BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS

HIV MONITORING QUARTERLY REPORT

FOR VANCOUVER COASTAL HEALTH

FIRST QUARTER 2015

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

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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. Ana Prado writes and compiles the monitoring report. Guillaume Colley, Dr. Viviane Lima and Nada Gataric perform analysis of Indicators 5–13. James Nakagawa is responsible for publishing and editing. This report was conceived and guided by Dr. Julio Montaner.

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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 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.

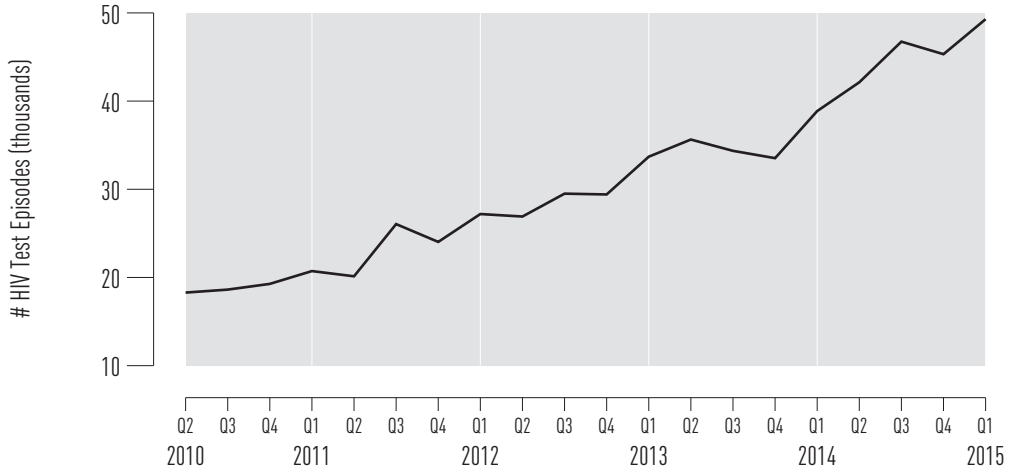
The goals of HA-led STOP-funded initiatives are to work toward achieving these goals. To these ends some outcome measures or indicators of progress have been drafted that should be considered in the design and implementation phases of these initiatives.

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.

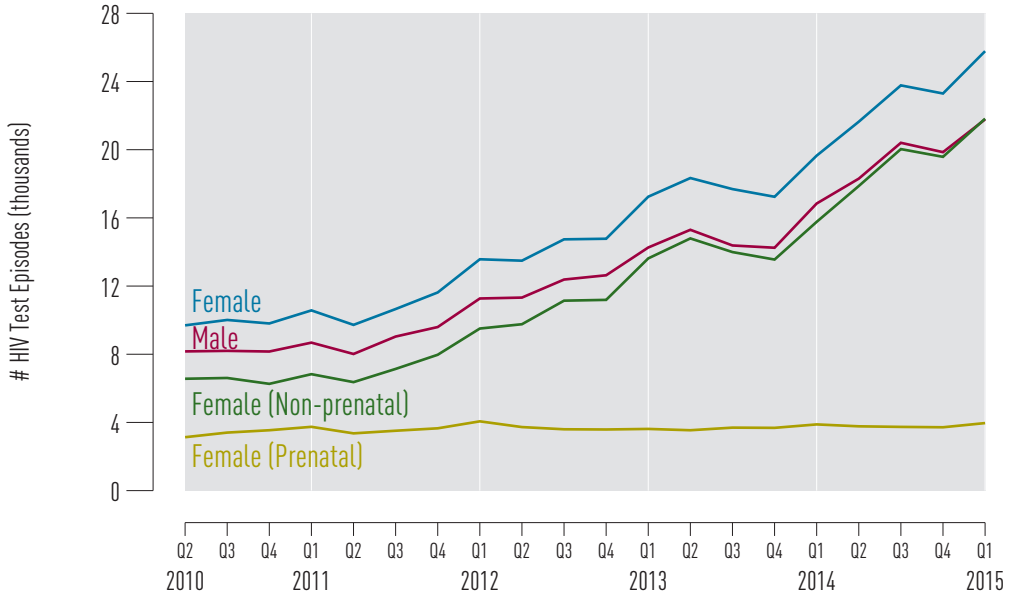
Indicator 1. HIV Testing Episodes

Figure 1.1 HIV Test Episodes for Vancouver Coastal Health



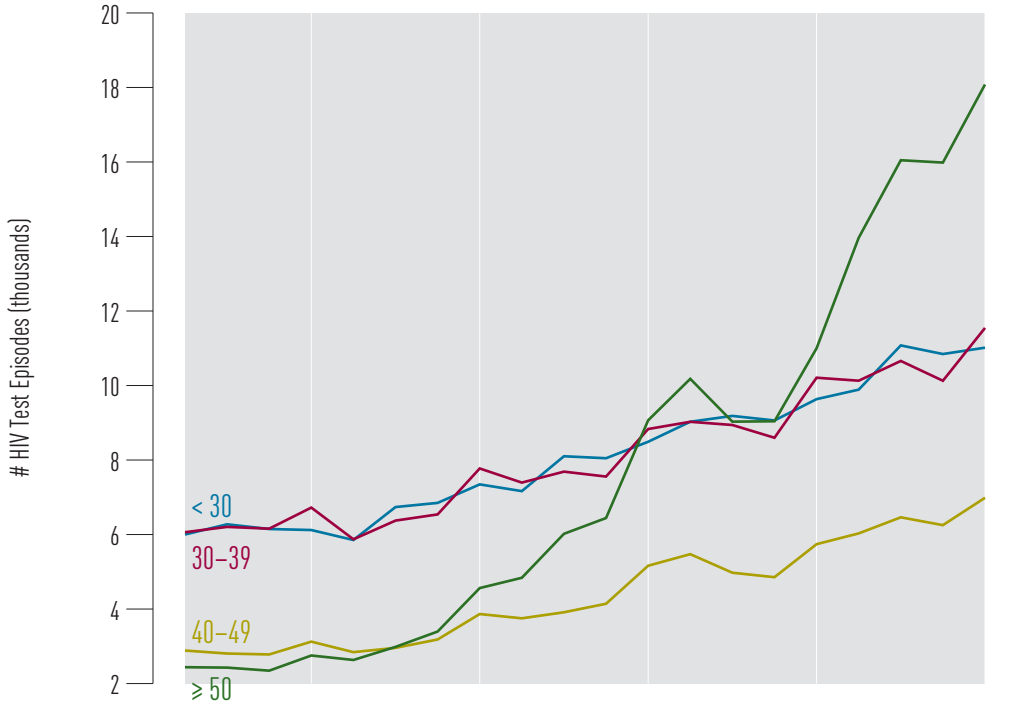
	Q2 2010	Q3	Q4	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015
Vancouver Coastal Health	18.3	18.6	19.3	20.7	20.1	26.1	24.0	27.2	26.9	29.5	29.4	33.7	35.6	34.4	33.5	38.9	42.1	46.7	45.3	49.3

Figure 1.2 HIV Test Episodes by Gender and Prenatal Status for Vancouver Coastal Health [1]



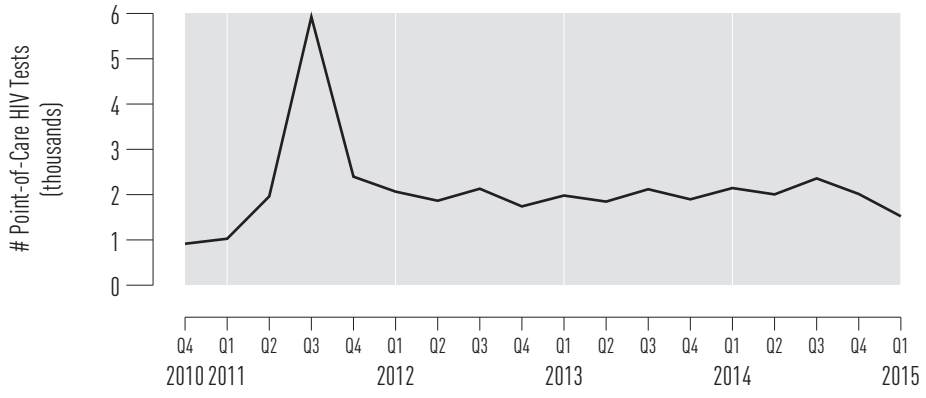
	Q2 2010	Q3	Q4	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015
Female	9.7	10.0	9.8	10.6	9.7	10.7	11.6	13.6	13.5	14.7	14.8	17.2	18.3	17.7	17.2	19.7	21.6	23.8	23.3	25.8
Male	8.2	8.2	8.2	8.7	8.0	9.0	9.6	11.3	11.3	12.4	12.6	14.3	15.3	14.4	14.2	16.8	18.3	20.4	19.9	21.8
Female (Prenatal)	3.1	3.4	3.5	3.7	3.4	3.5	3.7	4.1	3.7	3.6	3.6	3.6	3.5	3.7	3.7	3.9	3.8	3.7	3.7	4.0
Female (Non-prenatal)	6.6	6.6	6.3	6.8	6.4	7.1	8.0	9.5	9.8	11.1	11.2	13.6	14.8	14.0	13.6	15.8	17.9	20.0	19.6	21.8

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



	Q2 2010	Q3	Q4	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015
< 30	6.0	6.3	6.1	6.1	5.9	6.7	6.8	7.3	7.2	8.1	8.0	8.5	9.0	9.2	9.1	9.6	9.9	11.1	10.8	11.0
30–39	6.1	6.2	6.2	6.7	5.9	6.4	6.5	7.8	7.4	7.7	7.6	8.8	9.0	8.9	8.6	10.2	10.1	10.7	10.1	11.5
40–49	2.9	2.8	2.8	3.1	2.8	3.0	3.2	3.9	3.8	3.9	4.1	5.2	5.5	5.0	4.9	5.7	6.0	6.5	6.3	7.0
≥ 50	2.4	2.4	2.3	2.8	2.6	3.0	3.4	4.6	4.8	6.0	6.4	9.1	10.2	9.0	9.0	11.0	14.0	16.0	16.0	18.1

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



	Q4 2010	Q1 2011	Q2	Q3	Q4	Q1 2012	Q2	Q3	Q4	Q1 2013	Q2	Q3	Q4	Q1 2014	Q2	Q3	Q4	Q1 2015
Vancouver Coastal Health	0.9	1.0	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	1.5

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

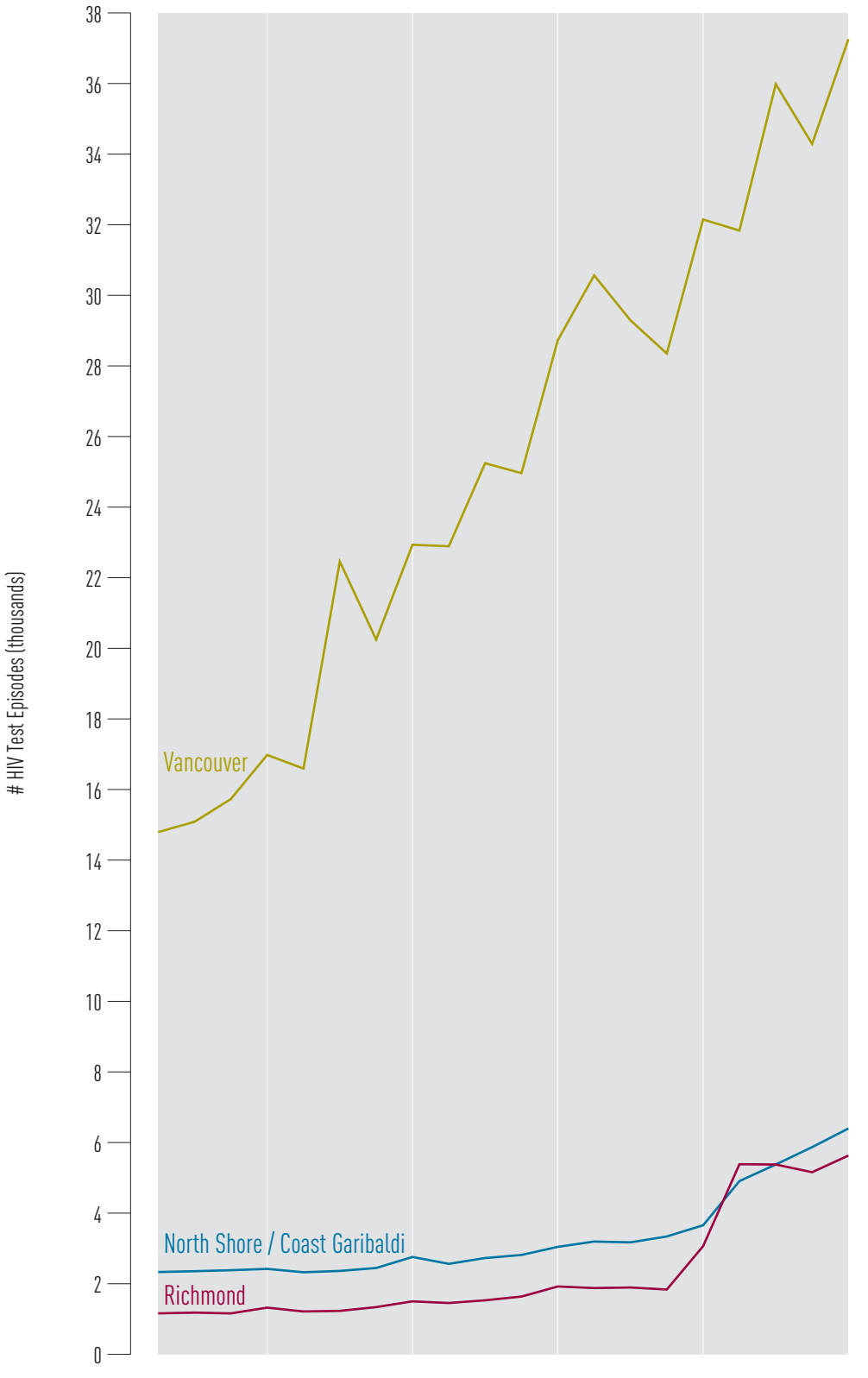
Limitations:

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

ii POC testing data are available from the fourth quarter of 2010 forward.

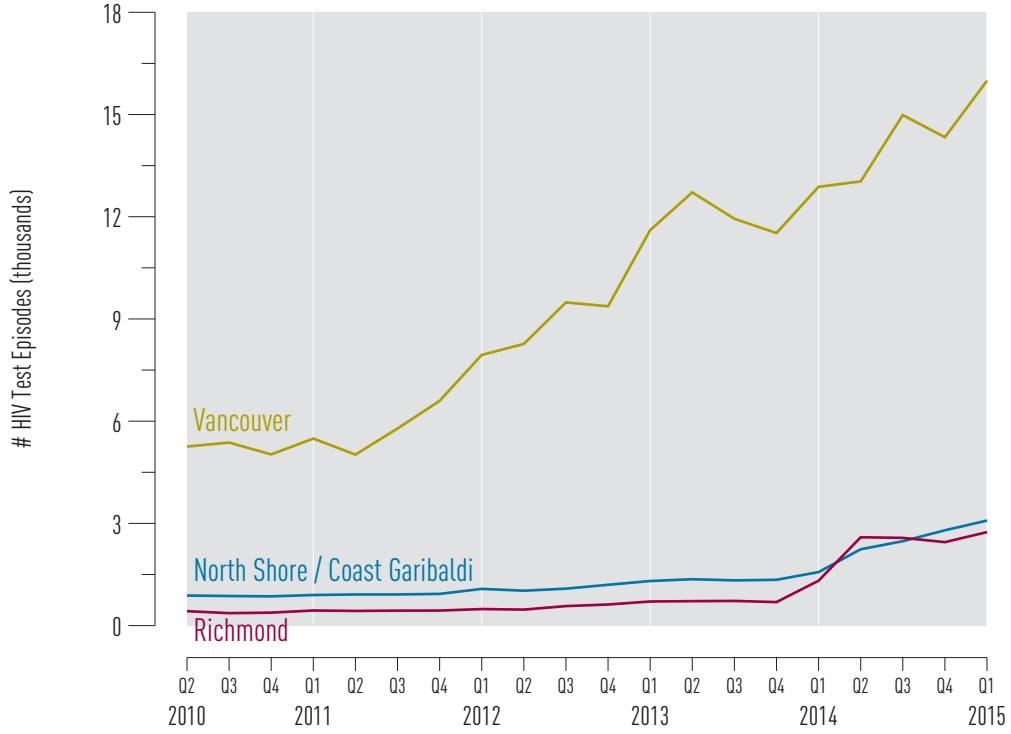
2 *Testing does not include point of care tests.*

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



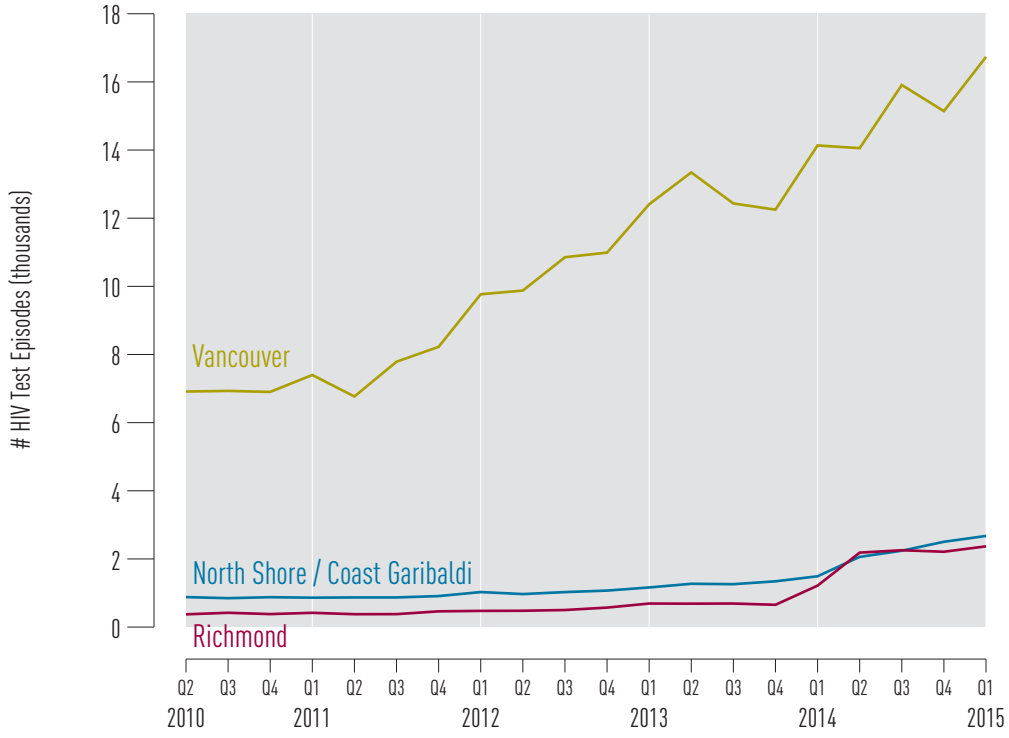
North Shore / Coast Garibaldi	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.8	2.6	2.7	2.8	3.0	3.2	3.2	3.3	3.7	4.9	5.4	5.9	6.4
Richmond	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.5	1.5	1.5	1.6	1.9	1.9	1.9	1.8	3.1	5.4	5.4	5.2	5.6
Vancouver	14.8	15.1	15.7	17.0	16.6	22.5	20.2	22.9	22.9	25.2	25.0	28.7	30.6	29.3	28.4	32.1	31.8	36.0	34.3	37.3

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



North Shore / Coast Garibaldi (Female)	0.9	0.9	0.9	0.9	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
Richmond (Female)	0.4	0.4	0.4	0.4	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	2.5	2.7
Vancouver (Female)	5.3	5.4	5.0	5.5	5.0	5.8	6.6	7.9	8.3	9.5	9.4	11.6	12.7	11.9	11.5	12.9	13.0	15.0	14.3	16.0

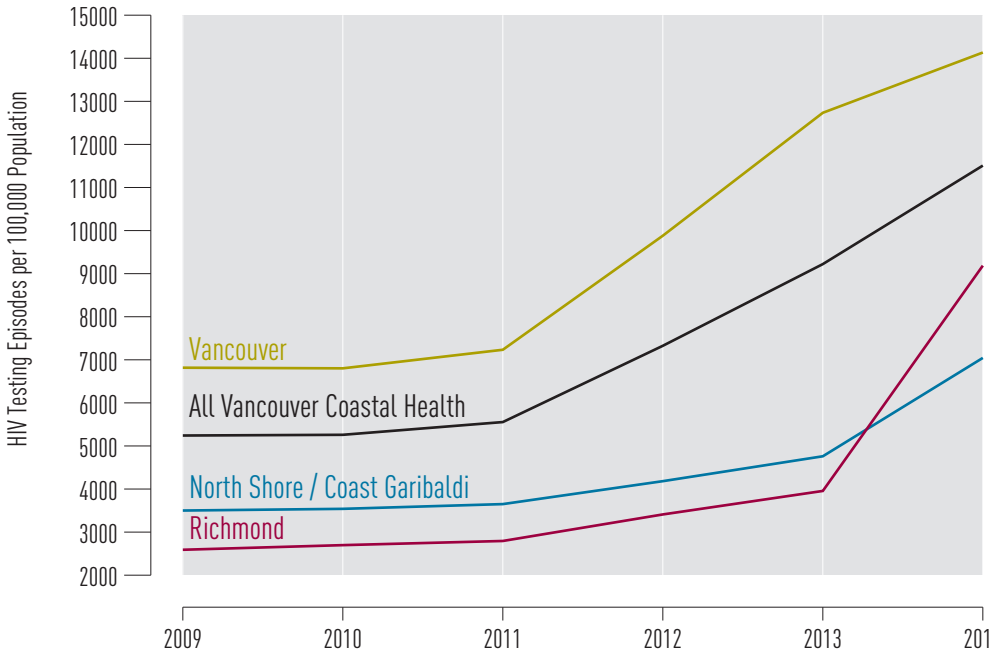
Figure 1.7 HIV Test Episodes for Males in Vancouver Coastal Health by HSDA [1]



North Shore / Coast Garibaldi (Male)	0.9	0.8	0.9	0.9	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
Richmond (Male)	0.4	0.4	0.4	0.4	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
Vancouver (Male)	6.9	6.9	6.9	7.4	6.8	7.8	8.2	9.8	9.9	10.9	11.0	12.4	13.3	12.4	12.3	14.1	14.1	15.9	15.1	16.7

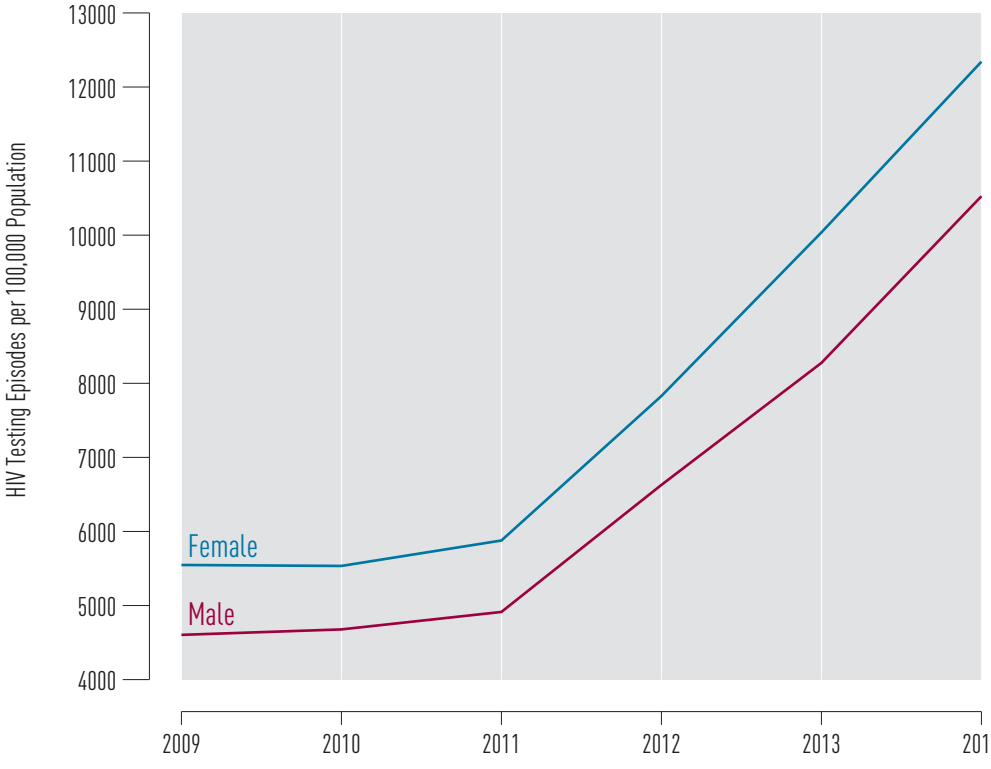
Indicator 2. HIV Testing Rates

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



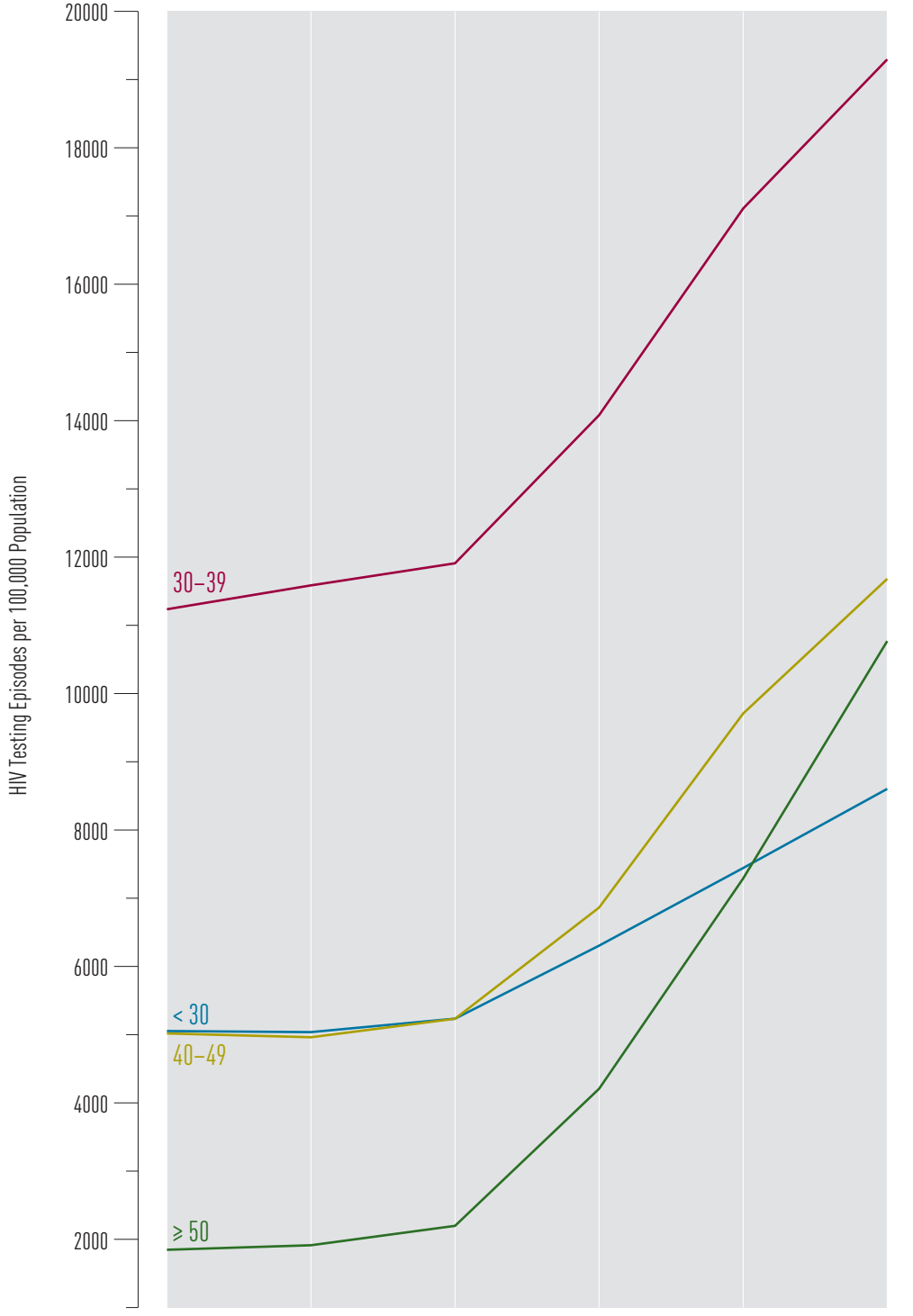
	2009	2010	2011	2012	2013	2014
All Vancouver Coastal Health	5242.3	5259.0	5554.7	7325.4	9221.7	11508.4
North Shore / Coast Garibaldi	3500.8	3540.2	3650.3	4182.7	4760.5	7044.0
Richmond	2590.2	2697.6	2794.2	3410.2	3955.7	9186.0
Vancouver	6816.6	6802.0	7233.2	9880.8	12734.2	14133.2

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



	2009	2010	2011	2012	2013	2014
Female	5547.5	5534.5	5877.9	7828.9	10036.9	12342.1
Male	4603.9	4677.7	4913.5	6628.6	8275.5	10525.4

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



	2009	2010	2011	2012	2013	2014
< 30	5052.7	5037.2	5234.6	6304.7	7442.6	8602.9
30–39	11235.3	11585.5	11909.5	14080.8	17109.6	19295.4
40–49	5017.8	4961.8	5233.1	6863.1	9707.7	11681.3
≥ 50	1846.5	1913.2	2197.5	4206.9	7289.8	10769.4

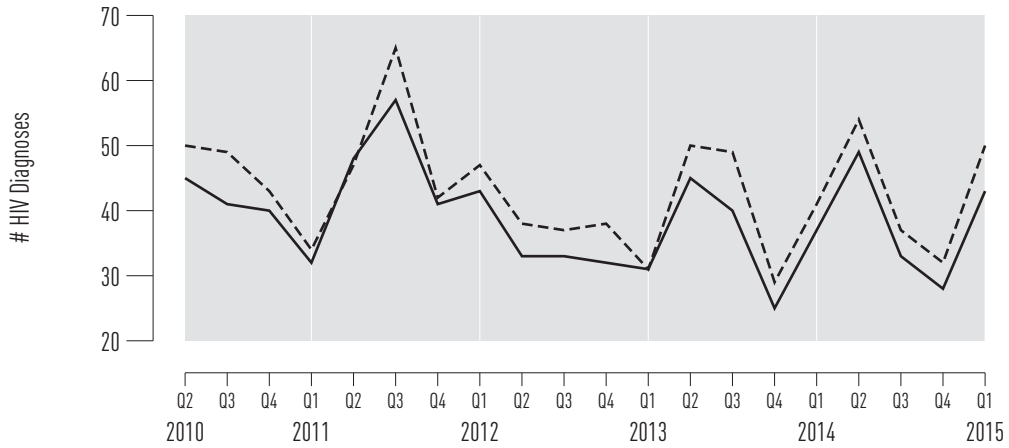
2 *Testing does not include point of care tests.*

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.

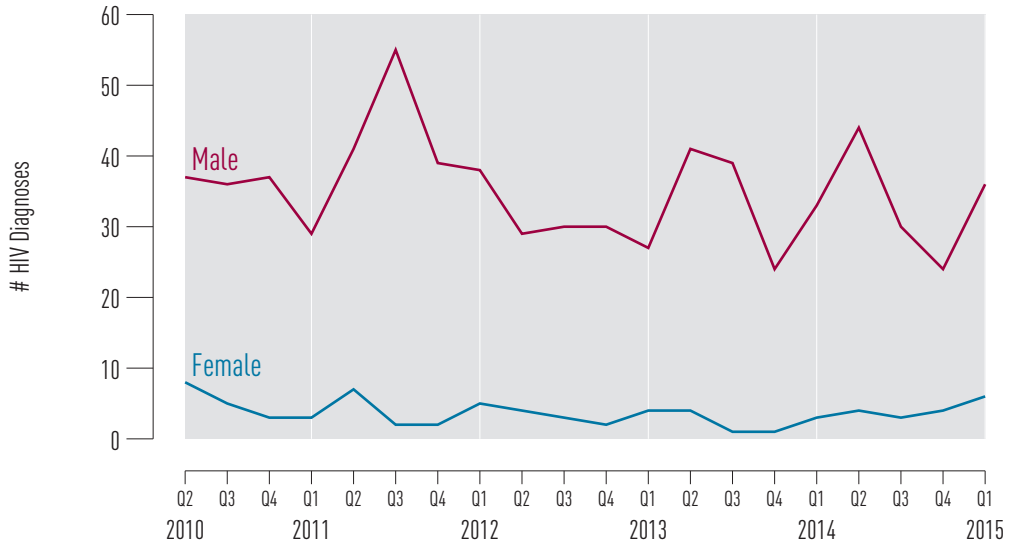
Indicator 3. New HIV Diagnoses

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



Vancouver Coastal Health	45	41	40	32	48	57	41	43	33	33	32	31	45	40	25	37	49	33	28	43
by Provider Address	*50*	*49*	*43*	*34*	*47*	*65*	*42*	*47*	*38*	*37*	*38*	*31*	*50*	*49*	*29*	*41*	*54*	*37*	*32*	*50*

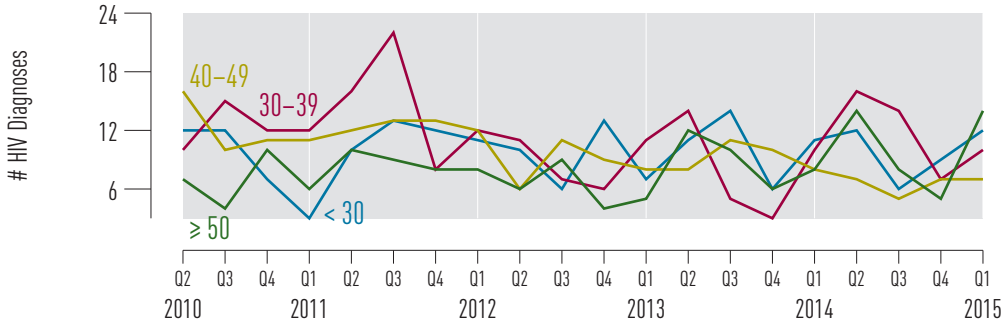
Figure 3.2 New HIV Diagnoses for Vancouver Coastal Health by Gender [3]



Female	8	5	3	3	7	2	2	5	4	3	2	4	4	1	1	3	4	3	4	6
Male	37	36	37	29	41	55	39	38	29	30	30	27	41	39	24	33	44	30	24	36

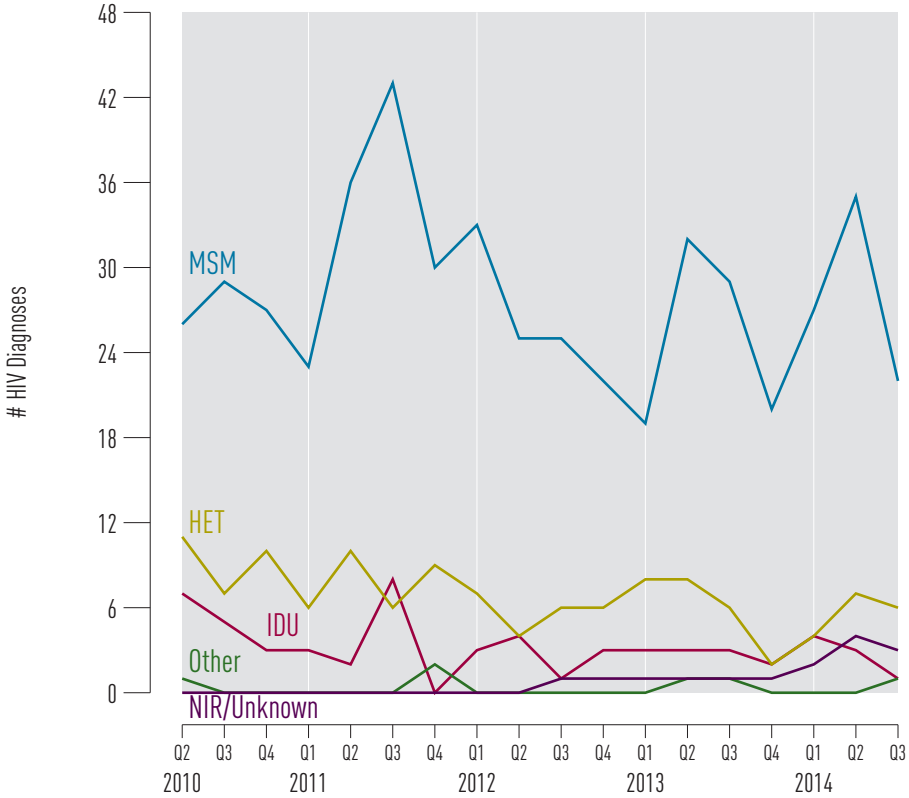
3 *Data Source: BCCDC. "By Provider Address" is graphed as dashed line in same colour.*

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



	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015
< 30	12	12	7	3	10	13	12	11	10	6	13	7	11	14	6	11	12	6	9	12
30–39	10	15	12	12	16	22	8	12	11	7	6	11	14	5	3	10	16	14	7	10
40–49	16	10	11	11	12	13	13	12	6	11	9	8	8	11	10	8	7	5	7	7
≥ 50	7	4	10	6	10	9	8	8	6	9	4	5	12	10	6	8	14	8	5	14

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

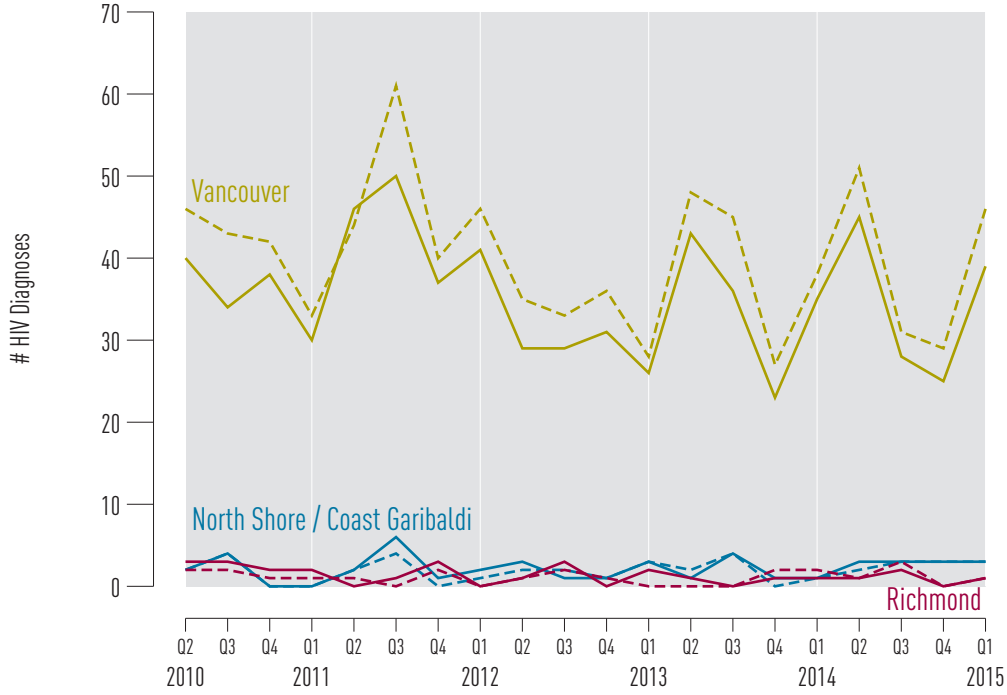


	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	Q3 2012	Q4 2012	Q1 2013	Q2 2013	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015
MSM (men who have sex with men)	26	29	27	23	36	43	30	33	25	25	22	19	32	29	20	27	35	22		
IDU (injection drug user)	7	5	3	3	2	8	0	3	4	1	3	3	3	3	2	4	3	1		
HET (heterosexual)	11	7	10	6	10	6	9	7	4	6	6	8	8	6	2	4	7	6		
Other (other exposure identified)	1	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	1		
NIR/Unknown (no identified exposure)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	4	3		

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

4 *MSM=men who have sex with men; IDU= injection drug user; 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	4	0	0	2	6	1	2	3	1	1	3	1	4	1	1	3	3	3	3
by Provider Address	*2*	*4*	*0*	*0*	*2*	*4*	*0*	*1*	*2*	*2*	*1*	*3*	*2*	*4*	*0*	*1*	*2*	*3*	*3*	*3*
Richmond	3	3	2	2	0	1	3	0	1	3	0	2	1	0	1	1	1	2	0	1
by Provider Address	*2*	*2*	*1*	*1*	*1*	*0*	*2*	*0*	*1*	*2*	*1*	*0*	*0*	*0*	*2*	*2*	*1*	*3*	*0*	*1*
Vancouver	40	34	38	30	46	50	37	41	29	29	31	26	43	36	23	35	45	28	25	39
by Provider Address	*46*	*43*	*42*	*33*	*44*	*61*	*40*	*46*	*35*	*33*	*36*	*28*	*48*	*45*	*27*	*38*	*51*	*31*	*29*	*46*

3 *Data Source: BCCDC. "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, laboratory results suggestive of acute HIV infection, and clinical presentation with an AIDS-defining illness (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	*and*	No AIDS case report
2a			CD4 350–499		
2b			CD4 200–349		
3			(CD4 <200	*or*	AIDS case report)
Unknown			No available CD4	*and*	No AIDS case report

Figure 4.1 Stage of HIV Infection at Diagnosis for Vancouver Coastal Health, 2010–2014 [5]

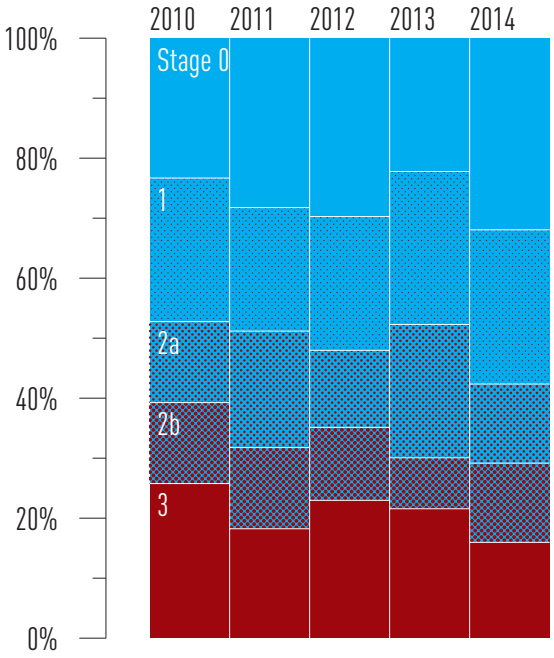
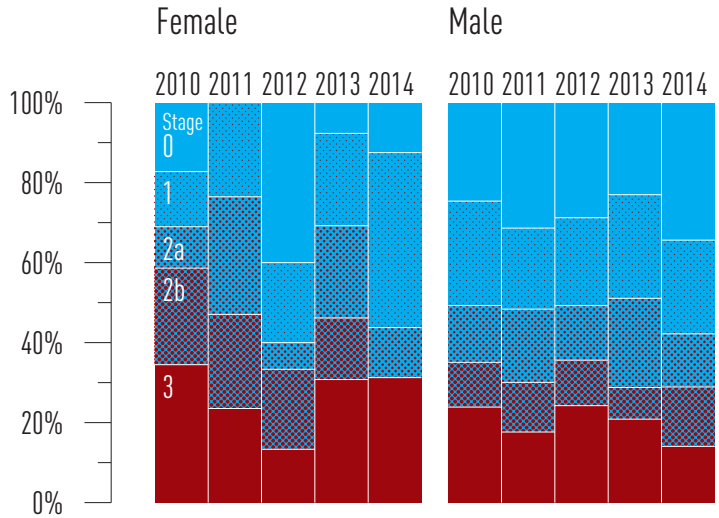


Figure 4.2 Stage of HIV Infection at Diagnosis by Gender for Vancouver Coastal Health, 2010–2014 [5]



	VCH					*Female*					*Male*				
	2010	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14
Stage 0	38	48	44	34	46	5	0	6	1	2	33	48	38	32	44
Stage 1	39	35	33	39	37	4	4	3	3	7	35	31	29	36	30
Stage 2a	22	33	19	34	19	3	5	1	3	2	19	28	18	31	17
Stage 2b	22	23	18	13	19	7	4	3	2	0	15	19	15	11	19
Stage 3	42	31	34	33	23	10	4	2	4	5	32	27	32	29	18
Unknown	22	17	9	5	16	0	0	1	0	2	22	16	8	5	14
Total *(n=)*	185	187	157	158	160	29	17	16	13	18	156	169	140	144	142

5 *Data Source: BCCDC*

Figure 4.3 Stage of HIV Infection at Diagnosis by Age Category for Vancouver Coastal Health, 2010–2014 [5]

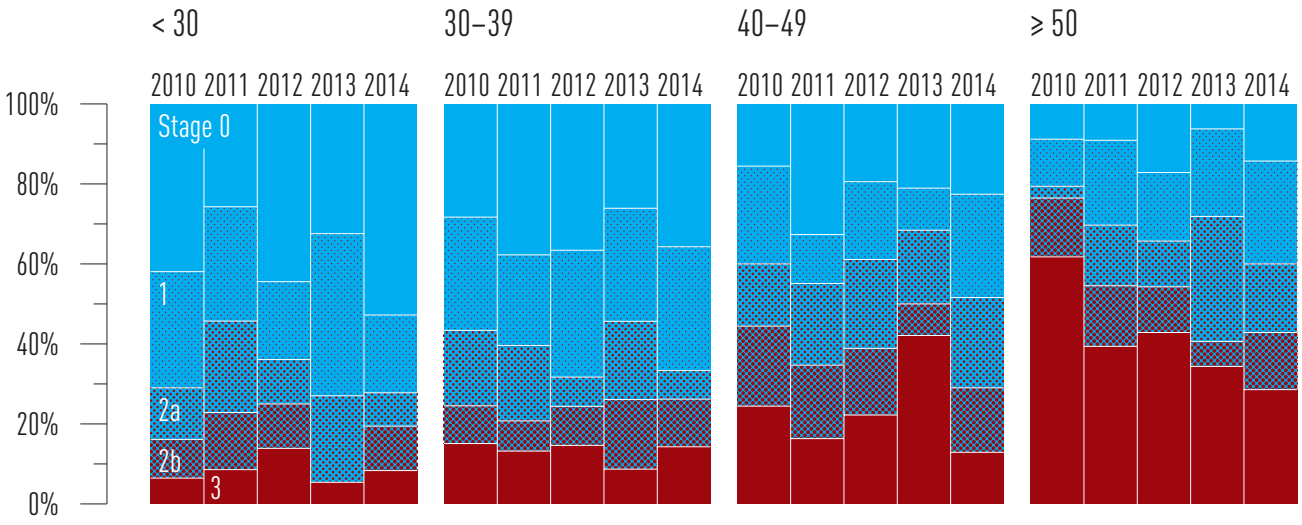
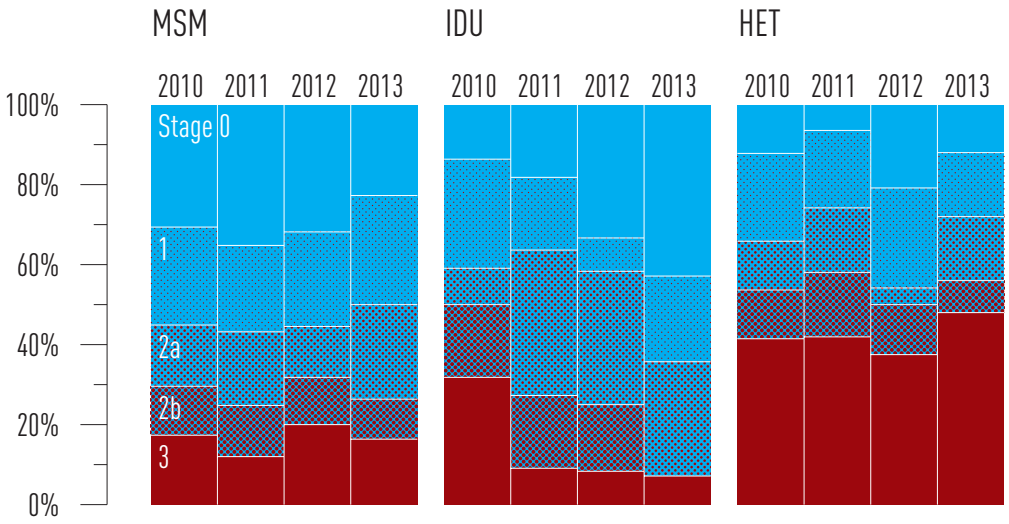


Figure 4.4 Stage of HIV Infection at Diagnosis by Exposure Category for Vancouver Coastal Health, 2010–2013 [5,6]



	< 30 years					*30–39 years*					*40–49 years*					*≥ 50 years*					*MSM*				*IDU*				*Heterosexual*				*Other*				*NIR/Unknown*			
	2010	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'10	'11	'12	'13	'10	'11	'12	'13	10	11	12	13	10	11	12	13
Stage 0	13	9	16	12	19	15	20	15	12	15	7	16	7	8	7	3	3	6	2	5	30	44	35	25	3	2	4	6	5	2	5	3	0	0	0	0	0	0	0	0
Stage 1	9	10	7	15	7	15	12	13	13	13	11	6	7	4	8	4	7	6	7	9	24	27	26	30	6	2	1	3	9	6	6	4	0	0	0	0	0	0	0	2
Stage 2a	4	8	4	8	3	10	10	3	9	3	7	10	8	7	7	1	5	4	10	6	15	23	14	26	2	4	4	4	5	5	1	4	0	1	0	0	0	0	0	0
Stage 2b	3	5	4	0	4	5	4	4	8	5	9	9	6	3	5	5	5	4	2	5	12	16	13	11	4	2	2	0	5	5	3	2	1	0	0	0	0	0	0	0
Stage 3	2	3	5	2	3	8	7	6	4	6	11	8	8	16	4	21	13	15	11	10	17	15	22	18	7	1	1	1	17	13	9	12	0	2	0	0	1	0	2	2
Unknown	8	4	5	1	3	10	7	2	1	7	3	2	0	0	3	1	4	2	3	3	17	13	7	3	1	2	0	0	3	1	1	0	0	1	0	2	1	0	1	0
Total *(n=)*	39	39	41	38	39	63	60	43	47	49	48	51	36	38	34	35	37	37	35	38	115	138	117	113	23	13	12	14	44	32	25	25	1	4	0	2	2	0	3	4

6 *MSM=men who have sex with men; IDU= injection drug user; HET=heterosexual. NIR=No identified risk/exposure.*

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. Leakage 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 year 2012 in BC overall and stratified by sex and age for each Health Authority.

Figure 5.1 Estimated Cascade of Care for Vancouver Coastal Health, Year Ending 2015 Q1 [7]

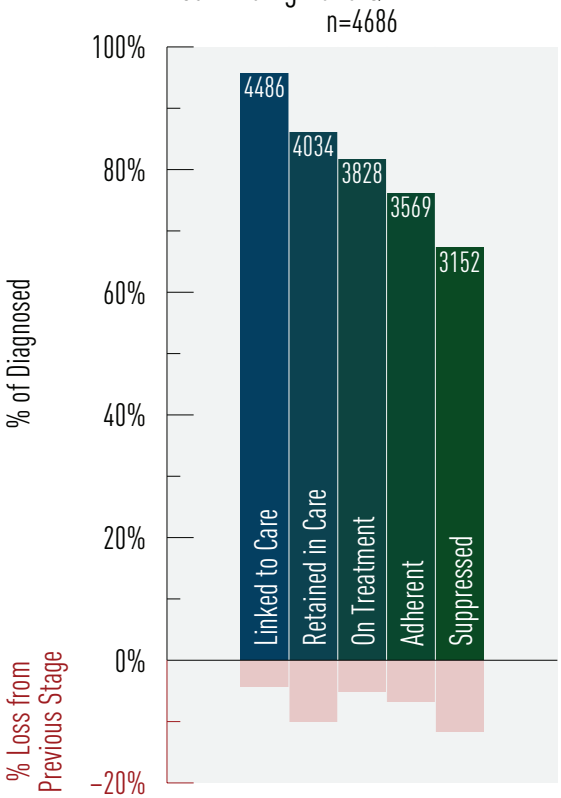
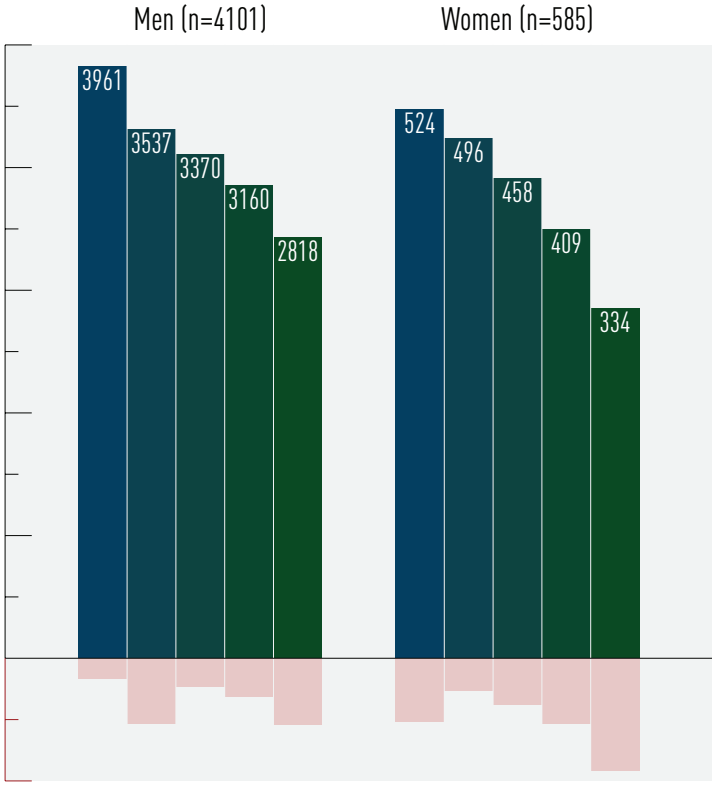


Figure 5.2 Estimated Cascade of Care for Vancouver Coastal Health by Gender, Year Ending 2015 Q1 [7]

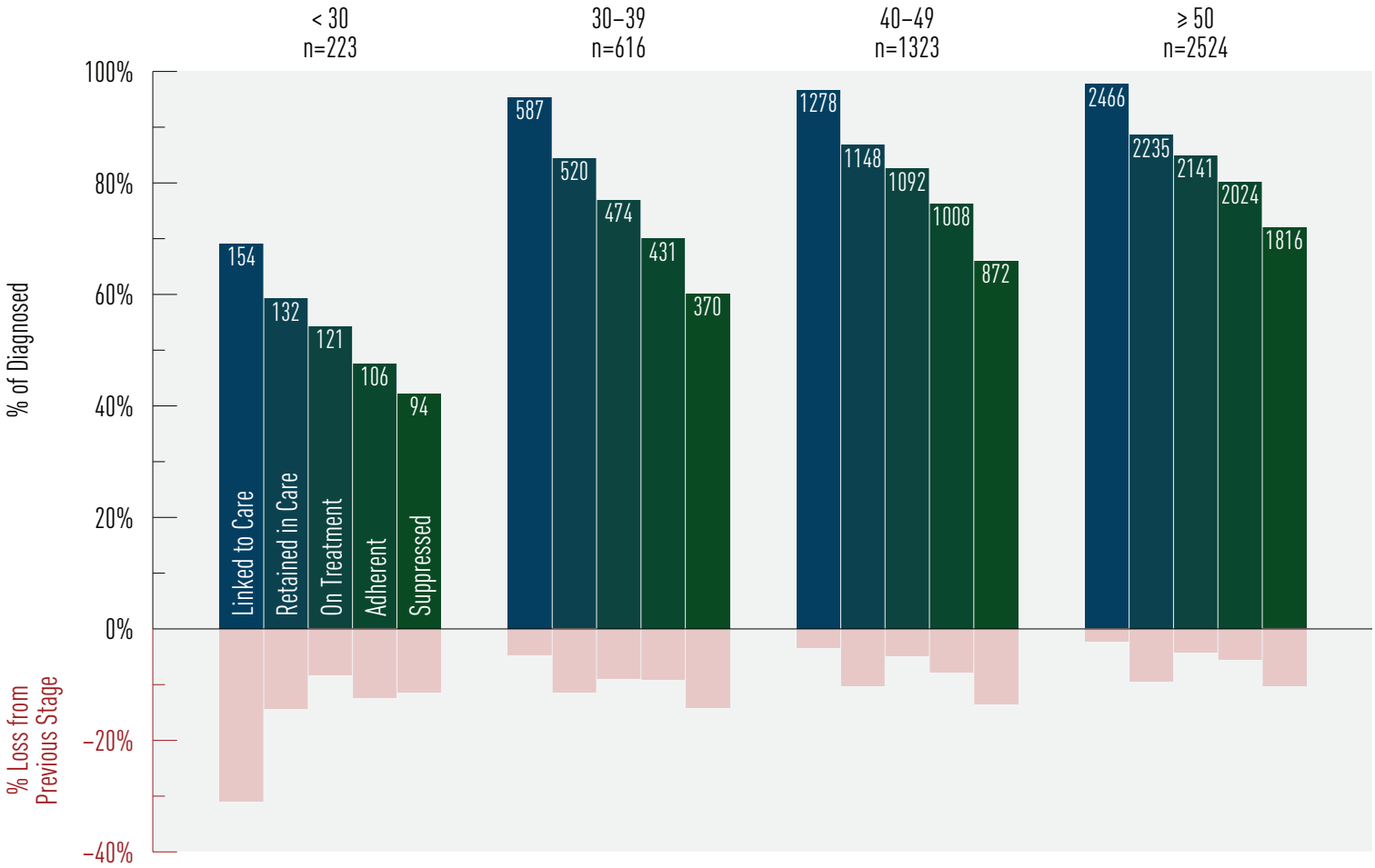


7 *Data is for the period 2014 Q2–2015 Q1.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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 has been assigned to their biological sex.

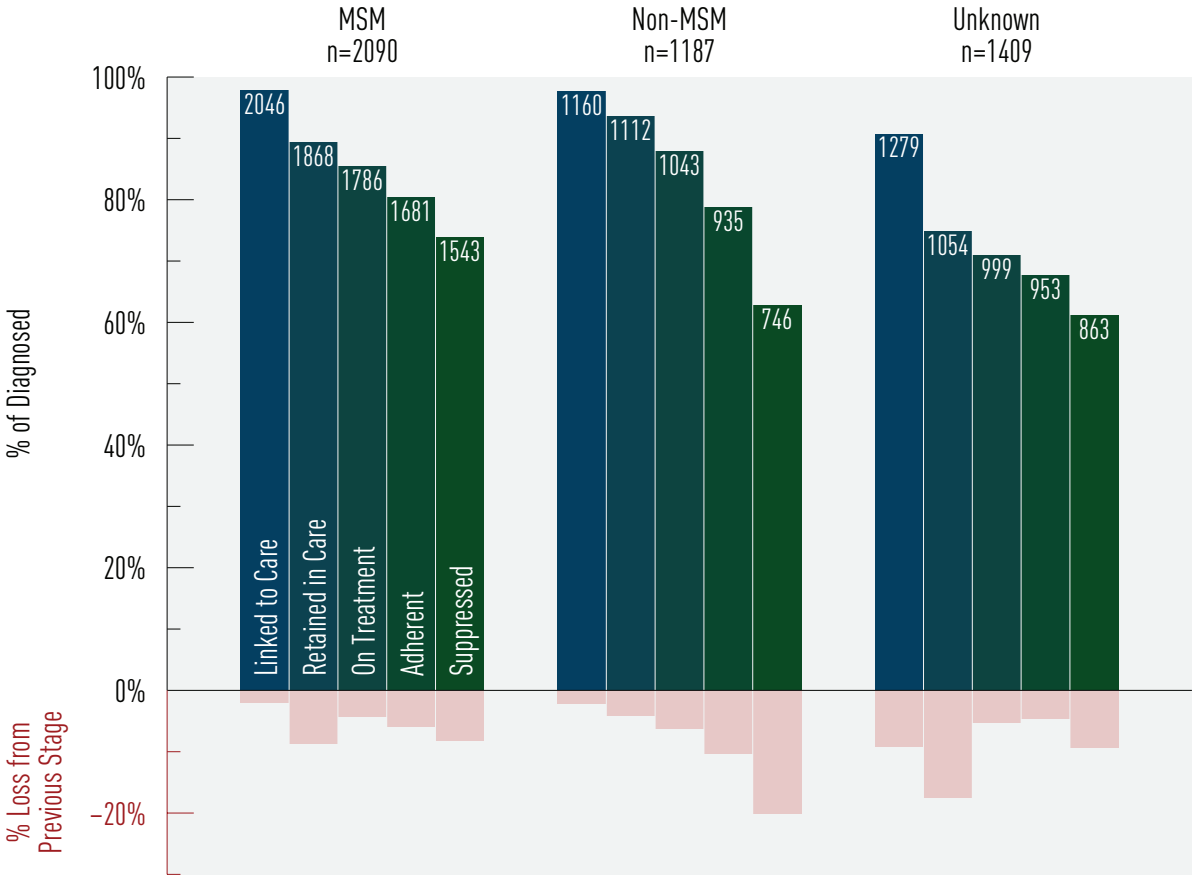
Figure 5.3 Estimated Cascade of Care for Vancouver Coastal Health by Age Category, Year Ending 2015 Q1 [8]



8 *Data is for the period 2014 Q2–2015 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 2015 Q1 [9]

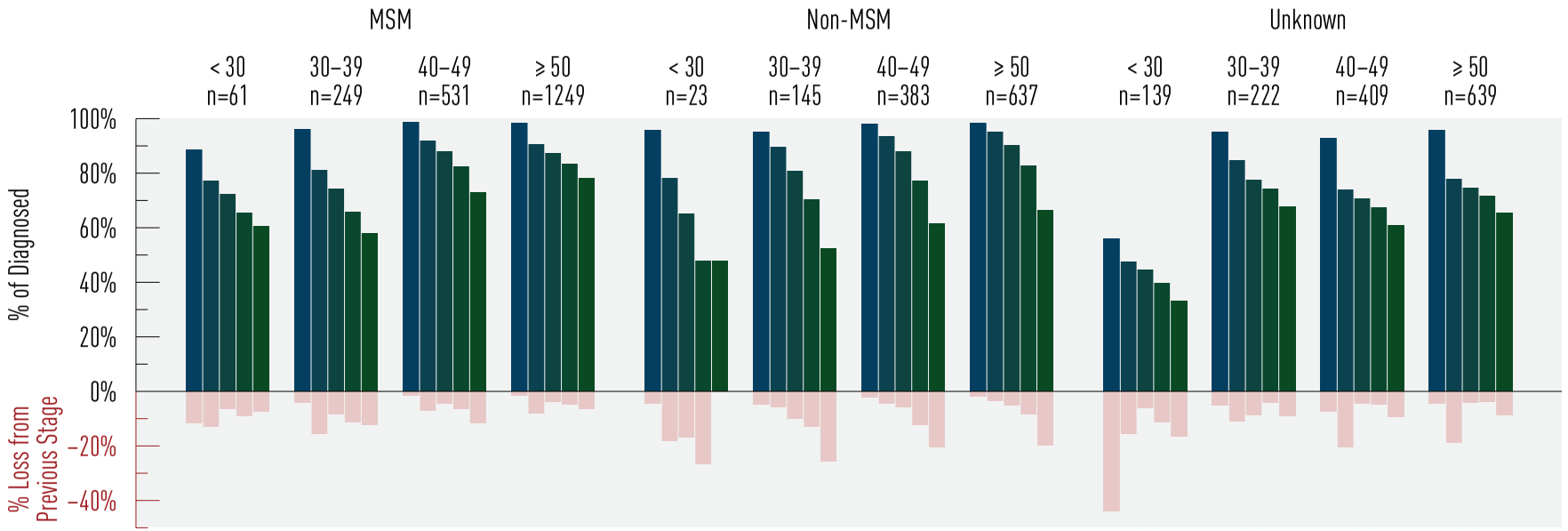


9 *Data is for the period 2014 Q2–2015 Q1.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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.

Recent updates to the DTP database have allowed for more comprehensive information on HIV risk group category. As a result, 2014 Q4 data may differ significantly from preceding reports in terms of total numbers ascribed to each risk group.

Figure 5.5 Estimated Cascade of Care for Vancouver Coastal Health by Age Category and MSM Status, Year Ending 2015 Q1 [9]

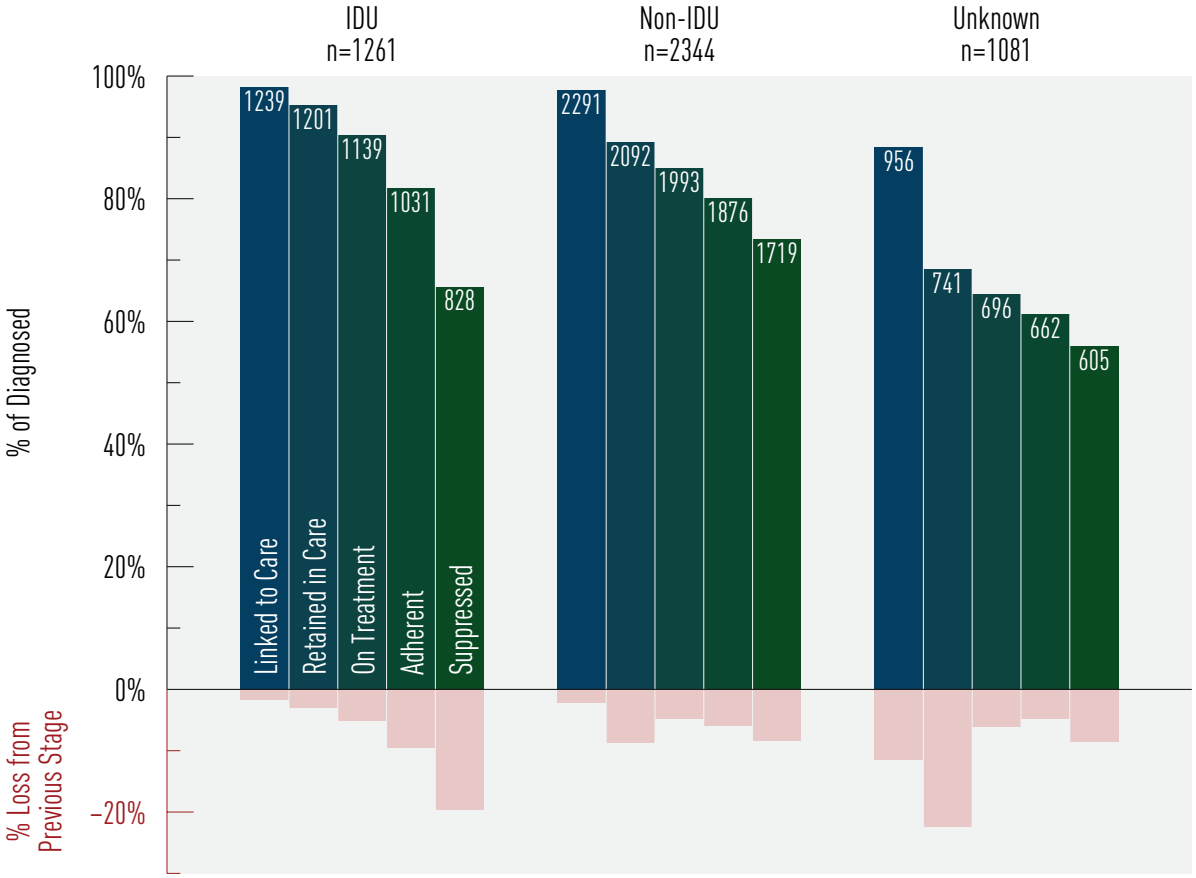


9 *Data is for the period 2014 Q2–2015 Q1.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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.

Recent updates to the DTP database have allowed for more comprehensive information on HIV risk group category. As a result, 2014 Q4 data may differ significantly from preceding reports in terms of total numbers ascribed to each risk group.

Figure 5.6 Estimated Cascade of Care for Vancouver Coastal Health by History of IDU, Year Ending 2015 Q1 [9]

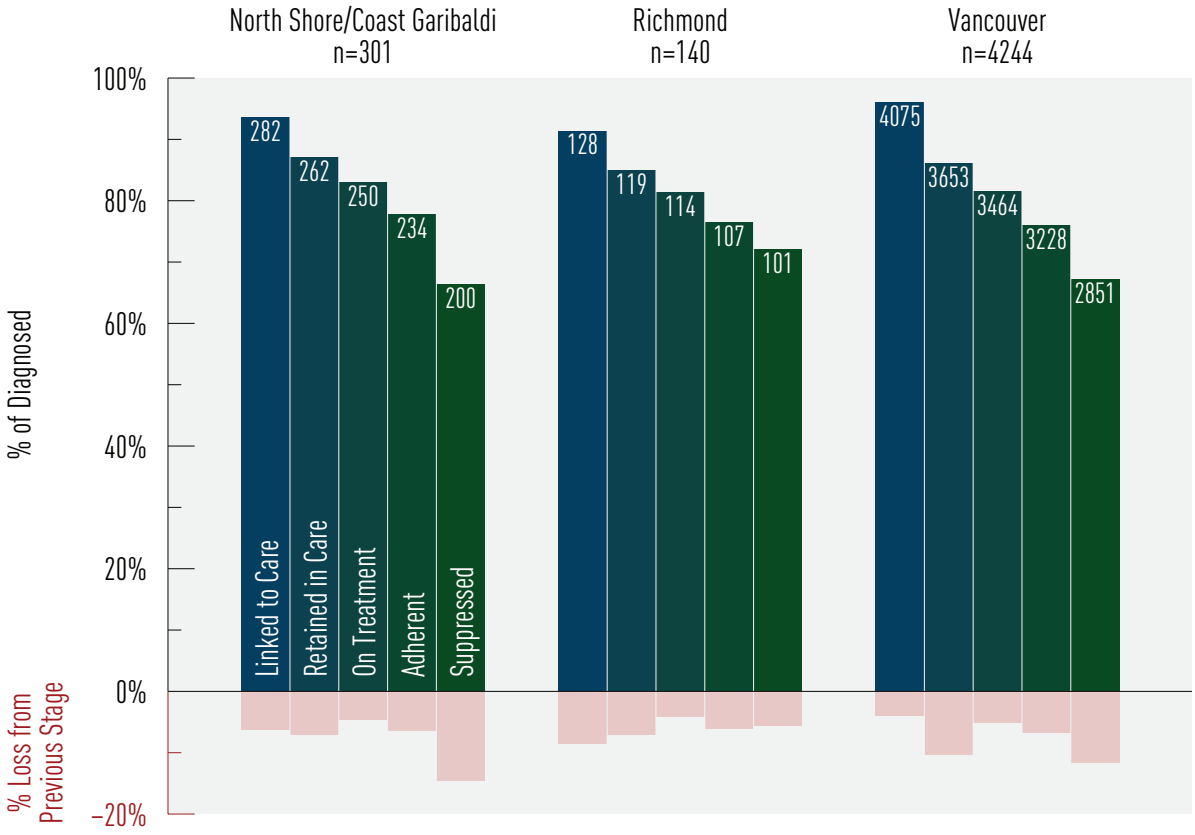


9 *Data is for the period 2014 Q2–2015 Q1.*
Data Sources:
i British Columbia Centre for Excellence Drug Treatment Program (DTP) Database (ARV use, VL and CD4 count).
ii Administrative data (ex. MSP billings; hospitalization data from the Discharge Abstract Database (DAD)).

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.

Recent updates to the DTP database have allowed for more comprehensive information on HIV risk group category. As a result, 2014 Q4 data may differ significantly from preceding reports in terms of total numbers ascribed to each risk group.

Figure 5.7 Estimated Cascade of Care for Vancouver Coastal Health by HSDA, Year Ending 2015 Q1 [9]



9 *Data is for the period 2014 Q2–2015 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.

Recent updates to the DTP database have allowed for more comprehensive information on HIV risk group category. As a result, 2014 Q4 data may differ significantly from preceding reports in terms of total numbers ascribed to each risk group.

Indicator 6. The 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. The 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, 2013 Q2–2015 Q1 [10]

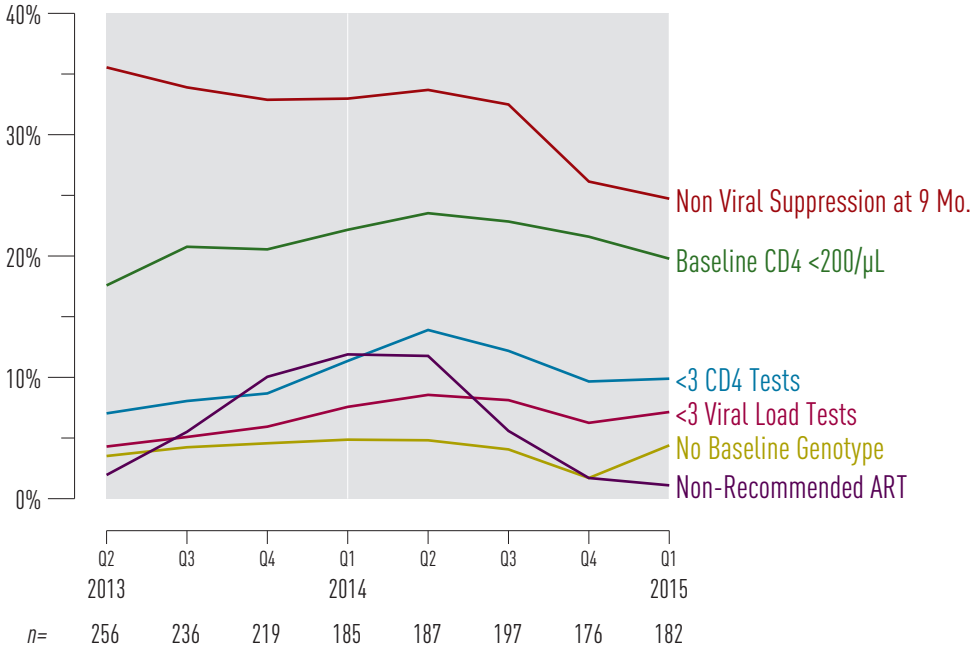
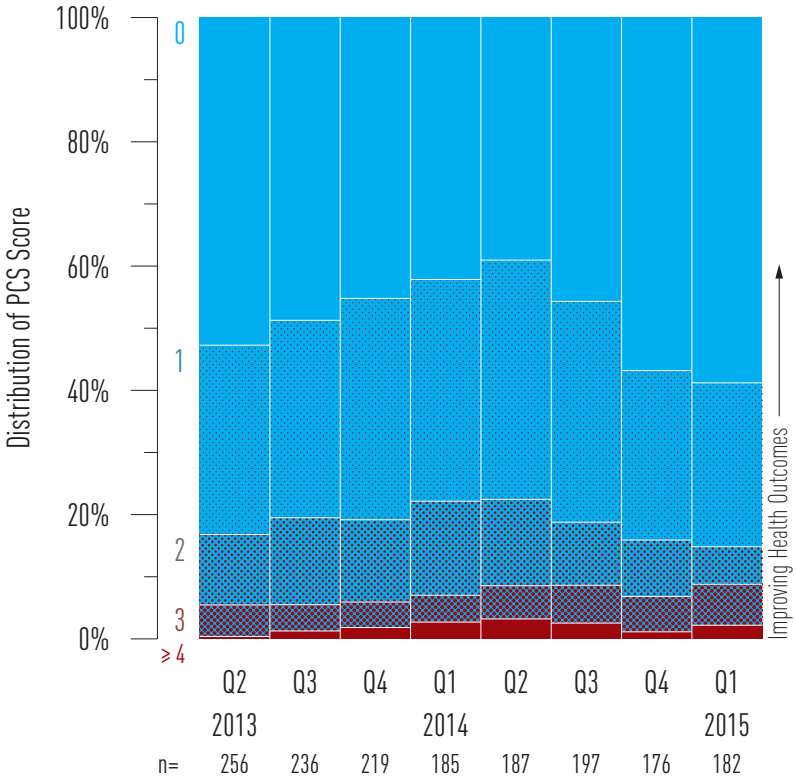


Figure 6.2 Historical Trends for PCS Score for Vancouver Coastal Health, 2013 Q2–2015 Q1 [10,11]



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

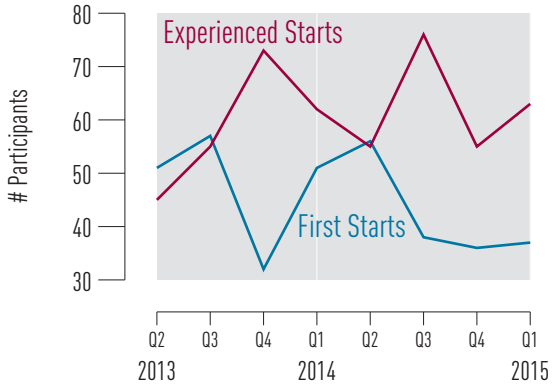
11 *Each quarter's data is calculated as the sum of the 4 quarters leading up to it. e.g. 2013 Q1 is calculated from 2012 Q2 – 2013 Q1. NB: A score of 0 is the best score and a score of 4 or more is the worst score.*

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.

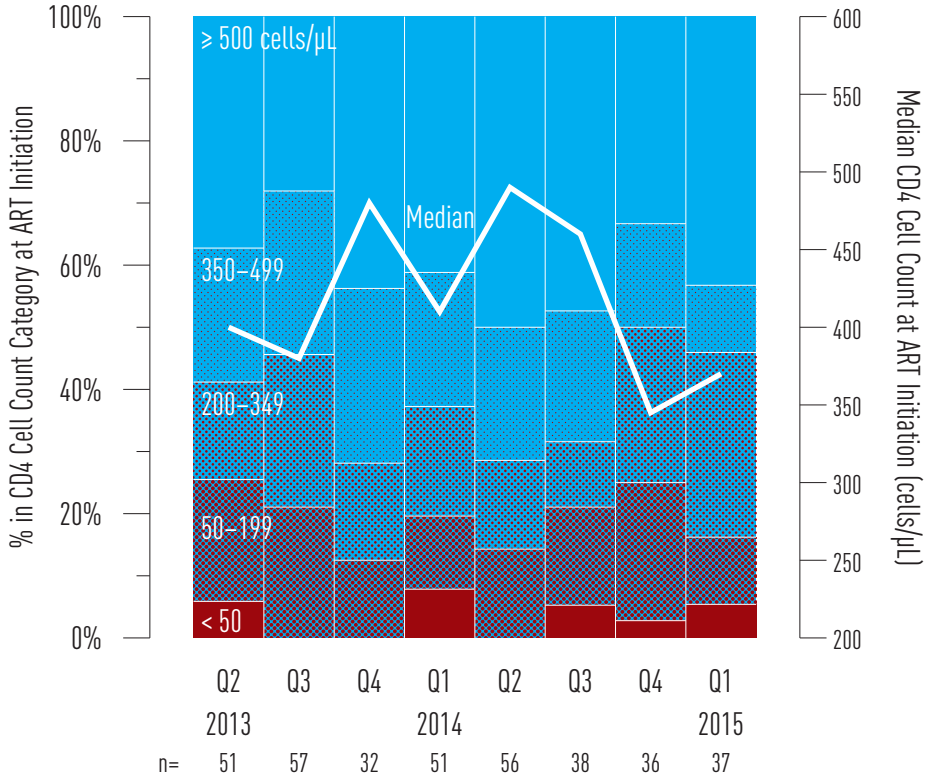
Indicator 7. New Antiretroviral Therapy Starts in Vancouver Coastal Health

Figure 7 BC-CfE Drug Treatment Program Enrollment: New ART Participants in Vancouver Coastal Health, 2013 Q2–2015 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, 2013 Q2–2015 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.*

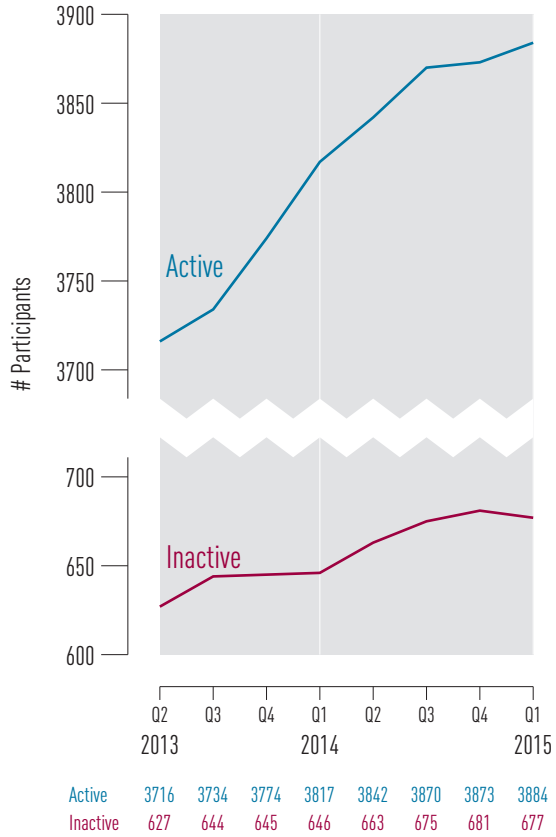
13 *Data Source: Drug Treatment Program Database Limitations: CD4 cell count data is approximately 80% complete.*

Indicator 9. Active and Inactive DTP Participants

Table 3. Distribution of People on ART for Vancouver Coastal Health, 2015 Q1 [14]

Age	< 30	148
	30–39	507
	40–49	1157
	≥ 50	2072
Gender	Male	3424
	Female	460
Exposure	MSM	1824
	IDU	1126
Total		3884

Figure 9 Active and Inactive DTP Participants for Vancouver Coastal Health, 2013 Q2–2015 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.

Recent updates to the DTP database provides for improved classification allowing some individuals previously classified as 'unknown' to be reclassified into specific risk groups. This update is in effect from 2014Q4 and may result in noticeable changes of numbers in each risk group category compared to previous reports.

Definitions:
'On antiretroviral therapy' defined as being on treatment in the current quarter
'Unknown/not stated' defined as being on treatment in the current quarter, and city of residence unknown

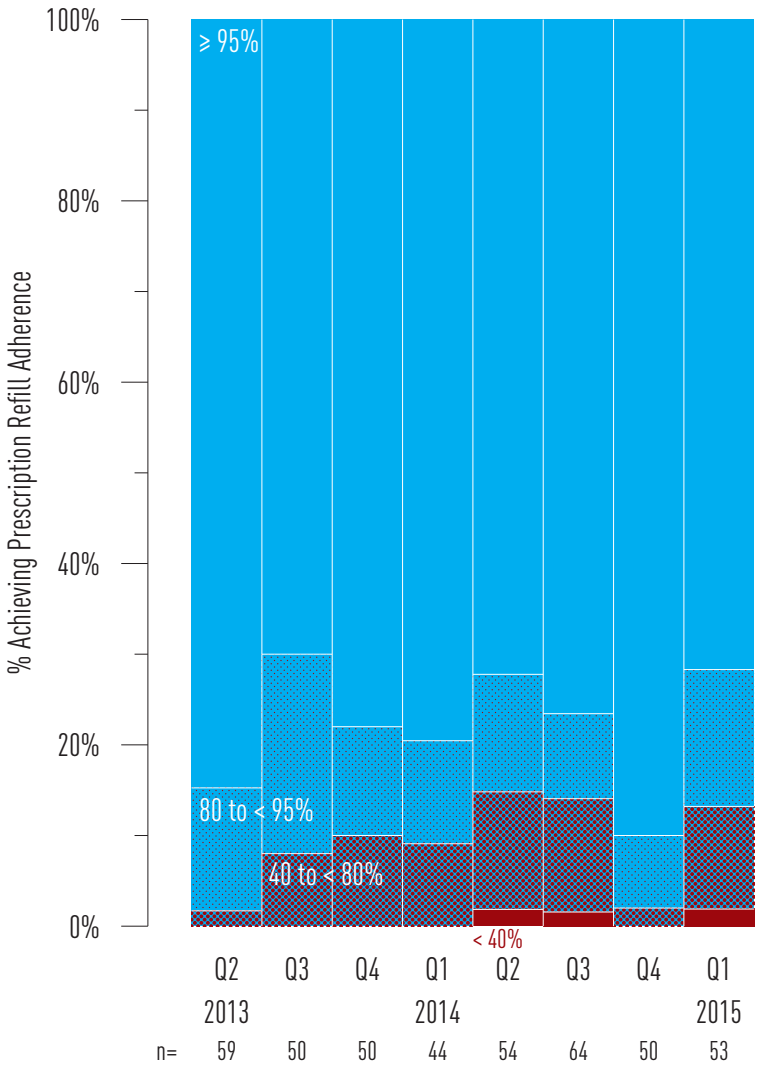
15 *Active DTP participants: An individual who has had medication prescribed at least once in the preceding quarter. Inactive DTP participants: Persons no longer prescribed drugs through the HIV/AIDS Drug Treatment Program in the last quarter.*

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, 2013 Q2–2015 Q1 [16]

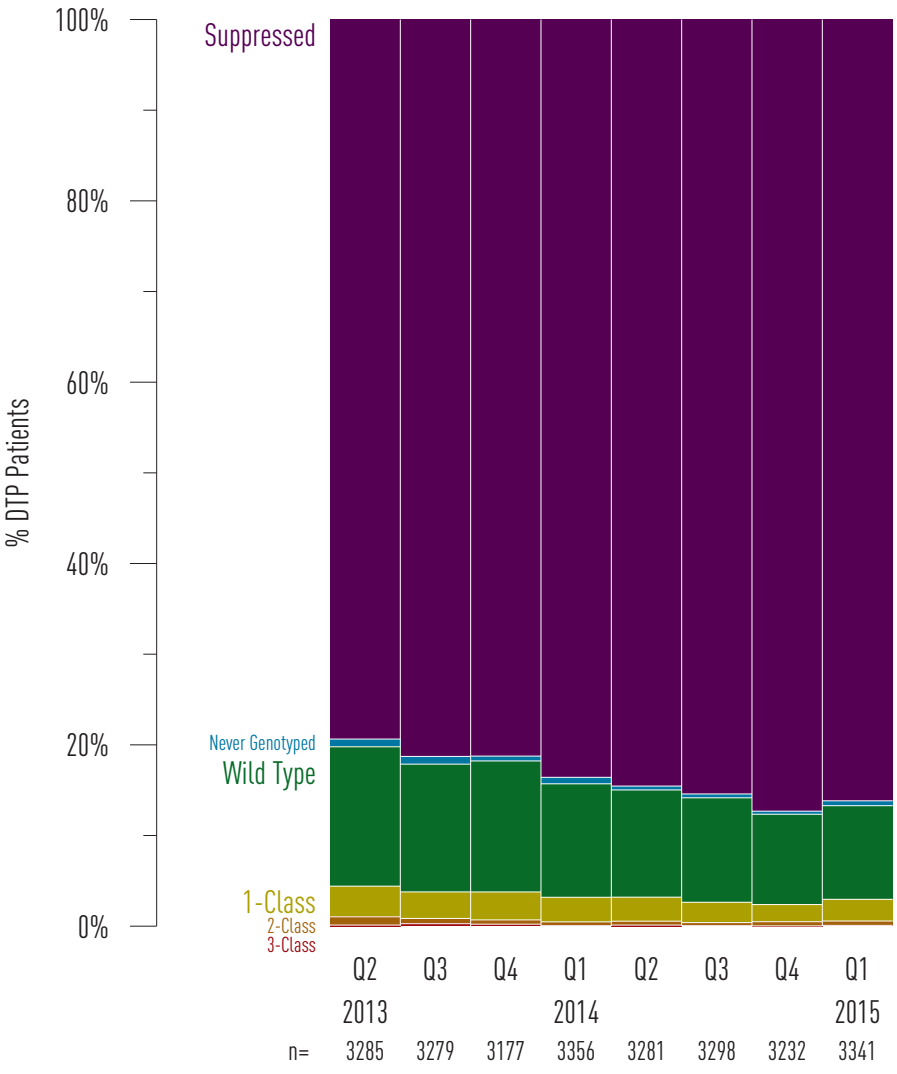


16 *Data Source: Drug Treatment Program Database*
Limitation: Prescription refill adherence is used as a proxy for patient adherence.

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 or three 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, 2013 Q2–2015 Q1 [17]



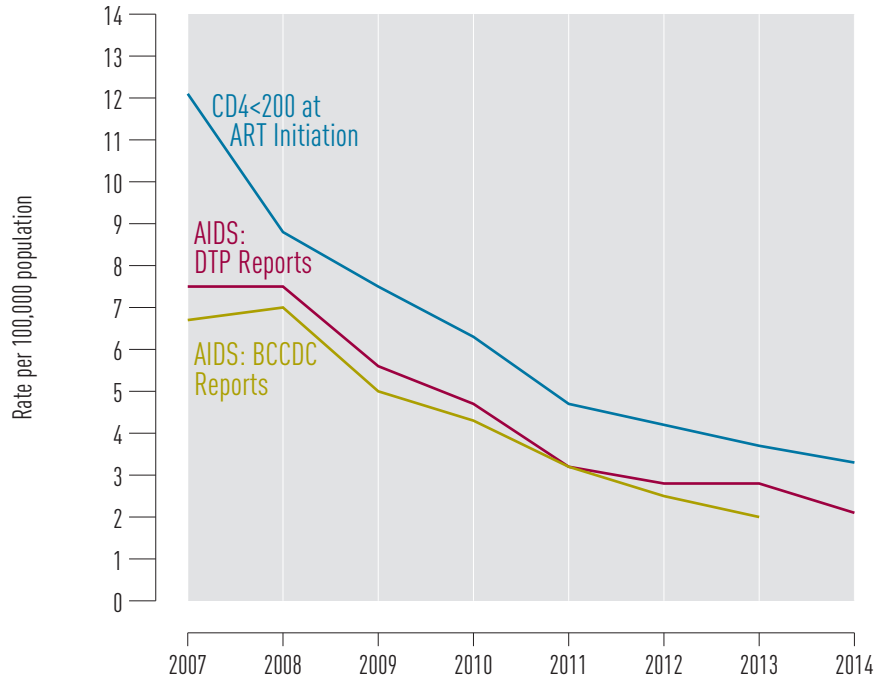
17 *Data Source: Drug Treatment Program Database*

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

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]



		2007	2008	2009	2010	2011	2012	2013	2014
CD4<200 at ART initiation	CASES	130	95	82	69	52	47	42	38
	PER 100K	12.1	8.8	7.5	6.3	4.7	4.2	3.7	3.3
AIDS: DTP Reports	CASES	81	81	61	52	35	32	32	24
	PER 100K	7.5	7.5	5.6	4.7	3.2	2.8	2.8	2.1
AIDS: BCCDC Reports	CASES	72	75	54	47	36	28	23	–
	PER 100K	6.7	7.0	5.0	4.3	3.2	2.5	2.0	–

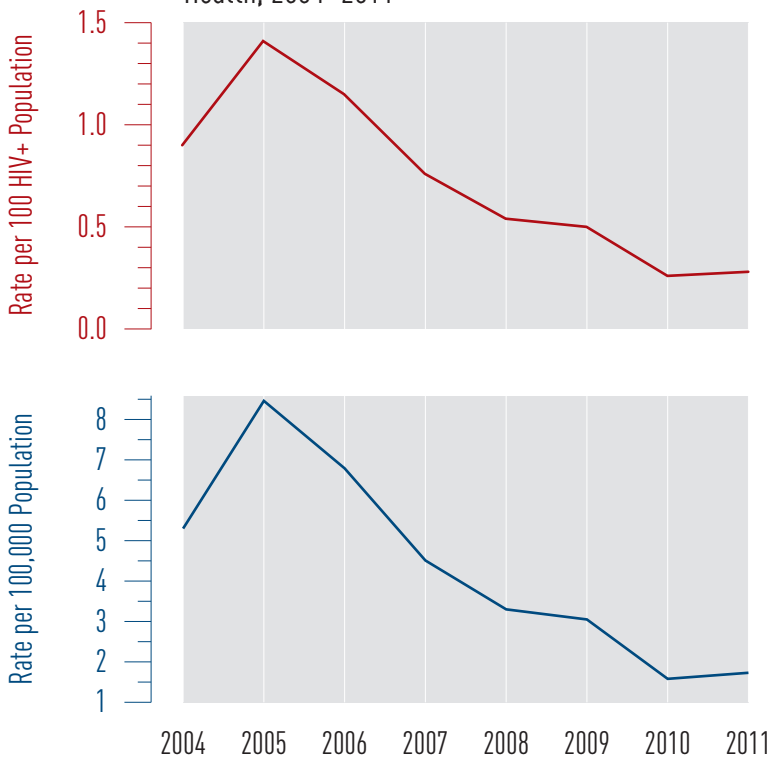
18 *Data Source: DTP AIDS cases are obtained from the Drug Treatment Program Database; BCCDC AIDS cases are obtained from the BCCDC; CD4<200 at ART initiation data came from the DTP database.*

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.

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)**		2010 Q2	Q3	Q4	2011 Q1	Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1
Vancouver Coastal Health		18.3	18.6	19.3	20.7	20.1	26.1	24.0	27.2	26.9	29.5	29.4	33.7	35.6	34.4	33.5	38.9	42.1	46.7	45.3	49.3
Gender	Female	9.7	10.0	9.8	10.6	9.7	10.7	11.6	13.6	13.5	14.7	14.8	17.2	18.3	17.7	17.2	19.7	21.6	23.8	23.3	25.8
	Male	8.2	8.2	8.2	8.7	8.0	9.0	9.6	11.3	11.3	12.4	12.6	14.3	15.3	14.4	14.2	16.8	18.3	20.4	19.9	21.8
	Other	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2
Female (Prenatal)		3.1	3.4	3.5	3.7	3.4	3.5	3.7	4.1	3.7	3.6	3.6	3.6	3.5	3.7	3.7	3.9	3.8	3.7	3.7	4.0
Female (Non-prenatal)		6.6	6.6	6.3	6.8	6.4	7.1	8.0	9.5	9.8	11.1	11.2	13.6	14.8	14.0	13.6	15.8	17.9	20.0	19.6	21.8
Age	< 30	6.0	6.3	6.1	6.1	5.9	6.7	6.8	7.3	7.2	8.1	8.0	8.5	9.0	9.2	9.1	9.6	9.9	11.1	10.8	11.0
	30–39	6.1	6.2	6.2	6.7	5.9	6.4	6.5	7.8	7.4	7.7	7.6	8.8	9.0	8.9	8.6	10.2	10.1	10.7	10.1	11.5
	40–49	2.9	2.8	2.8	3.1	2.8	3.0	3.2	3.9	3.8	3.9	4.1	5.2	5.5	5.0	4.9	5.7	6.0	6.5	6.3	7.0
	≥ 50	2.4	2.4	2.3	2.8	2.6	3.0	3.4	4.6	4.8	6.0	6.4	9.1	10.2	9.0	9.0	11.0	14.0	16.0	16.0	18.1
POC HIV Tests		0.0	0.0	0.9	1.0	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	1.5
North Shore / Coast Garibaldi		2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.8	2.6	2.7	2.8	3.0	3.2	3.2	3.3	3.7	4.9	5.4	5.9	6.4
Female (Non-prenatal)		0.9	0.9	0.9	0.9	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
Male		0.9	0.8	0.9	0.9	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
Richmond		1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.5	1.5	1.5	1.6	1.9	1.9	1.9	1.8	3.1	5.4	5.4	5.2	5.6
Female (Non-prenatal)		0.4	0.4	0.4	0.4	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	2.5	2.7
Male		0.4	0.4	0.4	0.4	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
Vancouver		14.8	15.1	15.7	17.0	16.6	22.5	20.2	22.9	22.9	25.2	25.0	28.7	30.6	29.3	28.4	32.1	31.8	36.0	34.3	37.3
Female (Non-prenatal)		5.3	5.4	5.0	5.5	5.0	5.8	6.6	7.9	8.3	9.5	9.4	11.6	12.7	11.9	11.5	12.9	13.0	15.0	14.3	16.0
Male		6.9	6.9	6.9	7.4	6.8	7.8	8.2	9.8	9.9	10.9	11.0	12.4	13.3	12.4	12.3	14.1	14.1	15.9	15.1	16.7

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

		2009	2010	2011	2012	2013	2014
Vancouver Coastal Health		5242.3	5259.0	5554.7	7325.4	9221.7	11508.4
North Shore / Coast Garibaldi		3500.8	3540.2	3650.3	4182.7	4760.5	7044.0
Richmond		2590.2	2697.6	2794.2	3410.2	3955.7	9186.0
Vancouver		6816.6	6802.0	7233.2	9880.8	12734.2	14133.2
Gender	Female	5547.5	5534.5	5877.9	7828.9	10036.9	12342.1
	Male	4603.9	4677.7	4913.5	6628.6	8275.5	10525.4
Age	< 30	5052.7	5037.2	5234.6	6304.7	7442.6	8602.9
	30–39	11235.3	11585.5	11909.5	14080.8	17109.6	19295.4
	40–49	5017.8	4961.8	5233.1	6863.1	9707.7	11681.3
	≥ 50	1846.5	1913.2	2197.5	4206.9	7289.8	10769.4

Indicator 3: **New HIV Diagnoses**		2010 Q2	Q3	Q4	2011 Q1	Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1
Vancouver Coastal Health	By Client Residence	45	41	40	32	48	57	41	43	33	33	32	31	45	40	25	37	49	33	28	43
	By Provider Address	*50*	*49*	*43*	*34*	*47*	*65*	*42*	*47*	*38*	*37*	*38*	*31*	*50*	*49*	*29*	*41*	*54*	*37*	*32*	*50*
Gender	Female	8	5	3	3	7	2	2	5	4	3	2	4	4	1	1	3	4	3	4	6
	Male	37	36	37	29	41	55	39	38	29	30	30	27	41	39	24	33	44	30	24	36
Age	< 30	12	12	7	3	10	13	12	11	10	6	13	7	11	14	6	11	12	6	9	12
	30–39	10	15	12	12	16	22	8	12	11	7	6	11	14	5	3	10	16	14	7	10
	40–49	16	10	11	11	12	13	13	12	6	11	9	8	8	11	10	8	7	5	7	7
	≥ 50	7	4	10	6	10	9	8	8	6	9	4	5	12	10	6	8	14	8	5	14
Exposure	MSM	26	29	27	23	36	43	30	33	25	25	22	19	32	29	20	27	35	22	–	–
	IDU	7	5	3	3	2	8	0	3	4	1	3	3	3	3	2	4	3	1	–	–
	HET	11	7	10	6	10	6	9	7	4	6	6	8	8	6	2	4	7	6	–	–
	Other	1	0	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	1	–	–
	NIR/Unknown	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	4	3	–	–

Indicator 3: **New HIV Diagnoses (cont'd)**		2010 Q2	Q3	Q4	2011 Q1	Q2	Q3	Q4	2012 Q1	Q2	Q3	Q4	2013 Q1	Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1
North Shore / Coast Garibaldi	By Client Residence	2	4	0	0	2	6	1	2	3	1	1	3	1	4	1	1	3	3	3	3
	By Provider Address	*2*	*4*	*0*	*0*	*2*	*4*	*0*	*1*	*2*	*2*	*1*	*3*	*2*	*4*	*0*	*1*	*2*	*3*	*3*	*3*
Richmond	By Client Residence	3	3	2	2	0	1	3	0	1	3	0	2	1	0	1	1	1	2	0	1
	By Provider Address	*2*	*2*	*1*	*1*	*1*	*0*	*2*	*0*	*1*	*2*	*1*	*0*	*0*	*0*	*2*	*2*	*1*	*3*	*0*	*1*
Vancouver	By Client Residence	40	34	38	30	46	50	37	41	29	29	31	26	43	36	23	35	45	28	25	39
	By Provider Address	*46*	*43*	*42*	*33*	*44*	*61*	*40*	*46*	*35*	*33*	*36*	*28*	*48*	*45*	*27*	*38*	*51*	*31*	*29*	*46*

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

	VCH					Female					Male					< 30 years					30–39 years					40–49 years				
	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14	'10	'11	'12	'13	'14
Stage 0	38	48	44	34	46	5	0	6	1	2	33	48	38	32	44	13	9	16	12	19	15	20	15	12	15	7	16	7	8	7
Stage 1	39	35	33	39	37	4	4	3	3	7	35	31	29	36	30	9	10	7	15	7	15	12	13	13	13	11	6	7	4	8
Stage 2a	22	33	19	34	19	3	5	1	3	2	19	28	18	31	17	4	8	4	8	3	10	10	3	9	3	7	10	8	7	7
Stage 2b	22	23	18	13	19	7	4	3	2	0	15	19	15	11	19	3	5	4	0	4	5	4	4	8	5	9	9	6	3	5
Stage 3	42	31	34	33	23	10	4	2	4	5	32	27	32	29	18	2	3	5	2	3	8	7	6	4	6	11	8	8	16	4
Unknown	22	17	9	5	16	0	0	1	0	2	22	16	8	5	14	8	4	5	1	3	10	7	2	1	7	3	2	0	0	3
Total	185	187	157	158	160	29	17	16	13	18	156	169	140	144	142	39	39	41	38	39	63	60	43	47	49	48	51	36	38	34

	≥ 50 years					MSM				IDU				Heterosexual				Other Exposure				NIR/Unknown			
	'10	'11	'12	'13	'14	'10	'11	'12	'13	'10	'11	'12	'13	'10	'11	'12	'13	'10	'11	'12	'13	'10	'11	'12	'13
Stage 0	3	3	6	2	5	30	44	35	25	3	2	4	6	5	2	5	3	0	0	0	0	0	0	0	0
Stage 1	4	7	6	7	9	24	27	26	30	6	2	1	3	9	6	6	4	0	0	0	0	0	0	0	2
Stage 2a	1	5	4	10	6	15	23	14	26	2	4	4	4	5	5	1	4	0	1	0	0	0	0	0	0
Stage 2b	5	5	4	2	5	12	16	13	11	4	2	2	0	5	5	3	2	1	0	0	0	0	0	0	0
Stage 3	21	13	15	11	10	17	15	22	18	7	1	1	1	17	13	9	12	0	2	0	0	1	0	2	2
Unknown	1	4	2	3	3	17	13	7	3	1	2	0	0	3	1	1	0	0	1	0	2	1	0	1	0
Total	35	37	37	35	38	115	138	117	113	23	13	12	14	44	32	25	25	1	4	0	2	2	0	3	4

Indicator 5: **HIV Cascade of Care**			DIAGNOSED	LINKED	RETAINED	ON ART	ADHERENT	SUPPRESSED
Vancouver Coastal Health			4686	4486	4034	3828	3569	3152
Age Category	< 30		223	154	132	121	106	94
	30–39		616	587	520	474	431	370
	40–49		1323	1278	1148	1092	1008	872
	≥ 50		2524	2466	2235	2141	2024	1816
Age Category and MSM Status	MSM	< 30	61	54	47	44	40	37
		30–39	249	239	202	185	164	144
		40–49	531	524	487	466	437	387
		≥ 50	1249	1229	1132	1091	1040	975
	Non-MSM	< 30	23	22	18	15	11	11
		30–39	145	138	130	117	102	76
		40–49	383	375	358	337	296	236
		≥ 50	637	626	605	574	526	423
	Unknown	< 30	139	78	66	62	55	46
		30–39	222	211	188	172	165	150
		40–49	409	379	302	289	275	249
		≥ 50	639	611	497	476	458	418
Gender	Male		4101	3961	3537	3370	3160	2818
	Female		585	524	496	458	409	334

Indicator 5: **HIV Cascade of Care**		DIAGNOSED	LINKED	RETAINED	ON ART	ADHERENT	SUPPRESSED
Injection Drug Use	IDU	1261	1239	1201	1139	1031	828
	Non-IDU	2344	2291	2092	1993	1876	1719
	Unknown	1081	956	741	696	662	605
MSM Status	MSM	2090	2046	1868	1786	1681	1543
	Non-MSM	1187	1160	1112	1043	935	746
	Unknown	1409	1279	1054	999	953	863
Health Authority	North Shore / Coast Garibaldi	301	282	262	250	234	200
	Richmond	140	128	119	114	107	101
	Vancouver	4244	4075	3653	3464	3228	2851

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

	2013 Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1
< 3 CD4 Tests	7.0%	8.1%	8.7%	11.4%	13.9%	12.2%	9.7%	9.9%
< 3 Viral Load Tests	4.3%	5.1%	5.9%	7.6%	8.6%	8.1%	6.3%	7.1%
No Baseline Genotype	3.5%	4.2%	4.6%	4.9%	4.8%	4.1%	1.7%	4.4%
Baseline CD4 < 200 cells/μL	17.6%	20.8%	20.5%	22.2%	23.5%	22.8%	21.6%	19.8%
Non-Recommended ART	2.0%	5.5%	10.0%	11.9%	11.8%	5.6%	1.7%	1.1%
Non Viral suppression at 9 Mo.	35.5%	33.9%	32.9%	33.0%	33.7%	32.5%	26.1%	24.7%
PCS Score: 0	135	115	99	78	73	90	100	107
PCS Score: 1	78	75	78	66	72	70	48	48
PCS Score: 2	29	33	29	28	26	20	16	11
PCS Score: 3	13	10	9	8	10	12	10	12
PCS Score: 4 or more	1	3	4	5	6	5	2	4
Total (n=)	**256**	**236**	**219**	**185**	**187**	**197**	**176**	**182**

Indicator 7: **New DTP ARV Participants**

First Starts	51	57	32	51	56	38	36	37
Experienced Starts	45	55	73	62	55	76	55	63

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

CD4 ≥ 500	19	16	14	21	28	18	12	16
CD4 350–499	11	15	9	11	12	8	6	4
CD4 200–349	8	14	5	9	8	4	9	11
CD4 50–199	10	12	4	6	8	6	8	4
CD4 < 50	3	0	0	4	0	2	1	2
CD4 Median (cells/μL)	*400*	*380*	*480*	*410*	*490*	*460*	*345*	*370*
Total (n=)	**51**	**57**	**32**	**51**	**56**	**38**	**36**	**37**

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

Active DTP Participants	3716	3734	3774	3817	3842	3870	3873	3884
Inactive DTP Participants	627	644	645	646	663	675	681	677

Indicator 10: **Antiretroviral Adherence**

≥ 95%	50	35	39	35	39	49	45	38
80% to < 95%	8	11	6	5	7	6	4	8
40% to < 80%	1	4	5	4	7	8	1	6
< 40%	0	0	0	0	1	1	0	1
Total (n=)	**59**	**50**	**50**	**44**	**54**	**64**	**50**	**53**

Indicator 11: **Resistance Testing and Results**

	2013 Q2	Q3	Q4	2014 Q1	Q2	Q3	Q4	2015 Q1
Suppressed	2607	2665	2581	2805	2774	2817	2822	2879
Wild Type	505	462	459	420	388	380	322	345
Never Genotyped	28	28	17	24	14	14	11	18
1-Class	111	96	98	91	87	74	61	80
2-Class	30	19	15	14	14	11	15	16
3-Class	4	9	7	2	4	2	1	3
Total (n=)	**3285**	**3279**	**3177**	**3356**	**3281**	**3298**	**3232**	**3341**

Indicator 12: **AIDS-Defining Illness**		2007	2008	2009	2010	2011	2012	2013	2014
CD4 < 200 at ART initiation	Cases	130	95	82	69	52	47	42	38
	Rate per 100,000	*12.1*	*8.8*	*7.5*	*6.3*	*4.7*	*4.2*	*3.7*	*3.3*
AIDS Cases (DTP Reports)	Cases	81	81	61	52	35	32	32	24
	Rate per 100,000	*7.5*	*7.5*	*5.6*	*4.7*	*3.2*	*2.8*	*2.8*	*2.1*
AIDS Cases (BCCDC Reports)	Cases	72	75	54	47	36	28	23	–
	Rate per 100,000	*6.7*	*7.0*	*5.0*	*4.3*	*3.2*	*2.5*	*2.0*	–

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