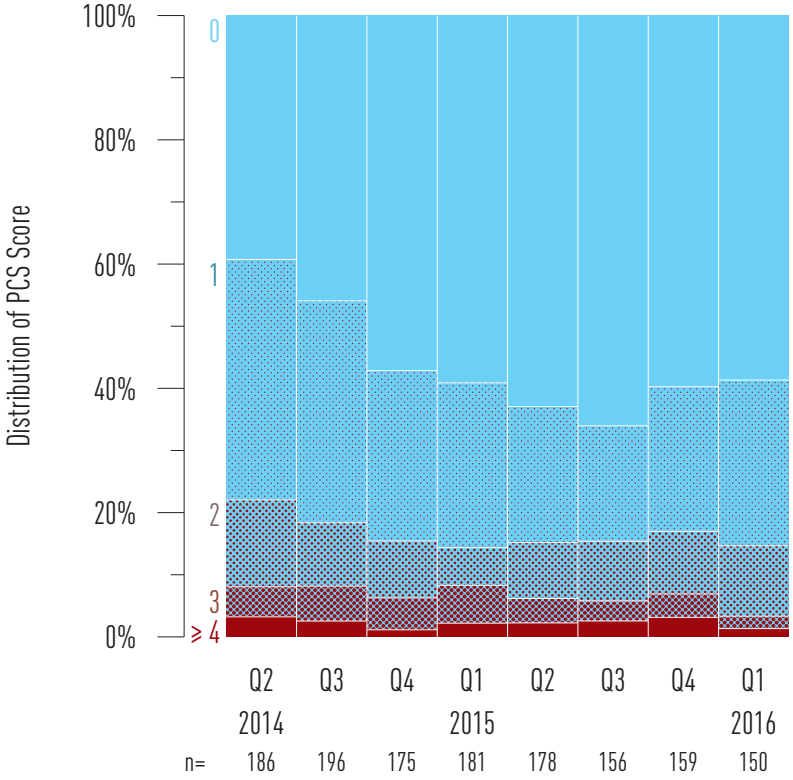


Figure 6.2 Historical Trends for PCS Score for Vancouver Coastal Health, 2014 Q2–2016 Q1 [10,11]



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

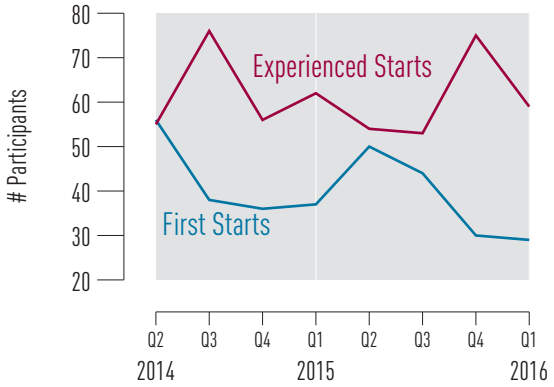
11 *Each quarter's data is calculated as the sum of the 4 quarters leading up to it. e.g. 2013 Q1 is calculated from 2012 Q2 – 2013 Q1. NB: A score of 0 is the best score and a score of 4 or more is the worst score.*

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.

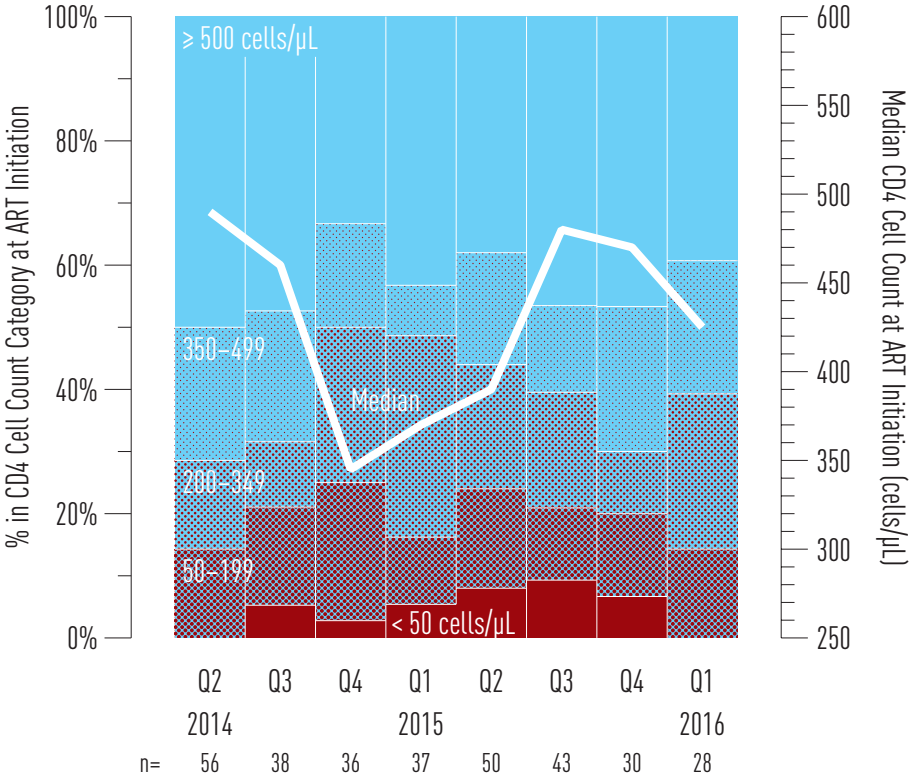
Indicator 7. New Antiretroviral Therapy Starts in Vancouver Coastal Health

Figure 7 BC-CfE Drug Treatment Program Enrollment: New ART Participants in Vancouver Coastal Health, 2014 Q2–2016 Q1 [12]



Indicator 8. CD4 Cell Count at ART Initiation

Figure 8 CD4 Cell Count at ART Initiation of ART-Naïve DTP Participants in Vancouver Coastal Health, 2014 Q2–2016 Q1 [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.*

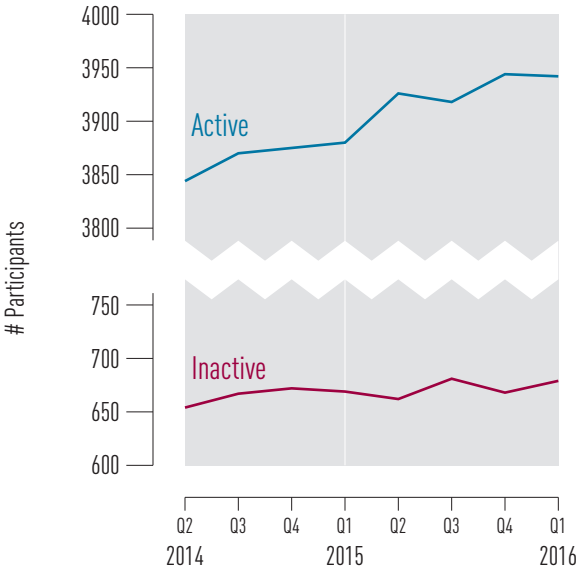
13 *Data Source: Drug Treatment Program Database Limitations: CD4 cell count data is approximately 80% complete.*

Indicator 9. Active and Inactive DTP Participants

Table 3. Distribution of People on ART for Vancouver Coastal Health, 2016 Q1 [14]

Age	< 30	134
	30–39	534
	40–49	1050
	≥ 50	2224
Gender	Male	3470
	Female	472
Exposure	MSM	1889
	PWID	1118
Total		3942

Figure 9 Active and Inactive DTP Participants for Vancouver Coastal Health, 2014 Q2–2016 Q1 [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

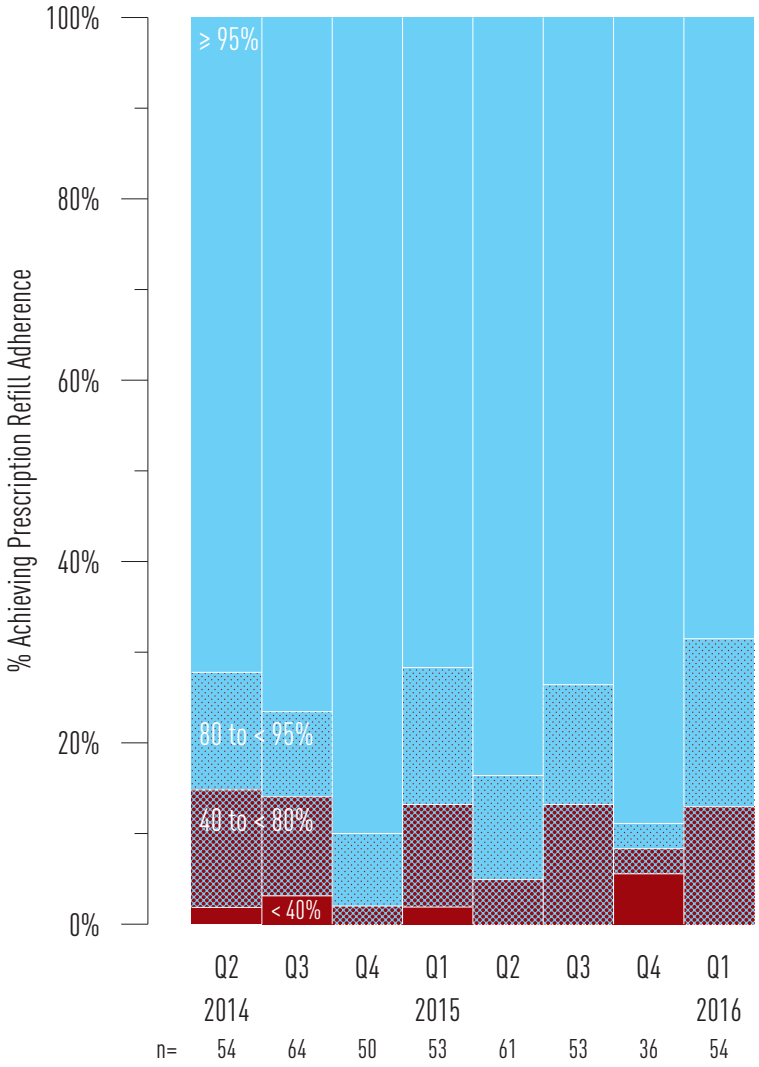
15 *Active DTP participants: An individual who has had medication prescribed at least once in the preceding quarter.*
Inactive DTP participants: Persons no longer prescribed drugs through the HIV/AIDS Drug Treatment Program in the last quarter.

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 Vancouver Coastal Health, 2014 Q2–2016 Q1 [16]



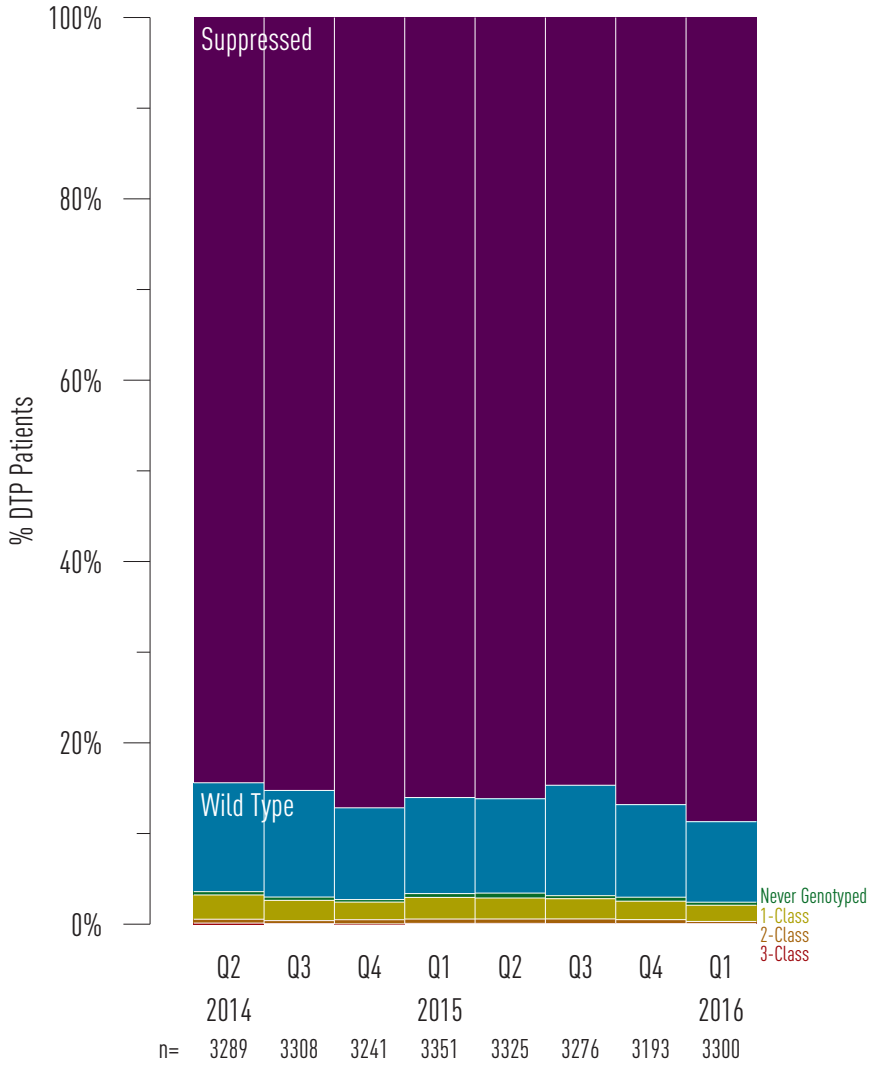
16 *Data Source: Drug Treatment Program Database*
Limitation: Prescription refill adherence is used as a proxy for patient adherence.

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 Vancouver Coastal Health, 2014 Q2–2016 Q1 [17]



17 *Data Source: Drug Treatment Program Database*

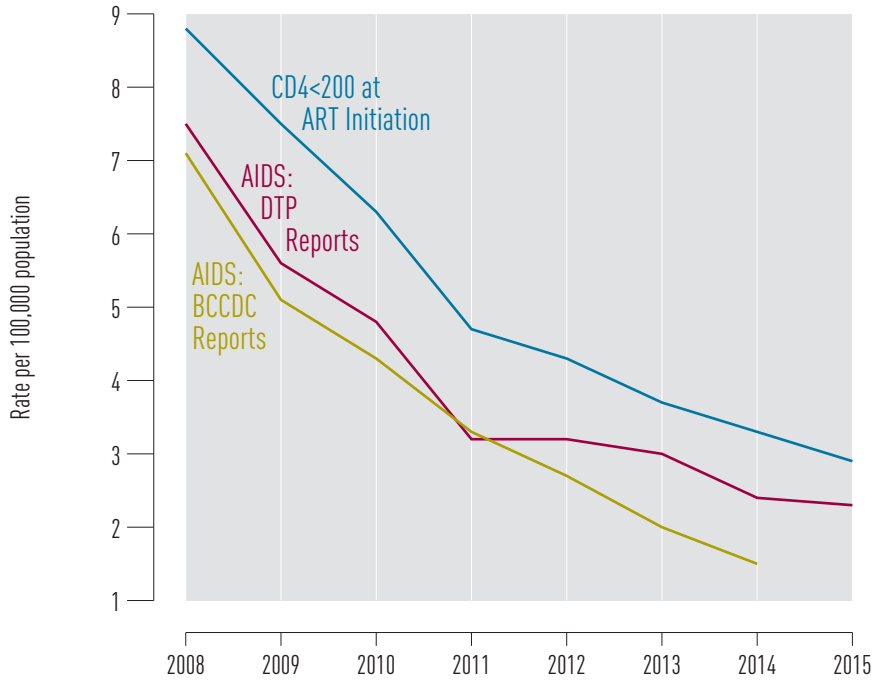
Limitation: DTP participants are designated to a HA based on most current residence provided by the participant.

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 Vancouver Coastal Health [18]



		2008	2009	2010	2011	2012	2013	2014	2015
CD4<200 at ART initiation	CASES	95	82	69	52	48	42	38	34
	PER 100K	8.8	7.5	6.3	4.7	4.3	3.7	3.3	2.9
AIDS: DTP Reports	CASES	81	61	53	35	36	34	28	27
	PER 100K	7.5	5.6	4.8	3.2	3.2	3.0	2.4	2.3
AIDS: BCCDC Reports	CASES	76	55	47	36	30	23	17	–
	PER 100K	7.1	5.1	4.3	3.3	2.7	2.0	1.5	–

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.*

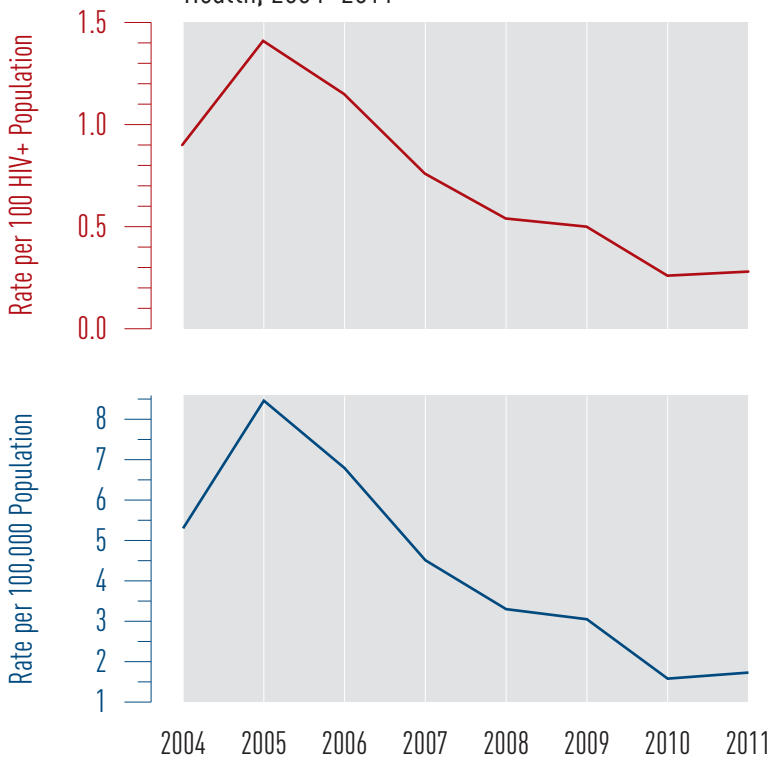
Limitation: AIDS case reporting was investigated using 3 definitions: First, using AIDS cases reported in AIDS case report forms from the DTP; Second, using AIDS cases reported via the BCCDC and third, using a CD4 cell count of <200 cells/μL at time of ART initiation using DTP data. AIDS case reporting 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 Vancouver Coastal Health, 2004–2011 [19]



	2004	2005	2006	2007	2008	2009	2010	2011
HIV-Related Deaths	55	88	73	49	36	34	18	20
Per 100 HIV+ Population	0.90	1.41	1.15	0.76	0.54	0.50	0.26	0.28
Per 100,000 Population	5.30	8.46	6.79	4.51	3.30	3.05	1.58	1.73

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)**		2011 Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1
Vancouver Coastal Health		16.2	21.9	19.1	21.8	21.4	24.0	24.6	30.1	32.1	30.7	29.9	35.0	38.4	43.0	41.6	45.5	44.8	45.4	44.6	48.7
Gender	Female	6.1	6.9	7.4	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
	Male	7.6	8.6	8.8	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
	Other	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Age	< 30	5.0	5.8	5.8	6.4	6.2	7.1	7.1	7.7	8.2	8.3	8.1	8.8	9.0	10.2	9.9	10.2	10.3	11.4	11.1	11.1
	30–39	3.8	4.1	4.2	5.1	5.0	5.2	5.2	6.4	6.7	6.5	6.2	7.6	7.6	8.1	7.7	8.8	8.9	9.2	8.6	9.9
	40–49	2.5	2.6	2.9	3.4	3.4	3.5	3.8	4.8	5.1	4.6	4.6	5.3	5.7	6.1	5.9	6.5	6.4	6.5	6.3	7.1
	≥ 50	2.6	3.0	3.4	4.5	4.8	5.9	6.4	9.1	10.2	9.0	9.1	11.0	14.0	16.1	16.0	18.1	17.5	16.8	17.0	19.0
POC HIV Tests		2.0	5.9	2.4	2.1	1.9	2.1	1.7	2.0	1.8	2.1	1.9	2.1	2.0	2.4	2.0	1.7	1.6	1.5	1.5	1.4
North Shore / Coast Garibaldi		1.8	1.8	1.9	2.1	2.0	2.1	2.3	2.5	2.6	2.6	2.7	3.1	4.3	4.8	5.3	5.8	5.6	6.1	6.0	6.2
Female (Non-prenatal)		0.9	0.9	0.9	1.1	1.0	1.1	1.2	1.3	1.4	1.3	1.3	1.6	2.2	2.5	2.8	3.1	3.0	3.3	3.2	3.2
Male		0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.3	1.3	1.3	1.5	2.1	2.2	2.5	2.7	2.6	2.8	2.8	3.0
Richmond		0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.4	1.4	1.4	1.3	2.5	4.8	4.8	4.7	5.1	4.5	4.2	4.8	5.7
Female (Non-prenatal)		0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	1.3	2.6	2.6	2.4	2.8	2.5	2.3	2.6	3.0
Male		0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.7	1.2	2.2	2.3	2.2	2.4	2.0	2.0	2.2	2.7
Vancouver		13.6	19.2	16.3	18.7	18.5	20.9	21.1	26.2	28.1	26.7	25.8	29.4	29.2	33.3	31.6	34.5	34.7	35.0	33.9	36.7
Female (Non-prenatal)		4.8	5.5	6.1	7.4	7.5	8.7	8.8	11.6	12.7	12.0	11.5	12.9	13.1	15.0	14.3	16.0	16.2	16.3	15.5	16.8
Male		6.4	7.4	7.5	9.0	8.9	9.9	10.3	12.4	13.4	12.4	12.3	14.1	14.1	15.9	15.1	16.7	16.8	17.1	16.7	18.4

Indicator 2: **Rate of HIV Testing per 100,000**

		2009	2010	2011	2012	2013	2014	2015
Vancouver Coastal Health		4125.4	4140.5	4342.2	5828.4	8130.3	10326.7	11602.2
North Shore / Coast Garibaldi		2669.6	2669.1	2773.1	3285.6	4086.8	6407.0	8213.0
Richmond		1762.8	1841.3	1911.2	2442.9	3060.7	8154.0	8761.6
Vancouver		5486.3	5494.4	5777.0	7967.2	11423.4	12685.9	13946.6
Gender	Female	3548.5	3532.1	3737.9	5347.5	7827.6	10036.3	11448.1
	Male	4396.4	4470.4	4656.7	6151.6	8336.5	10507.1	11640.6
Age	< 30	4310.5	4296.9	4494.8	5513.4	6694.8	7704.1	8553.8
	30–39	7337.9	7558.7	7672.4	9517.1	12268.2	14316.3	15749.8
	40–49	4523.0	4444.5	4653.6	6217.3	9017.4	10923.6	12034.1
	≥ 50	1842.1	1909.7	2189.3	4166.4	7273.5	10772.9	12365.5

Indicator 3: **New HIV Diagnoses**		2011 Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1
Vancouver Coastal Health	By Client Residence	48	57	41	43	33	33	32	31	45	40	25	37	49	32	28	37	35	33	25	24
	By Provider Address	*47*	*65*	*42*	*47*	*38*	*37*	*38*	*31*	*50*	*49*	*29*	*41*	*54*	*36*	*32*	*44*	*42*	*35*	*24*	*25*
Gender	Female	7	2	2	5	4	3	2	4	4	1	1	3	4	3	4	4	2	5	5	2
	Male	41	55	39	38	29	30	30	27	41	39	24	33	44	29	24	33	33	27	20	21
Age	< 30	10	13	12	11	10	7	13	7	11	14	6	11	12	6	9	9	9	10	5	6
	30–39	16	22	8	12	11	7	6	11	14	5	3	10	16	13	7	9	9	9	6	9
	40–49	12	13	13	12	6	11	9	8	8	11	10	8	7	5	6	6	9	4	6	4
	≥ 50	10	9	8	8	6	8	4	5	12	10	6	8	14	8	6	13	8	10	8	5
Exposure	MSM	36	43	30	33	25	25	22	19	32	29	20	27	36	21	17	25	25	19	–	–
	PWID	2	8	0	3	4	1	3	3	3	3	2	4	3	2	1	2	2	3	–	–
	HET	10	6	9	7	4	6	6	8	8	6	2	4	7	6	4	6	5	6	–	–
	Other	0	0	2	0	0	0	0	0	1	1	0	0	0	2	2	2	0	1	–	–
	NIR/Unknown	0	0	0	0	0	1	1	1	1	1	1	2	3	1	4	2	3	4	–	–

Indicator 3: **New HIV Diagnoses (cont'd)**		2011 Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1
North Shore / Coast Garibaldi	By Client Residence	2	6	1	2	3	1	1	3	1	4	1	1	3	3	3	2	0	1	5	0
	By Provider Address	*2*	*4*	*0*	*1*	*2*	*2*	*1*	*3*	*2*	*4*	*0*	*1*	*2*	*3*	*3*	*2*	*2*	*1*	*4*	*0*
Richmond	By Client Residence	0	1	3	0	1	3	0	2	1	0	1	1	1	2	0	1	5	2	0	0
	By Provider Address	*1*	*0*	*2*	*0*	*1*	*2*	*1*	*0*	*0*	*0*	*2*	*2*	*1*	*3*	*0*	*1*	*2*	*2*	*0*	*0*
Vancouver	By Client Residence	46	50	37	41	29	29	31	26	43	36	23	35	45	27	25	34	30	30	20	24
	By Provider Address	*44*	*61*	*40*	*46*	*35*	*33*	*36*	*28*	*48*	*45*	*27*	*38*	*51*	*30*	*29*	*41*	*38*	*32*	*20*	*25*

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

	VCH					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	49	45	34	46	43	0	6	1	2	8	49	39	32	44	35	9	16	12	19	12	21	16	12	15	15	16	7	8	7	5
Stage 1	37	32	39	37	22	5	3	3	7	2	32	28	36	30	20	12	8	15	7	6	12	12	13	13	4	6	7	4	8	6
Stage 2a	33	19	34	15	11	5	1	3	2	1	28	18	31	13	10	8	4	8	2	4	10	3	9	2	1	10	8	7	6	3
Stage 2b	24	18	15	19	17	4	3	2	0	1	20	15	13	19	15	5	4	0	4	4	5	4	10	5	5	9	6	3	5	3
Stage 3	27	34	31	23	20	3	2	4	5	2	24	32	27	18	18	1	5	2	3	3	5	6	2	6	3	8	8	16	4	4
Unknown	17	9	5	18	29	0	1	0	2	7	16	8	5	16	22	4	5	1	3	5	7	2	1	7	8	2	0	0	3	6
Total	187	157	158	158	142	17	16	13	18	21	169	140	144	140	120	39	42	38	38	34	60	43	47	48	36	51	36	38	33	27

	≥ 50 years					MSM				PWID				Heterosexual				Other Exposure				NIR/Unknown			
	'11	'12	'13	'14	'15	'11	'12	'13	'14	'11	'12	'13	'14	'11	'12	'13	'14	'11	'12	'13	'14	'11	'12	'13	'14
Stage 0	3	6	2	5	11	45	36	25	42	2	4	6	3	2	5	3	1	0	0	0	0	0	0	0	0
Stage 1	7	5	7	9	6	28	25	30	22	2	1	3	5	6	6	4	8	1	0	0	1	0	0	2	1
Stage 2a	5	4	10	5	3	23	14	26	10	4	4	4	0	5	1	4	3	1	0	0	0	0	0	0	2
Stage 2b	5	4	2	5	5	17	13	13	12	2	2	0	2	5	3	2	4	0	0	0	0	0	0	0	1
Stage 3	13	15	11	10	10	12	22	16	9	1	1	1	0	13	9	12	9	1	0	0	3	0	2	2	2
Unknown	4	2	3	5	10	13	7	3	13	2	0	0	0	1	1	0	1	1	0	2	0	0	1	0	4
Total	37	36	35	39	45	138	117	113	108	13	12	14	10	32	25	25	26	4	0	2	4	0	3	4	10

Indicator 5: **HIV Cascade of Care**			DIAGNOSED	LINKED	RETAINED	ON ART	ADHERENT	SUPPRESSED
Vancouver Coastal Health			4727	4589	4097	3903	3627	3150
Age Category	< 30		207	140	124	112	99	87
	30–39		620	601	520	488	428	365
	40–49		1230	1206	1056	999	924	803
	≥ 50		2669	2643	2397	2304	2176	1895
Age Category and MSM Status	MSM	< 30	60	53	48	46	40	37
		30–39	271	264	227	214	186	164
		40–49	492	489	446	422	398	360
		≥ 50	1317	1315	1223	1182	1142	1032
	Non-MSM	< 30	21	20	17	13	11	8
		30–39	140	137	128	119	103	77
		40–49	348	346	322	303	268	204
		≥ 50	663	659	650	619	562	437
	Unknown	< 30	126	67	58	53	48	42
		30–39	209	199	165	155	139	124
		40–49	390	371	288	274	258	239
		≥ 50	689	669	524	503	472	426
Gender	Male		4149	4062	3598	3438	3216	2834
	Female		578	527	498	465	411	316

Indicator 5: **HIV Cascade of Care**		DIAGNOSED	LINKED	RETAINED	ON ART	ADHERENT	SUPPRESSED
Injection Drug Use	PWID	1241	1233	1191	1127	1010	780
	Non-PWID	2384	2362	2164	2073	1967	1775
	Unknown	1102	994	742	703	650	595
MSM Status	MSM	2140	2121	1945	1864	1766	1593
	Non-MSM	1172	1162	1118	1054	944	726
	Unknown	1415	1306	1035	985	917	831
Health Authority	North Shore / Coast Garibaldi	302	298	275	263	248	217
	Richmond	149	138	127	123	116	106
	Vancouver	4274	4152	3694	3517	3263	2827

Indicator 6: **Programmatic Compliance Score (PCS)**

	2014 Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1
< 3 CD4 Tests	13.4%	11.7%	9.1%	9.4%	7.3%	7.1%	9.4%	6.7%
< 3 Viral Load Tests	8.1%	7.7%	5.7%	6.6%	6.7%	5.8%	6.9%	4.7%
No Baseline Genotype	4.8%	4.1%	1.7%	4.4%	5.6%	5.1%	5.7%	3.3%
Baseline CD4 < 200 cells/μL	23.7%	23.0%	21.7%	19.9%	16.9%	16.0%	18.9%	18.7%
Non-Recommended ART	11.8%	5.6%	1.7%	1.1%	1.1%	2.6%	4.4%	10.0%
Non Viral suppression at 9 Mo.	33.3%	32.1%	25.7%	24.3%	23.0%	21.2%	22.0%	17.3%
PCS Score: 0	73	90	100	107	112	103	95	88
PCS Score: 1	72	70	48	48	39	29	37	40
PCS Score: 2	26	20	16	11	16	15	16	17
PCS Score: 3	9	11	9	11	7	5	6	3
PCS Score: 4 or more	6	5	2	4	4	4	5	2
Total (n=)	**186**	**196**	**175**	**181**	**178**	**156**	**159**	**150**

Indicator 7: **New DTP ARV Participants**

First Starts	56	38	36	37	50	44	30	29
Experienced Starts	55	76	56	62	54	53	75	59

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

CD4 ≥ 500	28	18	12	16	19	20	14	11
CD4 350–499	12	8	6	3	9	6	7	6
CD4 200–349	8	4	9	12	10	8	3	7
CD4 50–199	8	6	8	4	8	5	4	4
CD4 < 50	0	2	1	2	4	4	2	0
CD4 Median (cells/μL)	*490*	*460*	*345*	*370*	*390*	*480*	*470*	*425*
Total (n=)	**56**	**38**	**36**	**37**	**50**	**43**	**30**	**28**

Indicator 9: **Active and Inactive DTP Participants**

Active DTP Participants	3844	3870	3875	3880	3926	3918	3944	3942
Inactive DTP Participants	654	667	672	669	662	681	668	679

Indicator 10: **Antiretroviral Adherence**

≥ 95%	39	49	45	38	51	39	32	37
80% to < 95%	7	6	4	8	7	7	1	10
40% to < 80%	7	7	1	6	3	7	1	7
< 40%	1	2	0	1	0	0	2	0
Total (n=)	**54**	**64**	**50**	**53**	**61**	**53**	**36**	**54**

Indicator 11: **Resistance Testing and Results**

	2014 Q2	Q3	Q4	2015 Q1	Q2	Q3	Q4	2016 Q1
Suppressed	2776	2820	2825	2883	2865	2774	2772	2927
Wild Type	395	389	328	355	346	399	326	293
Never Genotyped	12	12	9	14	18	11	14	11
1-Class	88	74	63	80	77	73	65	59
2-Class	14	11	15	16	16	17	14	8
3-Class	4	2	1	3	3	2	2	2
Total (n=)	**3289**	**3308**	**3241**	**3351**	**3325**	**3276**	**3193**	**3300**

Indicator 12: **AIDS-Defining Illness**		2007	2008	2009	2010	2011	2012	2013	2014	2015
CD4 < 200 at ART initiation	Cases	130	95	82	69	52	48	42	38	34
	Rate per 100,000	*12.1*	*8.8*	*7.5*	*6.3*	*4.7*	*4.3*	*3.7*	*3.3*	*2.9*
AIDS Cases (DTP Reports)	Cases	81	81	61	53	35	36	34	28	27
	Rate per 100,000	*7.5*	*7.5*	*5.6*	*4.8*	*3.2*	*3.2*	*3.0*	*2.4*	*2.3*
AIDS Cases (BCCDC Reports)	Cases	72	76	55	47	36	30	23	17	–
	Rate per 100,000	*6.7*	*7.1*	*5.1*	*4.3*	*3.3*	*2.7*	*2.0*	*1.5*	–

Indicator 13: **HIV-Related Mortality**	2004	2005	2006	2007	2008	2009	2010	2011
Vancouver Coastal Health	55	88	73	49	36	34	18	20
Per 100 HIV+ Population	0.90	1.41	1.15	0.76	0.54	0.50	0.26	0.28
Per 100,000 Population	5.30	8.46	6.79	4.51	3.30	3.05	1.58	1.73