STOP HIV/AIDS Annual Monitoring Report

2017

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Foreword

The Seek and Treat for Optimal Prevention (STOP) of HIV/AIDS Project was a 3 year pilot (Feb 2010 – Mar 2013) funded by the British Columbia Ministry of Health to expand HIV testing, treatment and support with the goal of reducing HIV transmission in British Columbia. The pilot project was implemented in Vancouver and Prince George. Funding was provided to Vancouver Coastal Health (VCH), Providence Health Care (PHC), Northern Health (NH), the Provincial Health Services Authority (PHSA), and the British Columbia Centre for Excellence in HIV/AIDS (BCCfE). The pilot project was successfully implemented in Vancouver over the 3 year pilot period and achieved the project goals to:

- Reduce the number of new HIV/AIDS diagnoses in Vancouver (in the long term).
- Reduce the impact of HIV/AIDS through effective screening and early detection.
- Ensure timely access to high quality and safe HIV/AIDS care and treatment.
- Improve the patient experience in every step of the HIV/AIDS journey.
- Demonstrate system and cost optimization.

Following the successful implementation as a pilot project, the B.C. government announced a provincial roll out of the initiative from April 1, 2013.

The provincial project goals are to:

- Reduce the number of new HIV infections in B.C.
- Improve the quality, effectiveness, and reach of HIV prevention services.
- Increase early diagnosis of HIV.
- Reduce AIDS cases and HIV-related mortality.

Provincial level monitoring and evaluation is being conducted by the BCCfE using provincial testing data from the BC Centre for Disease Control (BCCDC) and provincial treatment data from the provincial drug treatment program at the BCCfE. Quarterly population level indicator reports are produced by the BCCDC and BCCfE for monitoring and evaluation purposes.

During the pilot, the Vancouver STOP HIV/AIDS Project *Quarterly Monitoring Report* was developed to enable VCH and PHC (Vancouver STOP partners) to report on overall changes in the project's targeted activities and display results at a population level within Vancouver Health Service Delivery Area (HSDA) and across VCH. This report provided important information to support timely and informed decision regarding project implementation, resource allocation and post-project sustainability planning.

With the expansion, we will continue to monitor the key indicators across VCH. The *Annual Monitoring Report* will provide the output to support informed decision making, and inform internal and external stakeholder groups about the VCH STOP project's impacts.

Please note the data sources used for this report are of a dynamic nature, and are subject to change on a frequent basis. Definitions of some indicators are also subject to change in order to meet the evaluation needs of the regional stakeholders. Please refer to Appendix A and consult the most recent report for the most up to date definitions. If you have any comments and queries, please forward them to Karyn Gabler (karyn.gabler@vch.ca).

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Acknowledgements

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- BC Centre for Excellence in HIV/AIDS - Paul Sereda & William Chau, Analysts and Dr. Kate Heath, Epidemiologist
- Microbiology & Virology at Providence Health Care
- BC Public Health Microbiology and Reference Laboratory
- Vancouver Coastal Health STOP Outreach Team
- Vancouver Coastal Health Communicable Disease Control - Margot Smythe, Communicable Disease Nurse Coordinator; Laura Zerr, HIV Communicable Disease Control Nurse & the Communicable Disease Control Nurses
- Vancouver Coastal Health Hope to Health Project Team

Table of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ARVs	Antiretroviral therapy (can also be abbreviated as ART)
BC	British Columbia
BCCfE	British Columbia Centre for Excellence in HIV/AIDS
C +/-	An increase or decrease in a particular indicator for current time period compared to previous half-year
CD4	Cluster of differentiation 4, is a marker to identify a type of human T helper cell
DTES	Downtown Eastside, Vancouver
H +/-	An increase or decrease in a particular indicator for current time period compared to the historical time period (January 2008 – June 2010)
HIV	Human Immunodeficiency Virus
HSDA	Health Service Delivery Area
IDU	Injecting Drug Use
LHA	Local Health Area
mL	Milliliter
MSM	Men who have sex with men
POC	Point of Care HIV Test
PHSU	Public Health Surveillance Unit
S +/-	An increase or decrease in a particular indicator for current time period compared to STOP period
STOP	HIV/AIDS Seek and Treat for Optimal Prevention of HIV/AIDS
VCH	Vancouver Coastal Health (Authority)
vL	Viral Load
Y +/-	An increase or decrease, for a particular indicator, in current year-to-date values compared to the previous year-to-date
Q1	Quarter 1 in the calendar year
Q2	Quarter 2 in the calendar year
Q3	Quarter 3 in the calendar year
Q4	Quarter 4 in the calendar year
S1	The first half of the calendar year
S2	The second half of the calendar year

Cautions/Interpretations

- **The data sources used for this report are of a dynamic nature, and subject to change on a frequent basis. The results reported herein are current as of May 15, 2018.**

- **A number of indicators are susceptible to the longitudinal dynamic nature of the data used for this report, and therefore their values reported for the current time period are expected to change in the next reporting period. For this reason, significant differences should be interpreted with this in mind.**

- **Through individual-level data linkage this report is able to describe select measures at the population-level for a specific dataset of linked individuals with nearly complete information. Extrapolation of these results to the entire population receiving treatment within VCH, should take this into consideration. For this reason, absolute numbers in particular should be interpreted with caution.**

- **Since the changes from Quarterly Report to Semi-Annual Report, definitions on several indicators have been changed or modified. Moreover, several indicator numbers also changed to meet the new structure of the Report. Please check the definitions in the Appendix A. The following indicators have definition changes: VCH45a, VCH45b, VCH16, VCH17, VCH17a, VCH19, VCH24, VCH23a, VCH23b, VCH23c, VCH46a, VCH49, VCH52, VCH54.**

- **In this report, the proportion will not be reported if the denominator is less than 5.**

Note: Please always refer to the most recent report.

Section 1. Population Monitoring Report Overview

Population Level Monitoring Indicators
2017

VCH Annual Monitoring Report Overview

The VCH STOP Evaluation Task Group approved a complete set of monitoring indicators in April 2011, to be monitored over the course of STOP. In general these indicators report data from across the HIV patient journey, but more specifically they evaluate important components of the core testing, public health management and treatment objectives of the STOP HIV/AIDS pilot project. A rationale and definition of each indicator is provided in Appendix A.

The VCH Monitoring Report presents both a summary table and a series of associated figures, maps and tables.

Summary Table

The summary table reports on the approved monitoring indicators, and is organized by testing, public health management and treatment phase of the patient journey. This table presents data from the current half-year for each indicator, and compares them to data from the preceding three half-year periods, the entire STOP HIV/AIDS pilot project period (July 1, 2010 to current), and to a historical baseline period (January 1, 2008 – June 30, 2010). The table also reports on:

- Counts (or proportions) for the current year to date, and
- Counts (or proportions) for the same time period in the previous year.

Significant differences compared to the preceding half-year (C+/-), the STOP HIV/AIDS period (S+/-), historical baseline period (H+/-), and year-to-date (Y+/-) and are noted in the far right column. Where possible, statistically significant differences ($p<0.05$) are determined; however, for some indicators significant differences are determined to be values with an increase or decrease of 10%.

Additional Figures, Maps and Tables

Graphs, maps and tables, are prepared to examine the data across different sociodemographic and clinical stratifications. Such graphs are not prepared for every indicator, but rather for a selection with important trends during the current half-year.

Data Sources

The data sources collected and compiled for this report, are described in Appendix B. Individual HIV public health surveillance records were linked using deterministic methods to the BCCfE clinical monitoring and drug treatment program data, creating a unique longitudinal dataset of the HIV continuum within VCH. Of all known HIV diagnoses reported in Vancouver Coastal Health since May 2003, 88% were linked to clinical monitoring and drug treatment records. The remaining 12% are diagnoses who participated in non-nominal testing or were lost to care and are therefore unable to be linked, but may still be engaged in care. Those individuals from the BC CfE database who did not link to HIV surveillance records were primarily (88%) diagnosed before May 2003, the remaining 12% are likely the population of non-nominal testers. Comparative analyses of unlinked individuals to the linked population verify that the linked

dataset is representative of the greater population of all known HIV positive individuals across VCH on a number of sociodemographic, clinical and epidemiological characteristics. For more detailed information please refer to the Q1 2012 report (http://www.vch.ca/media/Q1 20_012-Monitoring-Report_STOP-HIV-AIDS.pdf).

Summary Table Results
2017

Testing Indicators

- The number of POC tests from POC test sites engaged in STOP HIV/AIDS initiatives decreased significantly compared to previous half years, the average since STOP and year to date. The number of new positives from POC tests decreased significantly compared to the average since STOP and year to date [VCH1, VCH4a].
- Overall HIV lab testing volumes from VCH residents or those who tested in VCH were significantly higher than the average since STOP, and historical baseline. In the second half of 2017, volumes increased 30% compared to the average since STOP, and were 171% higher than the historical baseline [VCH8a].
- HIV lab test volumes from clinics in VCH were significantly higher than the average since STOP and to the historical baseline [VCH8b]. Compared to the average since STOP, Coastal Urban HSDA had the highest increases (69%), followed by Richmond (51%), Coastal Rural (39%) and Vancouver (22%). VCH clinic test volumes were 173% higher compared to the historical baseline.
- HIV lab tests among residents significantly increased in comparison to the average since STOP, and the historical baseline [VCH11a]. Compared to the average since STOP, Coastal Urban HSDA had the highest increase (58%), followed by Richmond (51%), Coastal Rural (31%) and Vancouver (27%).
- HIV lab tests from non-VCH residents who tested in VCH [VCH11d] decreased slightly compared to the first half of 2017 although remains significantly higher than the average since STOP, and the historical baseline.
- The number of newly reported HIV positives from VCH significantly decreased in 2017 compared to 2016, since STOP and the historical baseline [VCH13a]. Eighty-nine percent of cases in 2017 were reported among Vancouver residents.
- The percent positivity of HIV testing [VCH14a] significantly decreased in VCH compared to the average since STOP and the historical baseline. The decline in percent positivity since STOP may be attributed to the broader testing strategy that is generating a greater number of HIV tests in lower risk settings as well as the sustained increase in overall testing volumes. Due to a small number of positives in Richmond, Coastal Urban and Coastal Rural, the percent positivity is likely to fluctuate.
- In the first half of 2017, the proportion of new HIV positive cases diagnosed with a CD4 count >= 500 cells/mm^3 or with acute stage disease [VCH45a] was similar to the average since STOP and the historical average.
- The proportion of new HIV positive cases diagnosed with a CD4 count < 200 cells/mm^3 [VCH45b] decreased in the second half of 2017. The proportion of cases reported in the rest of VCH (except Vancouver), with a CD4 count <200 cell/mm^3 should be interpreted with caution due to small case numbers.

Public Health Management Indicators

These indicators were established to measure public health management activities augmented for STOP HIV/AIDS. Data are collected by public health practitioners using a partner notification form developed for this purpose. As a result, baseline data prior to STOP HIV/AIDS are not available.

- The proportion of new positives with a record of public health follow-up remained stable in comparison to the preceding periods [VCH16] and the average since STOP. It is important to note that the public health management indicators are based on the case diagnosis date and therefore are likely to change as follow-up is completed over time.
- The number of partners elicited in 2017 decreased significantly compared to the preceding periods [VCH17], as well as since STOP. It is important to consider that the number of cases also decreased over this period of time.
- The average number of partners elicited decreased compared to the preceding periods, the average since STOP and year-to-date [VCH17a]. An average of 3 partners per case was elicited in 2017.
- The proportion of partners notified remained stable compared to the previous half-year, the average since STOP and year to date [VCH19].
- The proportion of notified partners that were known to be previously HIV positive in the second half of 2017 decreased compared to preceding periods and the average since STOP [VCH24].
- The proportion of notified partners known to be tested for HIV remained similar to the preceding half year, the average since STOP and the year to date at 68% in the second half of 2017. Proportion of notified partners testing peaked at 81% in S1 2016 [VCH23a].
- Four new HIV positive cases were diagnosed through public health follow-up in 2017, a significant increase compared to 2016 [VCH23b].
- The percent positivity in 2017 overall was 4%, which is higher than in 2016 where the percent positivity was 1% [VCH23c] but lower than the average since STOP.

Treatment Indicators

- The proportion of new diagnoses linked to care within 30 days in VCH in the first half of 2017 was the highest proportion since STOP [VCH41]. Among the rest of VCH proportions should be interpreted with caution due to a small number of new positives in Richmond, Coastal Urban and Coastal Rural.
- The median time to linkage to HIV care in VCH was 5 days in 2017 and remains below the year to date, the average since STOP and the historical baseline [VCH44b].
- The proportion of HIV patients currently retained in care declined compared the average since STOP [VCH46]. 86% of Richmond residents were currently retained in care, followed by Coastal Urban (82%), Coastal Rural (81%), and Vancouver (76%).
- The proportion of patients not found in care increased when compared to the average since STOP, and the historical baseline [VCH47b]. In the most recent period, 22% of Vancouver residents were not found in care, followed by Richmond (21%), Coastal Urban (19%), and Coastal Rural (10%).
- The proportion of patients currently prescribed ARVs significantly increased compared to the historical baseline [VCH48]. Conversely, the proportion of patients who discontinued and did not restart ARVs decreased significantly compared to the historical baseline [VCH49].
- The proportion of individuals newly taking ARVs and achieving viral suppression (viral load < 200 copies/mL) within 9 months of treatment is higher for 2017 compared to 2016 [VCH51]. *It is important to note that this indicator is influenced by a lag in data capture.*
- The proportion of individuals on ARVs achieving viral suppression with viral load <200 copies/mL increased significantly compared to the average since STOP, and the historical baseline [VCH52]. The greatest proportion of individuals achieving viral suppression was observed in Richmond HSDA with 95% followed by Coastal Rural with 94% in the second half year of 2017.
- The mean monitored viral load of all known HIV positive individuals in VCH continues to decline and was significantly lower than the average since STOP and the historical baseline [VCH53].
- The proportion of individuals with a viral load >200 copies/ml (not suppressed) in VCH is significantly lower than the average since STOP, the historical baseline, and year to date [VCH54].

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STOP HIV/AIDS Monitoring Indicators
Annual Summary Report
2017

Providence HEALTH CARE
How you want to be treated.

Indicator Number		Indicator Name	Counts by Half-Year				STOP HIV/AIDS (July 1, 2010 to date)			Historical Baseline (Jan 1, 2008 to Jun 30, 2010)			Year to Date Cases		Significance
			Jul-Dec 2017	Jan-Jun 2017	Jul-Dec 2016	Jan-Jun 2016	Avg	Min	Max	Avg	Min	Max	Year 2017	Year 2016	
Testing Indicators	VCH1	Number of POC tests	778	874	3124	3288	3377	778	8669	N/A	N/A	N/A	1652	6412	C-S-Y-
	VCH4a	Number of new true positive POC tests	-	-	-	11	15	2	41	N/A	N/A	N/A	-	13	C+S-Y-
	VCH8a	Overall number of HIV lab tests (either from VCH residents or those who tested at a VCH clinic)	103870	108429	103965	109343	79651	39389	109343	38387	37557	39564	212299	213308	S+H+
	VCH8b	Number of HIV lab tests from all clinics in VCH	99358	104518	99684	105283	76723	37495	105283	36423	35572	37596	203876	204967	S+H+
	VCH8b.1	Vancouver	73440	77817	74077	79120	60089	30371	79120	29452	28692	30543	151257	153197	S+H+
	VCH8b.2	Richmond	10812	11157	11339	12557	7140	2350	12557	2331	2233	2422	21969	23896	S+H+
	VCH8b.3	Coastal Urban	10718	11113	9939	9053	6343	3055	11113	2977	2899	3106	21831	18992	S+H+Y+
	VCH8b.4	Coastal Rural	4388	4431	4329	4553	3151	1635	4553	1663	1621	1734	8819	8882	S+H+
	VCH11a*	Number of HIV lab tests from residents of VCH	89656	92775	88548	92894	67046	31960	92894	30964	30184	31961	182431	181442	S+H+
	VCH11a.1*	Vancouver	60891	62682	59255	63443	47823	23605	63443	23006	22305	23799	123573	122698	S+H+
	VCH11a.2*	Richmond	12836	13336	13710	14194	8521	2966	14194	2817	2672	2910	26172	27904	S+H+
	VCH11a.3*	Coastal Urban	11183	11735	10771	10041	7069	3443	11735	3330	3255	3411	22918	20812	S+H+Y+
	VCH11a.4*	Coastal Rural	4746	5022	4812	5216	3633	1856	5216	1811	1770	1863	9768	10028	S+H+
	VCH11d	Number of HIV lab tests from known non-residents of VCH, who tested in VCH	14214	15654	15417	16449	12605	7429	16449	7423	7322	7668	29868	31866	S+H+
	VCH13a*	Number of positive HIV diagnoses for VCH residents	48	52	65	53	69	48	98	87	77	99	100	118	S-H-Y-
	VCH13a.1*	Vancouver	46	43	56	46	62	43	87	80	72	93	89	102	S-H-Y-
	VCH13a.2*	Richmond	-	5	-	-	-	-	5	-	-	5	7	7	C-S-H-
	VCH13a.3*	Coastal Urban	0	-	-	-	-	0	5	-	-	-	-	7	C-S-H-Y-
	VCH13a.4*	Coastal Rural	0	-	-	0	-	0	-	-	0	-	-	-	C-S-H-
	VCH14a	Percent positivity (%) of VCH residents	0.05	0.06	0.07	0.06	0.10	0.05	0.28	0.28	0.25	0.33	0.05	0.07	S-H-
	VCH14a.1	Vancouver	0.08	0.07	0.09	0.07	0.13	0.07	0.32	0.35	0.32	0.42	0.07	0.08	S-H-
	VCH14a.2	Richmond	-	-	-	-	-	-	0.17	0.11	0.07	0.17	-	-	H-
	VCH14a.3	Coastal Urban	0	-	-	-	-	0	0.11	0.10	0.09	0.12	-	-	H-
	VCH14a.4	Coastal Rural	0	-	-	0	0.05	0	0.16	-	0	0.11	-	-	
	VCH45a	Proportion of all VCH HIV patients with CD4 count > 500 cells/mm3 or acute stage at diagnosis (%)	60	46	42	65	48	40	65	41	35	53	52	52	
	VCH45a.1	Vancouver	63	49	45	67	51	42	67	42	34	56	56	54	H+
	VCH45a.2	Rest of VCH	.	75	20	33	33	0	75	25	0	67	75	25	
	VCH45b	Proportion of all VCH HIV patients with CD4 count < 200 cells/mm3 at diagnosis (%)	10	19	25	12	19	10	25	22	17	34	15	20	
	VCH45b.1	Vancouver	11	18	24	8	17	8	26	21	14	31	14	17	
	VCH45b.2	Rest of VCH	.	0	40	33	26	0	50	44	0	100	0	38	

Notes

- *This includes testers or positives who have known residential information within VCH and those who test in VCH but do not have available residential information.
- Data used for this report are longitudinal and of dynamic nature, with many indicators being subject to a lag in time to reporting. Therefore indicator values are likely to change with continual data updating.

Public Health Surveillance Unit

Interpretation

- C +/- represents an increase or decrease for current time period compared to preceding period
- S +/- represents an increase or decrease for current time period compared to STOP Period (July 1, 2010 to current)
- H +/- represents an increase or decrease for current time period compared to historical time period (January 2008-June 2010)
- Y +/- represents an increase or decrease for current year-to-date compared to previous year-to-date
- "-"represents a suppressed cell where the value is derived from a number of individuals less than 5 in a defined region.
- STOP HIV/AIDS average is the average of all half-years since July 1, 2010, with the minimum and maximum during all half-years since STOP. This also applies to historical baseline average.

STOP HIV/AIDS Monitoring Indicators
Annual Summary Report
2017

Indicator Number		Indicator Name	Counts by Half-Year				STOP HIV/AIDS (July 1, 2010 to date)			Historical Baseline (Jan 1, 2008 to Jun 30, 2010)			Year to Date Cases		Significance
			Jul-Dec 2017	Jan-Jun 2017	Jul-Dec 2016	Jan-Jun 2016	Avg	Min	Max	Avg	Min	Max	Year 2017	Year 2016	
Public Health Management Indicators	VCH 16	Proportion of new positives with record of public health follow-up	91	94	91	93	91	84	99	N/A	N/A	N/A	93	92	
	VCH17	Number of partners elicited	142	169	273	145	246	142	402	N/A	N/A	N/A	311	418	C-S-Y-
	VCH17a	Average number of partners elicited per positive case	3	3	4	3	4	3	5	N/A	N/A	N/A	3	4	C-S-Y-
	VCH19	Proportion of partners notified (%)	53	56	58	41	46	35	58	N/A	N/A	N/A	54	52	
	VCH24	Proportion of notified partners who were known to be previously HIV positive (%)	7	24	18	20	17	7	24	N/A	N/A	N/A	17	18	C-S-
	VCH23a	Proportion of notified partners tested for HIV (%)	71	66	62	81	61	48	81	N/A	N/A	N/A	69	67	
	VCH23b	Number of notified partners who tested HIV positive	-	-	0	-	-	0	7	N/A	N/A	N/A	-	-	C-S-Y+
	VCH23c	Percent positivity (%) due to Partner Notification	-	6	0	-	7	0	14	N/A	N/A	N/A	-	-	

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			Jul-Dec 2017	Jan-Jun 2017	Jul-Dec 2016	Jan-Jun 2016	Avg	Min	Max	Avg	Min	Max	Year 2017	Year 2016	
Treatment Indicators	VCH41	Proportion of new diagnoses within VCH linked to care within 30 days of diagnosis (%)	81	88	80	75	78	68	88	64	54	71	85	78	H+
	VCH41.1	Vancouver	80	88	79	72	77	67	88	64	56	71	84	75	
	VCH41.2	Rest of VCH	100	89	89	100	86	75	100	60	33	70	91	94	
	VCH44b	Time to linkage to HIV care among those newly diagnosed with HIV within VCH (median days)	5	5	6	7	7	5	10	12	10	13	5	6	S-H-Y-
	VCH44b.1	Vancouver	5	5	6	7	7	5	10	11	9	13	5	6	S-H-Y-
	VCH44b.2	Rest of VCH	15	5	10	4	10	4	15	14	8	24	7	8	C+S+Y-
	VCH46a	Proportion of HIV patients who are currently retained in care within VCH (%)	77	77	78	79	80	77	82	79	77	79	77	78	S-
	VCH46a.1	Vancouver	76	77	77	78	80	76	83	78	77	79	76	77	S-
	VCH46a.2	Richmond	86	90	89	90	89	86	92	95	90	100	86	89	
	VCH46a.3	Coastal Urban	82	78	79	83	79	76	83	84	78	88	82	79	
	VCH46a.4	Coastal Rural	81	83	79	87	82	65	93	66	53	78	81	79	
	VCH47b	Proportion of matched HIV patients not found in care within VCH (%)	22	20	20	19	18	16	22	18	18	20	22	20	S+H+
	VCH47b.1	Vancouver	22	21	20	20	19	16	22	19	18	19	22	20	S+H+
	VCH47b.2	Richmond	21	14	12	10	12	7	21	6	3	9	21	12	
	VCH47b.3	Coastal Urban	19	18	19	23	22	13	28	16	9	21	19	19	
	VCH47b.4	Coastal Rural	10	7	9	12	8	0	13	20	5	35	10	9	
	VCH48	Proportion of patients who are currently prescribed ARVs within VCH (%)	64	67	68	69	67	58	70	48	41	55	64	68	H+Y-
	VCH48.1	Vancouver	63	66	67	69	66	57	69	48	40	54	63	67	H+Y-
	VCH48.2	Richmond	74	78	83	86	81	67	87	66	48	76	74	83	
	VCH48.3	Coastal Urban	74	70	73	69	66	59	74	55	53	57	74	73	H+
	VCH48.4	Coastal Rural	82	82	79	87	83	68	89	61	52	68	82	79	
	VCH49	Proportion of patients who have discontinued and currently not restarted ARVs within VCH (%)	15	15	15	14	17	14	28	40	32	49	15	15	H-
	VCH49.1	Vancouver	16	15	15	14	17	14	28	40	32	50	16	15	H-
	VCH49.2	Richmond	11	10	8	10	12	7	28	27	18	46	11	8	
	VCH49.3	Coastal Urban	9	13	12	19	19	9	26	29	25	34	9	12	H-
	VCH49.4	Coastal Rural	11	11	13	7	12	7	28	32	26	39	11	13	H-
	VCH51	Proportion of individuals within VCH newly taking ARVs who are virally suppressed with viral load less than 200 copies/mL within 9 months since treatment start (%)	94	91	90	92	92	88	98	90	89	91	94	90	
	VCH51.1	Vancouver	93	90	89	92	92	88	98	90	87	91	93	89	
	VCH51.2	Rest of VCH	100	100	92	93	96	90	100	93	85	100	100	92	
	VCH52	Proportion of all individuals on ARVs who are currently virally suppressed with viral load less than 200 copies/mL within VCH (%)	90	90	89	90	86	80	90	78	74	81	90	89	S+H+
	VCH52.1	Vancouver	90	90	89	89	86	79	90	78	74	81	90	89	S+H+
	VCH52.2	Richmond	95	89	90	89	88	69	96	80	71	89	95	90	H+
	VCH52.3	Coastal Urban	93	88	94	98	92	84	98	86	72	93	93	94	
	VCH52.4	Coastal Rural	94	86	85	89	85	67	94	85	69	100	94	85	
	VCH53	Mean monitored viral load (copies/mL) of all known HIV positive individuals within VCH	51	50	53	51	76	50	185	392	224	772	52	54	S-H-
	VCH53.1	Vancouver	52	51	53	51	78	51	190	416	235	811	53	55	S-H-
	VCH53.2	Richmond	36	37	42	53	58	36	179	266	112	635	36	42	S-H-Y-
	VCH53.3	Coastal Urban	45	47	55	63	66	39	157	178	102	555	44	60	S-H-Y-
	VCH53.4	Coastal Rural	50	46	54	36	71	36	183	170	89	437	48	51	S-H-
	VCH54	Proportion of all individuals with viral load greater than 200 copy/mL within VCH (%)	8	9	11	10	18	8	36	47	39	58	12	16	S-H-Y-
	VCH54.1	Vancouver	9	9	11	10	18	9	36	48	40	59	12	16	S-H-Y-
	VCH54.2	Richmond	3	6	10	10	14	3	37	42	29	50	8	14	H-
	VCH54.3	Coastal Urban	7	10	10	8	14	6	31	32	22	55	11	14	H-
	VCH54.4	Coastal Rural	8	15	16	5	18	5	38	40	33	53	14	16	H-

Notes

- The analyses for most of treatment indicators are based on the individuals in a linked dataset of PHSU HIV Surveillance data and BCCfE Drug Treatment Program data. Except for indicators VCH41 and VCH44b, which use the full PHSU HIV Surveillance dataset and BCCfE Drug Treatment Program Data.
- Data used for this report is longitudinal and of a dynamic nature, with many indicators being subject to a lag in time to reporting. Therefore indicator values are likely to change with continual data updating.
- Treatment indicator denominators are described in appendix A and change overtime as new diagnoses are added and indicator restrictions adjust case population. For an example of case volume; denominators for S2 2013 VCH48 were as follows: Vancouver (n=1,909), Richmond (n=63), Coastal Urban (n=71), Coastal Rural (n=39).

Interpretation

- C +/- represents an increase or decrease for current time period compared to preceding period
- S +/- represents an increase or decrease for current time period compared to STOP Period (July 1, 2010 to current)
- H +/- represents an increase or decrease for current time period compared to historical time period (2008-2009)
- Y +/- represents an increase or decrease for current year-to-date compared to previous year-to-date

- STOP HIV/AIDS average is the average of all half-years since July 1, 2010, with the minimum and maximum during all half-years since STOP. This also applies to historical baseline average.

Section 2. Testing Indicators

Figures, Maps and Tables

Summary of Results – Testing Indicators

Figure 1. Number and Percent Positivity of HIV POC Tests

The number of POC tests decreased significantly in the second half of 2017 compared to the preceding periods, the average since STOP and year to date. Additionally, the percent positivity fluctuated compared to the preceding periods, the average since STOP and year to date.

Table 1. Number of HIV Lab Tests by HSDA/LHA of Testing Clinic

All VCH HSDAs experienced marginal declines in HIV lab tests in the second half of 2017. Most Vancouver LHAs experienced marginal declines in HIV test volumes except for Bella Coola Valley and Central Coast which increased 61% and 112% respectively in the second half of 2017 compared to the first half of 2017.

Maps 1-3. Mean Monthly HIV Lab Tests per 10,000 population among VCH residents

Since the expansion, average monthly HIV testing rates remained high compared to the STOP pilot period and historical. Compared to the average rate in the STOP Pilot period, most noticeable increases were observed in Powell River (362%), followed by Richmond (162%) and Howe Sound (104%).

Figure 2. Number and Percent Positivity of HIV Lab Tests among VCH Residents

The number of HIV lab tests among residents of VCH increased steadily from the initiation of STOP HIV/AIDS and had remained stable since 2016. As HIV lab tests increased since 2011, there has been a declining trend in percent positivity.

Figure 3. Number and Percent Positivity of HIV Lab Tests among VCH Residents by HSDA

The trend in HIV lab testing in Vancouver HSDA was similar to VCH overall as the majority of tests were conducted among Vancouver residents. Testing volumes increased substantially in Richmond since 2014 while a gradual increase was observed in Coastal Urban since 2014 and a slight increase followed by steady volumes was observed in Coastal Rural among known residents of each HSDA. Due to the small number of identified positives, the percent positivity fluctuates by year in Richmond, Coastal Urban and Coastal Rural.

Table 2. Monthly Average of HIV Lab Tests, Population Rate of HIV Lab Tests, HIV Positives and Percent Positivity among VCH residents by HSDA/LHA

Significant increases in the monthly average and rate of HIV lab tests were seen across all HSDAs/LHAs since April 2013. HIV tests increased by 438% in Powell River compared to the historical baseline, followed by Richmond (215%) and Howe Sound (191%).

In VCH overall and in Vancouver, there is a declining trend in the monthly average of new HIV positives compared to the STOP pilot and the historical, but by LHA that trend is more variable. The percent positivity has declined across time periods in Richmond, Coastal Urban, Coastal Rural, and Vancouver HSDAs.

Table 3, 4. Percent Positivity of HIV Lab Tests among VCH Residents by Gender and Age Group

Vancouver HSDA (Table 3)

The percent positivity for HIV testing is highest among males aged 30-39 in the second half of 2017 followed by males aged 20-29 years. The percent positivity in males aged 30-39 was 0.48% in the second half of 2017. In comparison with historical baseline, the percent positivity decreased among all males.

While the percent positivity among female age groups are lower overall compared with males, the highest percent positivity was observed among those aged 40-49 in the second half of 2017. Percent positivity among females in total decreased compared to the historical average.

Rest of VCH (Table 4)

The percent positivity across age groups among males continues to fluctuate each period due to low volumes of new diagnoses. The overall percent positivity for this most recent period among men is below the average since STOP HIV/AIDS and the historical baseline. The percent positivity across age groups among both males and females continues to fluctuate each period due to low volumes of new diagnoses.

Figure 4. Proportion of New HIV Positives by Gender and Males/Females Ratio by Year of Diagnosis

Vancouver HSDA:

More males were diagnosed compared to females in 2017 (10 males to 1 female). The majority of new diagnoses (82%) in Vancouver continue to be among males.

Rest of VCH:

Due to the very small number of females diagnosed with HIV in rest of VCH residents, no stable trend in proportion is observed, and this should be interpreted with caution.

Table 5, 6. Proportion of HIV positives by Gender, Exposure and Year of Diagnosis

Vancouver HSDA (Table 5):

More new diagnoses were seen among males with MSM exposure in 2014-2017 compared to all other exposure groups. The proportion of new diagnoses among MSM has increased since 2003-2005, while those with IDU exposure and heterosexual exposure has declined.

The proportion of females with IDU exposure in 2014-2017 was similar to the proportion in 2010-2013 despite an overall declining trend since 2003. Females with a heterosexual exposure declined in 2014-2017 compared to 2010-2013.

Rest of VCH (Table 6):

For males, the proportion of new diagnoses among MSM in 2014-2017 has declined since 2010-2013, while those with heterosexual exposure have increased.

Due to the very small number of females diagnosed with HIV in rest of VCH residents, no stable trend in proportion is observed, and this should be interpreted with caution.

Figure 5, 6. Number and Proportion of Patients' CD4 Cell Count and Disease Stage at Diagnosis by Year of Diagnosis

In 2017, the number of patients newly diagnosed with HIV declined compared to the number diagnosed in 2016. There is an overall declining trend in number of new positives since 2003(Figure 5).

In 2017, the proportion of new diagnoses with a CD4 count > 500 or acute stage disease at time of diagnosis remained below 50%, similar to the proportion in 2016. Furthermore, a decrease in the proportion of HIV patients diagnosed with a CD4 count <200 cells/mm^3 in 2017 was observed compared to the preceding period (Figure 6).

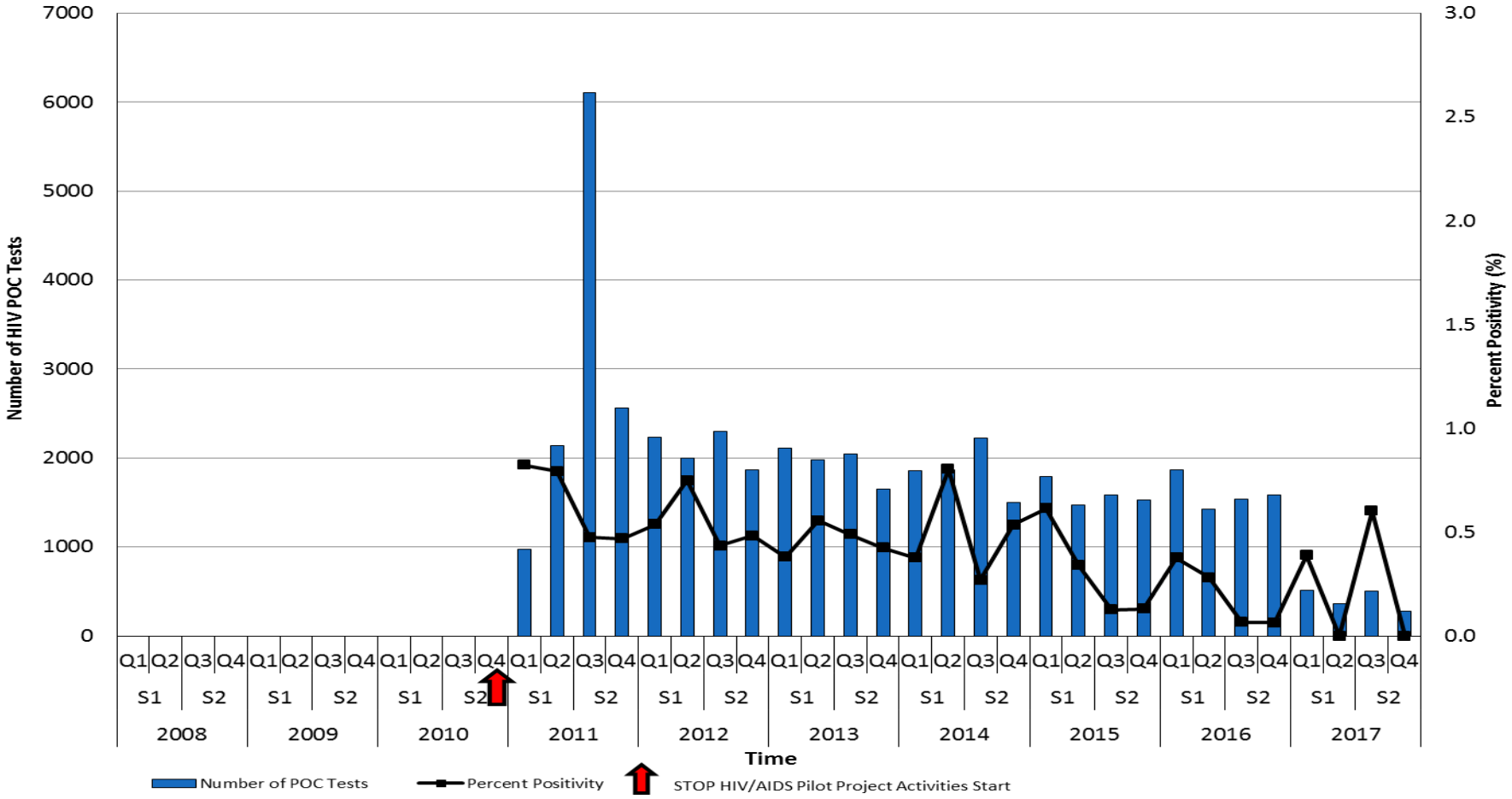
Figure 7. Proportion and Ratio of Patients Diagnosed with CD4 > 500/Acute Stage and CD4 < 200 by Year of Diagnosis

The proportion of patients diagnosed with a CD4 count <200 cells/mm^3 in 2017 overall is slightly lower than the proportion in 2016, and is still following a downward trend observed since 2006. The proportion of patients diagnosed with CD4 counts>=500 cells/mm^3 or diagnosed at acute stage remained similar compared to 2016. Therefore, the ratio of those diagnosed with a CD4>500/acute stage vs. a CD4 < 200 in 2017 (3.2: 1) is stable since 2016 and is slightly lower than the peak ratio observed in 2014 (3.6:1).

Maps 4-6. Median CD4 Cell Count (cells/mm^3) at diagnosis for HIV positive individuals

Compared to the historical baseline (Map 4), the median CD4 cell count at diagnosis has declined in the STOP expansion period (Map 6) for residents of Richmond HSDA as well as Midtown LHA. Meanwhile, the median CD4 cell count at diagnosis has increased in Coastal Urban HSDA and in the Downtown Eastside, North East and South Vancouver LHAs.

Figure 1. Number and Percent Positivity of HIV POC Tests



POC test counts include only volumes reported from sites engaged in STOP HIV/AIDS activities.
POC positive test counts include only positive tests reported to VCH CDC Department HIV Nurse.
Source: HIV Point of Care (POC) Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

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Table 1. Number of HIV Lab Tests by HSDA/LHA of Testing Clinic

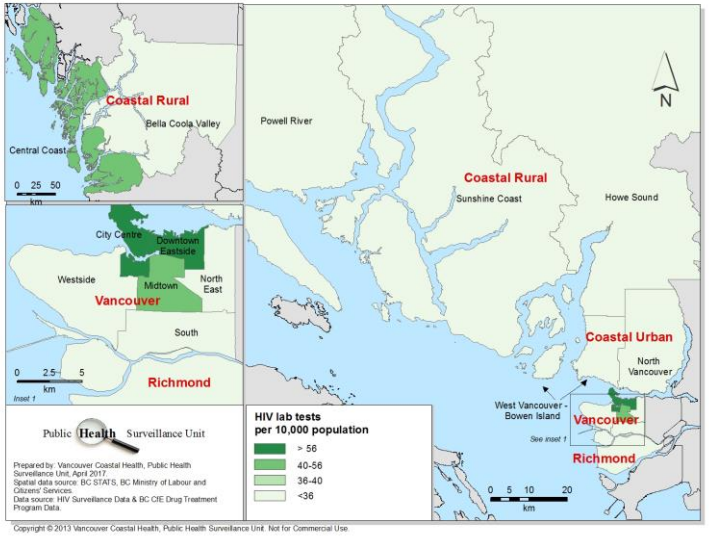
Providence HEALTH CARE
How you want to be treated.

Region	Counts				STOP HIV/AIDS (July 1, 2010 to date)			Historical Baseline (Jan 1, 2008 to Jun 30, 2010)			Year to Date		Significance
	Jul-Dec 2017	Jan-Jun 2017	Jul-Dec 2016	Jan-Jun 2016	Avg	Min	Max	Avg	Min	Max	Year 2017	Year 2016	
Richmond	10812	11157	11339	12557	7140	2350	12557	2331	2233	2422	21969	23896	S+H+
Coastal Urban	10718	11113	9939	9053	6343	3055	11113	2977	2899	3106	21831	18992	S+H+Y+
LHA 44 North Vancouver	9546	9719	8630	7567	5332	2487	9719	2366	2342	2423	19265	16197	S+H+Y+
LHA45 West Vancouver-Bowen Island	1172	1394	1309	1486	1011	568	1486	611	553	683	2566	2795	S+H+
Coastal Rural	4388	4431	4329	4553	3151	1635	4553	1663	1621	1734	8819	8882	S+H+
LHA 46 Sunshine Coast	1063	1146	1080	1035	817	398	1238	400	375	440	2209	2115	S+H+
LHA 47 Powell River	1388	1313	1330	1364	848	309	1522	309	296	334	2701	2694	S+H+
LHA 48 Howe Sound	1629	1804	1757	1986	1329	783	1986	853	815	903	3433	3743	S+H+
LHA 49 Bella Coola Valley	151	94	85	94	92	60	151	50	37	63	245	179	C+S+H+Y+
LHA 83 Central Coast	157	74	77	74	66	40	157	50	45	58	231	151	C+S+H+Y+
Vancouver	73440	77817	74074	79120	60076	30301	79120	29295	28464	30455	151257	153194	S+H+
LHA 161 City Centre	49935	53001	50172	53746	39541	18200	53746	17158	16336	18214	102936	103918	S+H+
LHA 162 DTES	3788	4277	3998	4358	3809	2814	4358	2731	2520	3031	8065	8356	H+
LHA 163 North East	3743	3792	3959	3762	3142	1632	3959	1685	1600	1724	7535	7721	S+H+
LHA 164 Westside	6592	5995	5792	5983	5324	3257	6592	3138	3070	3211	12587	11775	S+H+
LHA 165 Midtown	5631	6731	6342	6937	4679	2481	6937	2646	2482	2756	12362	13279	S+H+
LHA 166 South	3751	4021	3811	4334	3580	1865	4508	1938	1798	2038	7772	8145	H+
Total	99358	104518	99684	105283	76724	37495	105283	36423	35572	37596	203876	204967	S+H+

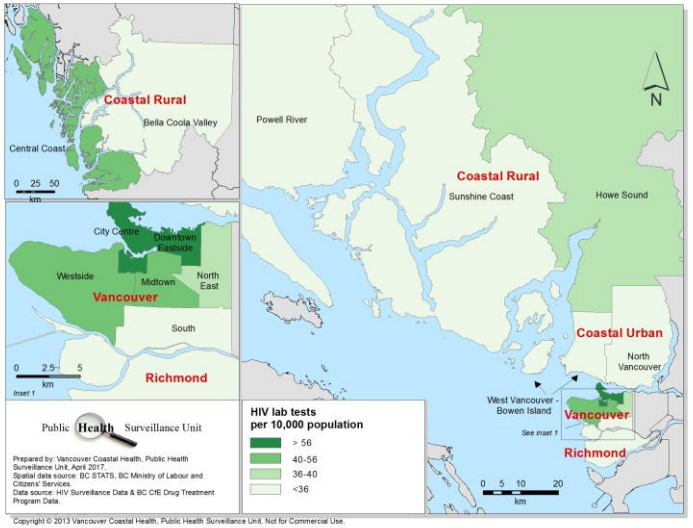
Source: Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

Mean Monthly HIV Lab Tests per 10,000 Population by LHA

Map 1. Historical Period (January 2008 – June 2010)



Map 2. Stop Pilot (July 2010 – March 2013)



Map 3. Stop Expansion (Apr 2013 – December 2017)

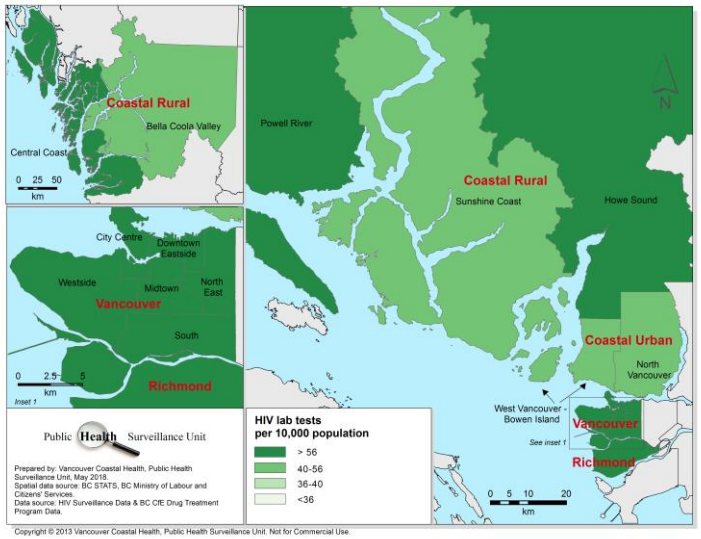
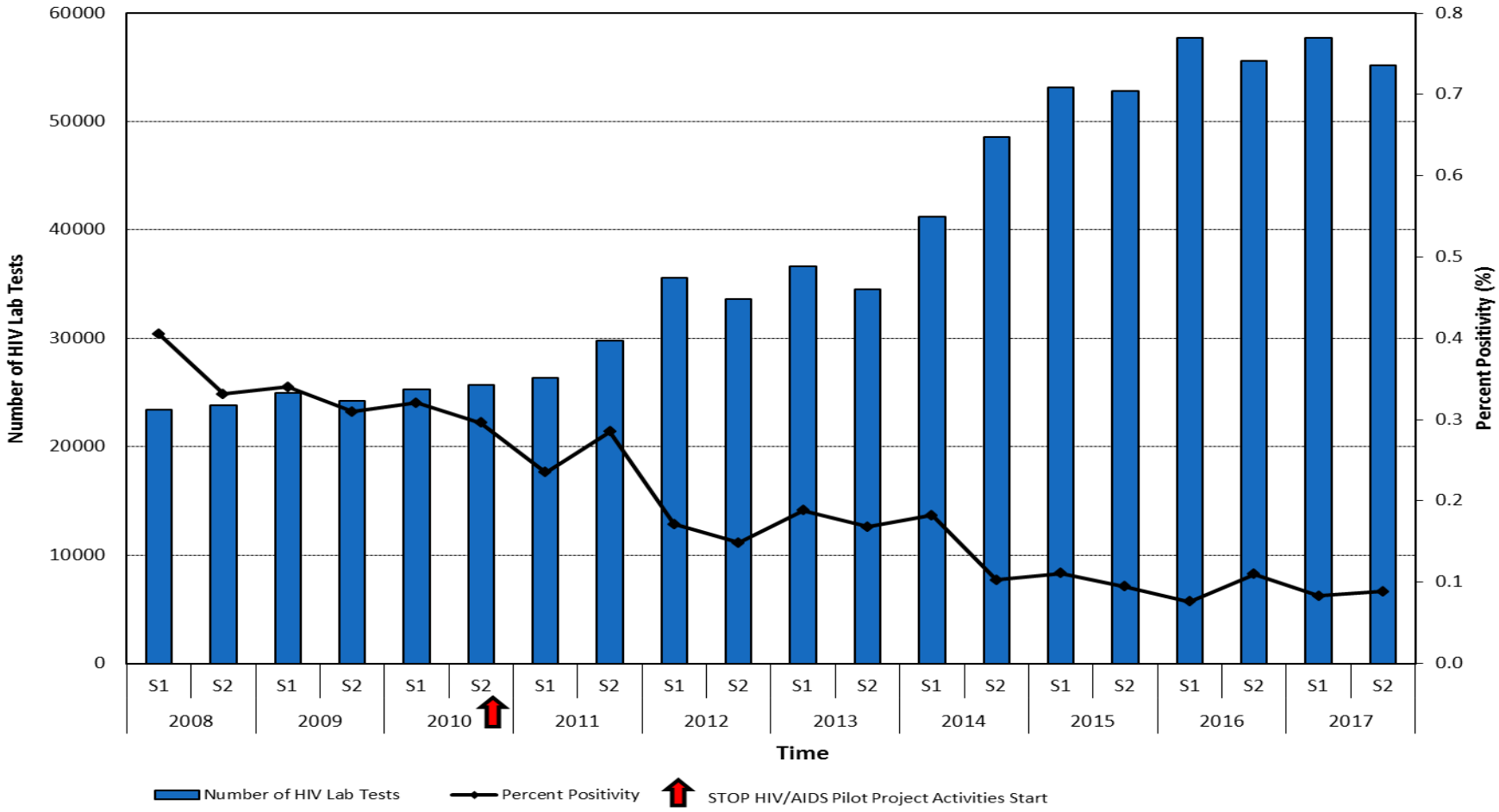


Figure 2. Number and Percent Positivity of HIV Lab Tests among VCH Residents



Source: Public Health Surveillance Unit (HIV Surveillance Data, Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory Database.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

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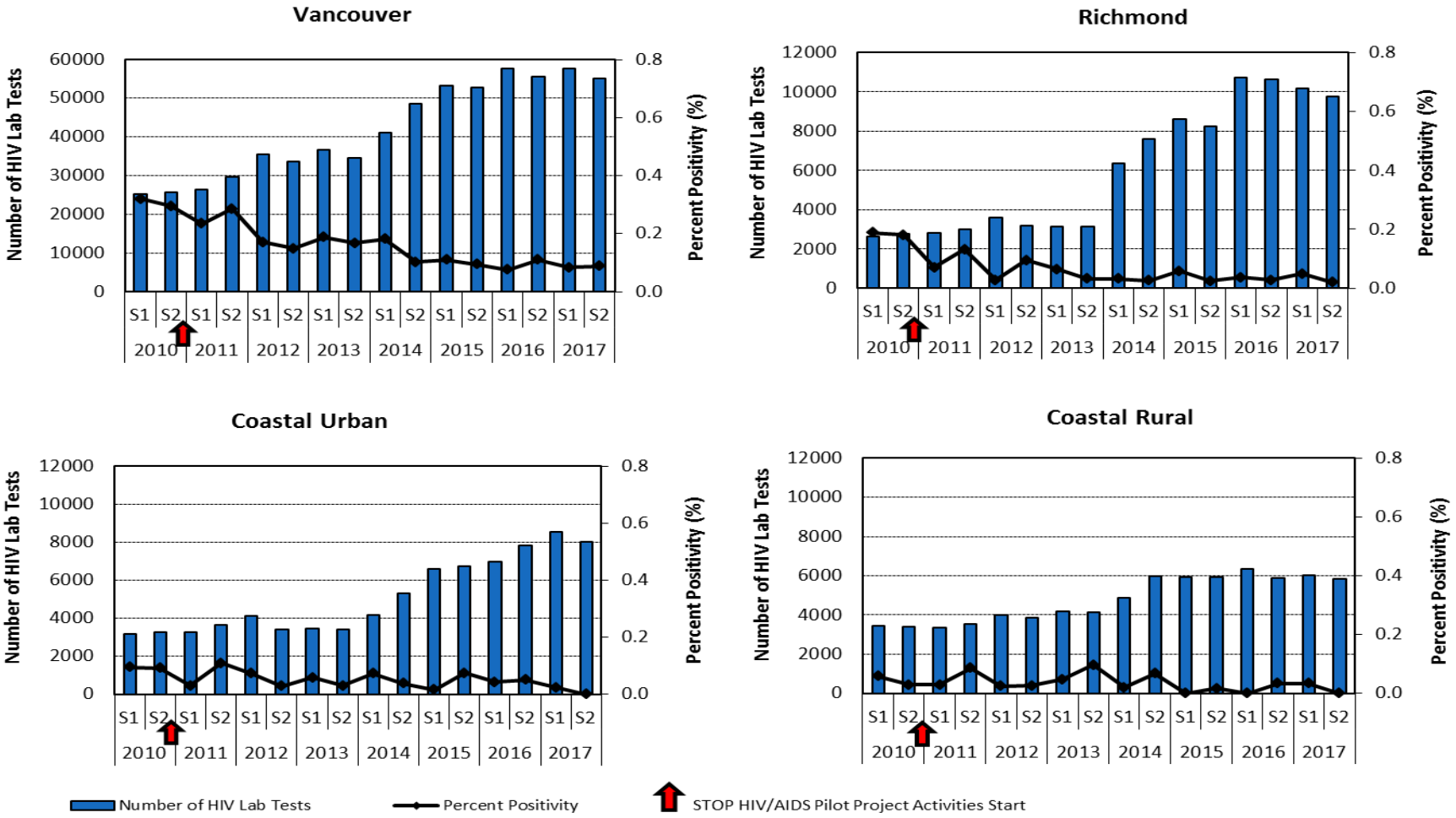
Figure 3. Number and Percent Positivity of HIV Lab Tests among VCH Residents by HSDA



Note: Axis values are not equal across all graphs. Compare test volumes with caution.
Source: Public Health Surveillance Unit (HIV Surveillance Data, Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory Database.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

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Table 2. Monthly Average of HIV Lab Tests, Population Rate of HIV Lab Tests, HIV Positives and Percent Positivity among VCH Residents by HSDA/LHA

Providence HEALTH CARE
How you want to be treated.

Region	HIV Lab Tests			HIV Lab Tests per 10,000 population			Positive HIV Lab Tests			Percent Positivity		
	Stop Expansion (Apr 2013 to date)	STOP Pilot (July 2010- Mar 2013)	Historical (Jan 2008- Jun 2010)	Stop Expansion (Apr 2013 to date)	STOP Pilot (July 2010- Mar 2013)	Historical (Jan 2008- Jun 2010)	Stop Expansion (Apr 2013 to date)	STOP Pilot (July 2010- Mar 2013)	Historical (Jan 2008- Jun 2010)	Stop Expansion (Apr 2013 to date)	STOP Pilot (July 2010- Mar 2013)	Historical (Jan 2008- Jun 2010)
Richmond	1348	514	428	67.4	25.9	22.3	0.5	0.5	0.5	0.03	0.1	0.1
Coastal Urban	1041	586	514	52.6	29.9	27.1	0.4	0.4	0.5	0.04	0.07	0.1
LHA 44 North Vancouver	776	444	397	53.8	31.0	28.7	0.2	0.2	0.5	0.02	0.05	0.1
LHA45 West Vancouver- Bowen Island	264	142	118	49.6	26.8	22.8	0.2	0.2	0.0	0.1	0.1	0.03
Coastal Rural	631	280	217	67.9	30.4	24.6	0.3	0.2	0.1	0.04	0.09	0.06
LHA 46 Sunshine Coast	132	83	71	43.3	27.2	24.1	0.0	0.0	0.1	0.01	0.04	0.1
LHA 47 Powell River	183	41	34	90.7	20.2	17.2	0.1	0.0	0.0	0.1	0.1	0.0
LHA 48 Howe Sound	286	138	98	75.7	37.3	28.5	0.1	0.1	0.0	0.04	0.1	0.03
LHA 49 Bella Coola Valley	16	10	7	53.1	33.4	23.0	0.0	0.0	0.0	0.1	0.0	0.0
LHA 83 Central Coast	14	8	7	94.3	54.4	48.0	0.0	0.1	0.0	0.0	0.7	0.0
Vancouver	5020	3408	2545	73.3	50.5	39.7	8.1	9.1	12.0	0.2	0.3	0.5
LHA 161 City Centre	1102	874	670	89.1	71.6	56.7	2.8	3.2	4.2	0.3	0.4	0.6
LHA 162 DTES	784	553	380	108.2	77.3	59.1	1.5	1.6	2.0	0.2	0.3	0.5
LHA 163 North East	617	419	329	56.7	39.1	31.6	0.7	0.8	0.8	0.1	0.2	0.2
LHA 164 Westside	922	574	440	65.5	41.3	33.0	0.4	0.5	0.4	0.0	0.1	0.1
LHA 165 Midtown	741	490	366	74.2	50.5	41.7	0.7	0.7	0.7	0.1	0.1	0.2
LHA 166 South	851	496	358	61.2	36.1	26.8	0.5	0.7	0.7	0.1	0.1	0.2
Total*	8039	4787	3704	68.4	41.2	33.3	9.2	10.3	13.1	0.1	0.2	0.4

*Total may not equal to sum of all LHAs due to missing assignment of LHA coding in original data.
Source: Public Health Surveillance Unit (HIV Surveillance Data), Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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Table 3. Percent Positivity among *Vancouver* Residents by Gender and Age Group

Gender	Age	Current Half-Year	Previous Half-Years		STOP HIV-AIDS	Historical Baseline	Year to Date	
		Jul 2017-Dec 2017	Jan 2017-Jun 2017	Jul 2016-Dec 2016	Jul 2010- Dec 2017	Jan 2008-Jun 2010	2017	2016
Male	0-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10-19	0.00	0.00	0.00	0.13	0.15	0.00	0.00
	20-29	0.40	0.55	0.46	0.53	0.83	0.47	0.43
	30-39	0.48	0.32	0.70	0.55	1.14	0.40	0.52
	40-49	0.39	0.30	0.17	0.55	1.61	0.35	0.17
	50-59	0.16	0.18	0.37	0.37	0.88	0.17	0.26
	60+	0.07	0.00	0.06	0.08	0.43	0.01	0.06
	Subtotal*	0.26	0.22	0.31	0.38	1.04	0.24	0.25
Female	0-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10-19	0.00	0.00	0.00	0.00	0.16	0.00	0.00
	20-29	0.06	0.00	0.06	0.04	0.07	0.03	0.06
	30-39	0.00	0.05	0.05	0.04	0.08	0.07	0.03
	40-49	0.09	0.05	0.05	0.08	0.15	0.07	0.05
	50-59	0.00	0.00	0.00	0.03	0.43	0.00	0.03
	60+	0.00	0.00	0.00	0.01	0.11	0.00	0.00
	Subtotal*	0.03	0.02	0.03	0.04	0.10	0.02	0.03

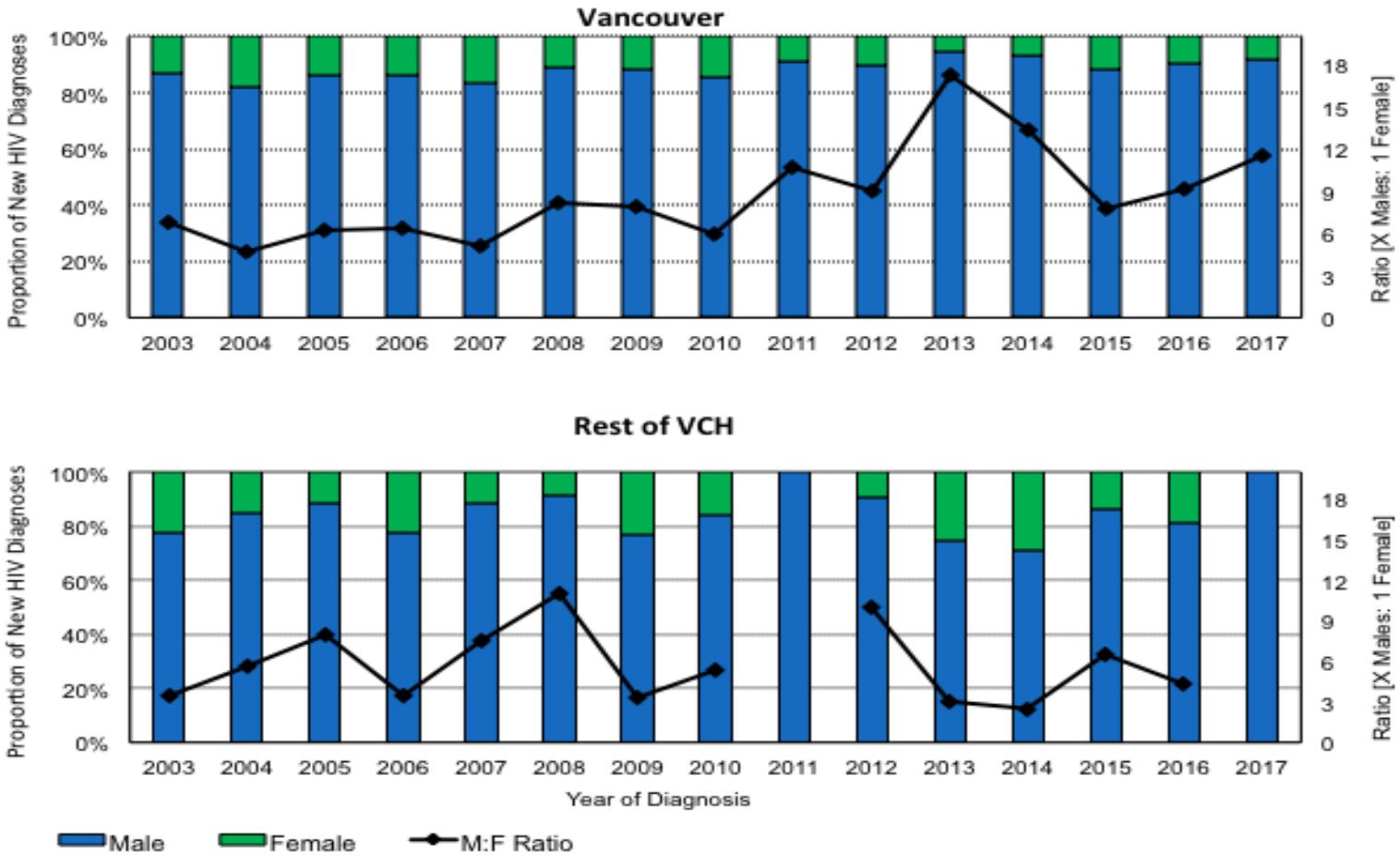
*Subtotal may not equal to sum of all LHAs due to missing values in the original data.
Source: Public Health Surveillance Unit (HIV Surveillance Data), Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

Table 4. Percent Positivity among *Rest of VCH* Residents by Gender and Age Group

Gender	Age	Current Half-Year	Previous Half-Years		STOP HIV-AIDS	Historical Baseline	Year to Date	
		Jul 2017-Dec 2017	Jan 2017-Jun 2017	Jul 2016-Dec 2016	Jul 2010- Dec 2017	Jan 2008-Jun 2010	2017	2016
Male	0-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10-19	0.00	0.43	0.00	0.07	0.13	0.22	0.00
	20-29	0.00	0.18	0.19	0.09	0.09	0.09	0.09
	30-39	0.00	0.11	0.06	0.10	0.07	0.06	0.06
	40-49	0.00	0.07	0.07	0.09	0.33	0.04	0.10
	50-59	0.00	0.12	0.12	0.14	0.18	0.06	0.12
	60+	0.05	0.00	0.02	0.03	0.21	0.02	0.01
	Subtotal*	0.02	0.08	0.07	0.08	0.15	0.05	0.06
Female	0-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	10-19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20-29	0.00	0.00	0.04	0.00	0.01	0.00	0.02
	30-39	0.00	0.00	0.00	0.01	0.02	0.00	0.02
	40-49	0.00	0.00	0.00	0.02	0.09	0.00	0.00
	50-59	0.00	0.00	0.00	0.02	0.07	0.00	0.03
	60+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Subtotal*	0.00	0.00	0.01	0.01	0.03	0.00	0.01

*Subtotal may not equal to sum of all LHAs due to missing values in the original data.
Source: Public Health Surveillance Unit (HIV Surveillance Data), Provincial Public Health Microbiology and Reference Laboratory (Misys Laboratory Database) & Providence Health Care Virology Laboratory.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

Figure 4. Proportion of New HIV Positives by Gender and Year of Diagnosis and Males/Females Ratio by Year of Diagnosis



Source: Public Health Surveillance Unit (HIV Surveillance Data).
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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Table 5. Proportion of HIV Positives by Gender, Exposure and Year of Diagnosis *(Vancouver HSDA)*

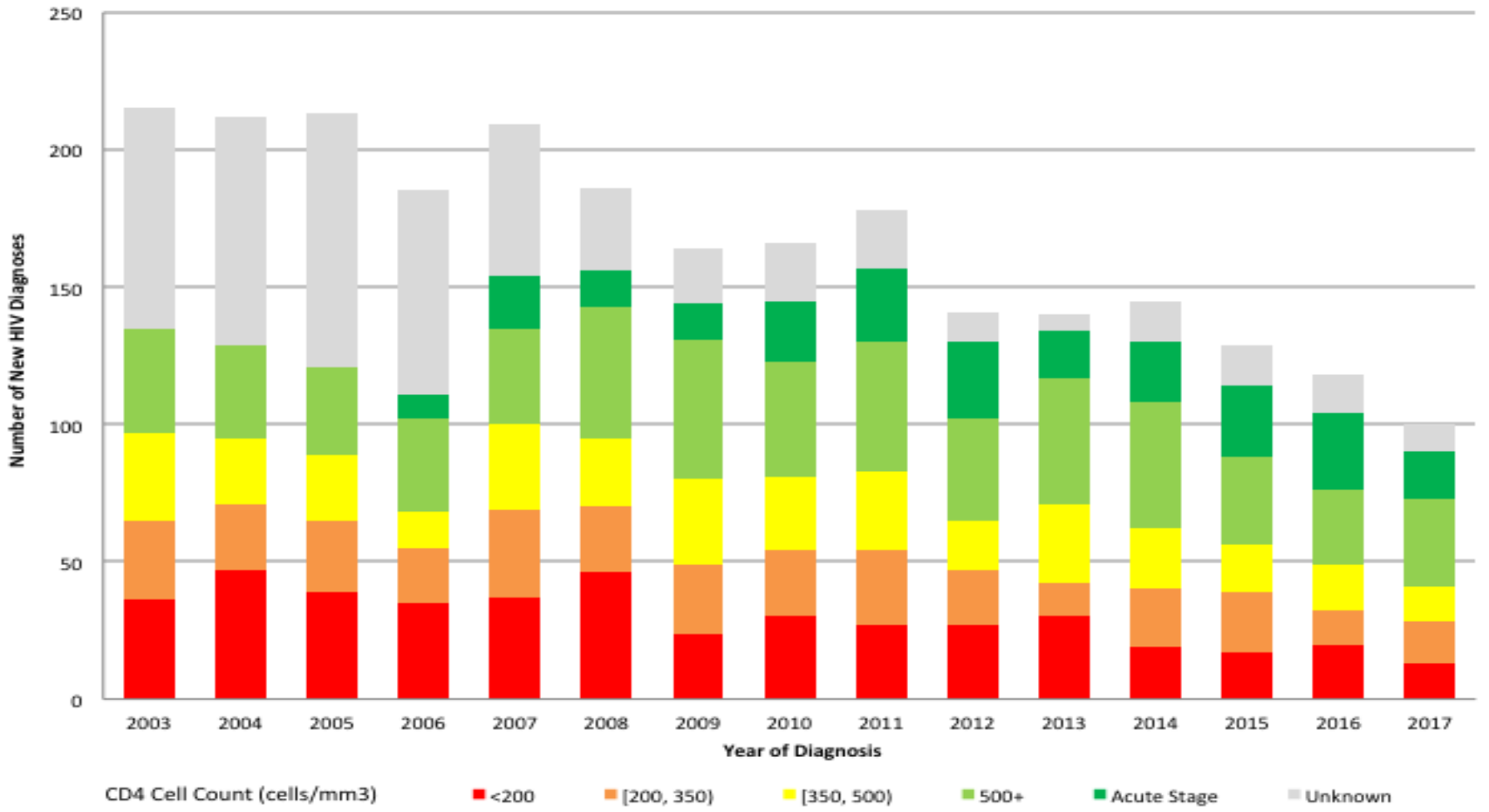
Gender	Exposure	Year of Diagnosis			
		2003-2005	2006-2009	2010-2013	2014-2016
Male	MSM	62.7	69.1	73.9	78.3
	MSM/IDU	5.6	4.2	2.7	1.4
	IDU	17.3	12.3	7.0	6.3
	Heterosexual	12.7	11.1	9.9	7.7
	Other*	1.4	1.7	0.6	4.1
	Unknown	0.2	1.7	5.8	2.3
Female	IDU	61.6	48.4	30.9	31.8
	Heterosexual	34.9	47.3	65.5	50.0
	Other*	3.5	3.3	1.8	9.1
	Unknown	0.0	1.1	1.8	9.1

Table 6. Proportion of HIV Positives by Gender, Exposure and Year of Diagnosis *(Rest of VCH)*

Gender	Exposure	Year of Diagnosis			
		2003-2005	2006-2009	2010-2013	2014-2016
Male	MSM	53.2	60.5	66.0	56.5
	IDU	12.8	11.6	4.0	0.0
	Heterosexual	27.7	20.9	20.0	34.8
	Other*	4.3	7.0	2.0	4.3
	Unknown	2.1	0.0	8.0	4.3
Female	IDU	22.2	12.5	28.6	0.0
	Heterosexual	66.7	87.5	42.9	100.0
	Other*	11.1	0.0	28.6	0.0

*Other includes blood/blood products, occupational, perinatal and other exposures
Source: Public Health Surveillance Unit (HIV Surveillance Data).
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 17, 2018.

Figure 5. Number of Patients' CD4 Cell Count and Disease Stage at Diagnosis by Year of Diagnosis



Source: Public Health Surveillance Unit (HIV Surveillance Data) & BC CfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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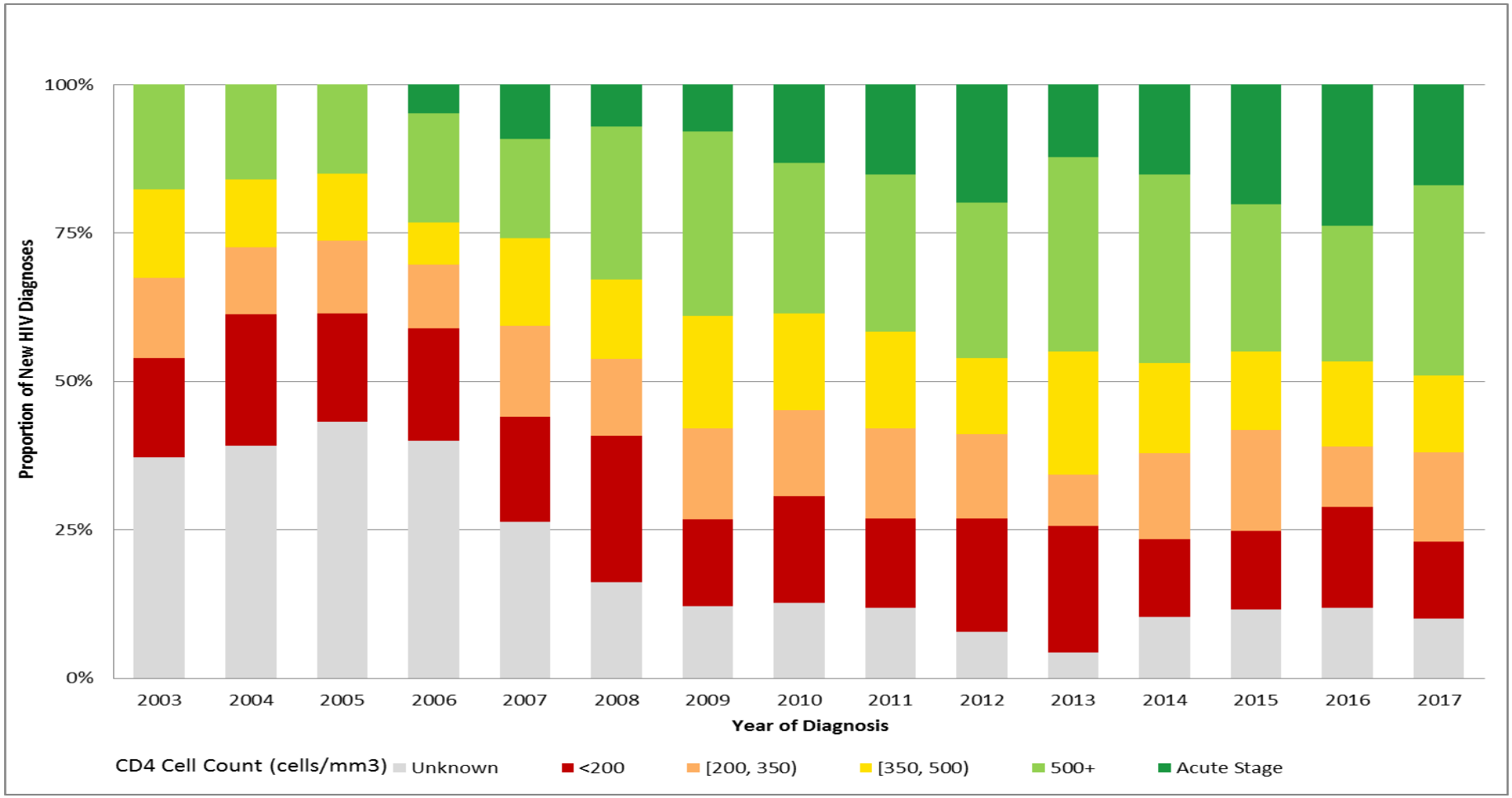
Figure 6. Proportion of Patients' CD4 Cell Count and Disease Stage at Diagnosis by Year of Diagnosis



Source: Public Health Surveillance Unit (HIV Surveillance Data) & BC CfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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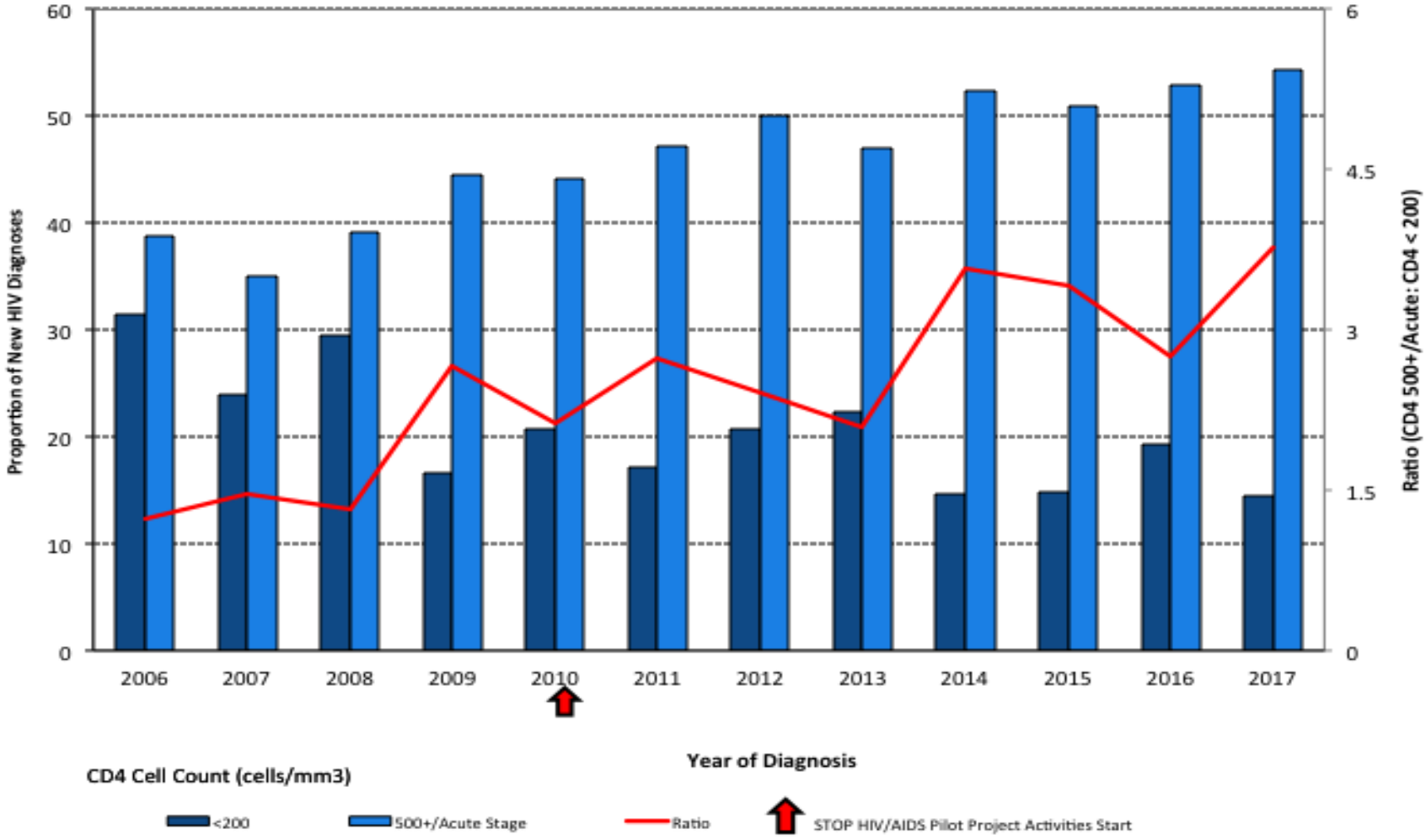
Figure 7. Proportion and Ratio of Patients Diagnosed with CD4 > 500/Acute Stage and CD4 < 200 by Year of Diagnosis



Source: Public Health Surveillance Unit (HIV Surveillance Data) & BC CfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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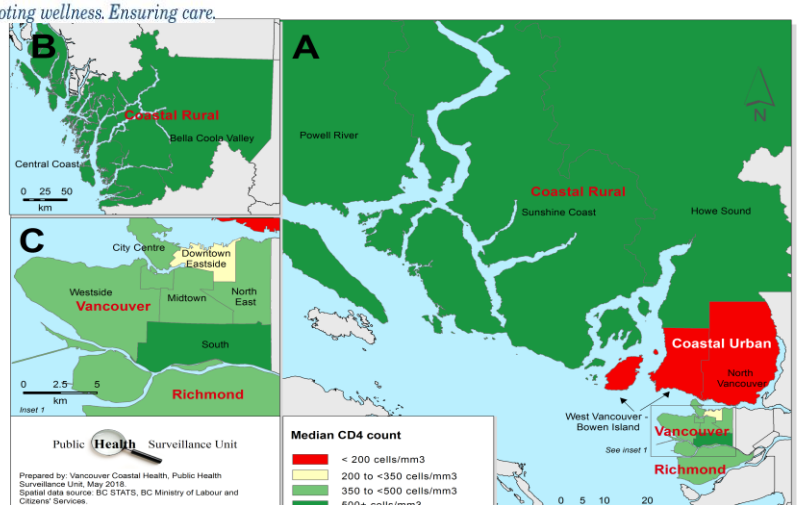
Vancouver CoastalHealth
Promoting wellness. Ensuring care.

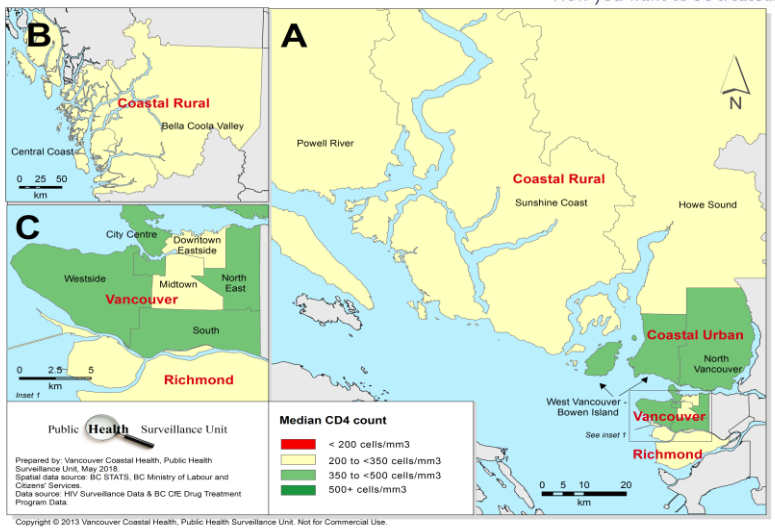
Median CD4 Cell Count (cell/mm^3) at Diagnosis for HIV Positive Individuals

Providence HEALTH CARE
How you want to be treated.

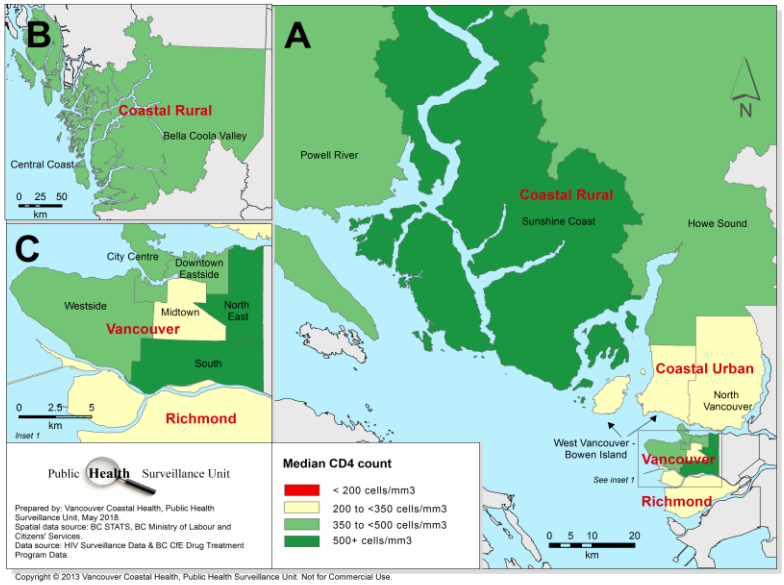
Map 4. Historical Median CD4 Count (January 2008 – June 2010)



Map 5. STOP Pilot Median CD4 Count (July 2010 – June 2013)



Map 6. Stop Expansion Median CD4 (July 2013 – December 2017)



Notes:

- Maps A and B report on median CD4 count at diagnosis by HSDA
- Map C reports on median CD4 count at diagnosis by LHA

Section 3. Public Health Management Indicators

Figures, Maps and Tables

Figure 8. Proportion of New Diagnoses with Records of Public Health Follow-up

The proportion of new positives with a record of public health follow-up fluctuated in 2017 from a peak of 100% in the second quarter to 83% in both the fourth quarter. It is important to note that most cases who are residents of VCH that do not have a record of public health follow up were tested in a different health authority and therefore follow up will not be on record in VCH. Furthermore, it is important to note that the public health management indicators are based on the case diagnosis date and therefore are likely to change as follow-up is completed over time.

Figure 9. Total Number of Partners Elicited, Partners per HIV Case and Partners Notified

Compared to the preceding periods, there was a decrease in the total number of partners elicited from HIV index cases in 2017.

The proportion of all partners that were known to be notified of their exposure to HIV in 2017 was higher than preceding periods, the average since STOP, and similar to the year to date 2016.

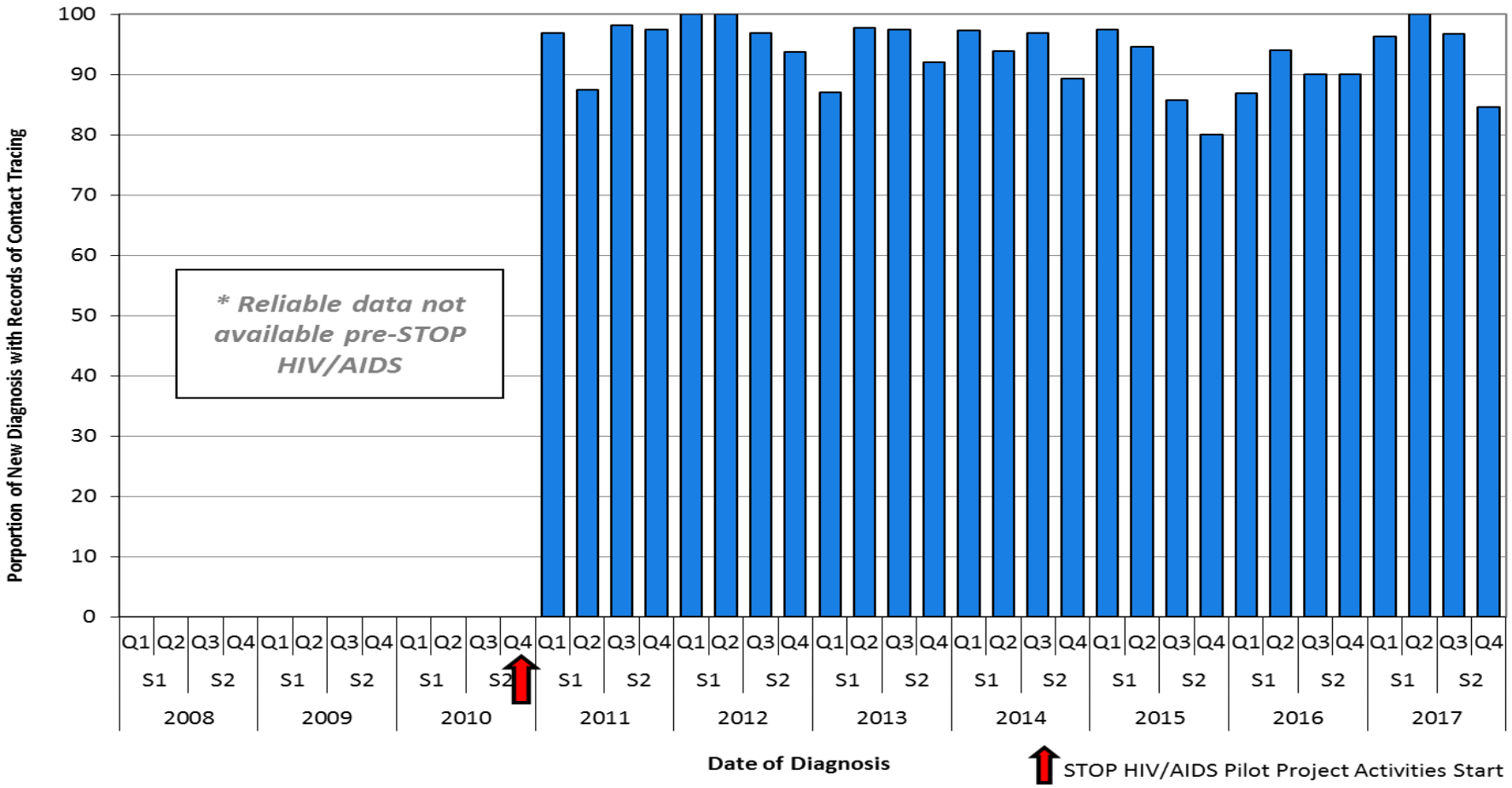
Figure 10. Proportion of Known Partners and Average Number of Anonymous Partners per Index Case

In 2017, the proportion of partners known to the index case was higher compared to 2016 while average number of anonymous partners per index case continued a declining trend.

Figure 11. Number of Partners Notified and Tested for HIV and Percent Positivity due to Partner Notification

The proportion of notified partners tested for HIV declined significantly in 2017 compared to the preceding periods, the total number of partners that were tested for HIV as a result of public health follow-up remained similar compared to 2016. The percent positivity due to partner notification among partners tested for HIV for 2017 was above 5%.

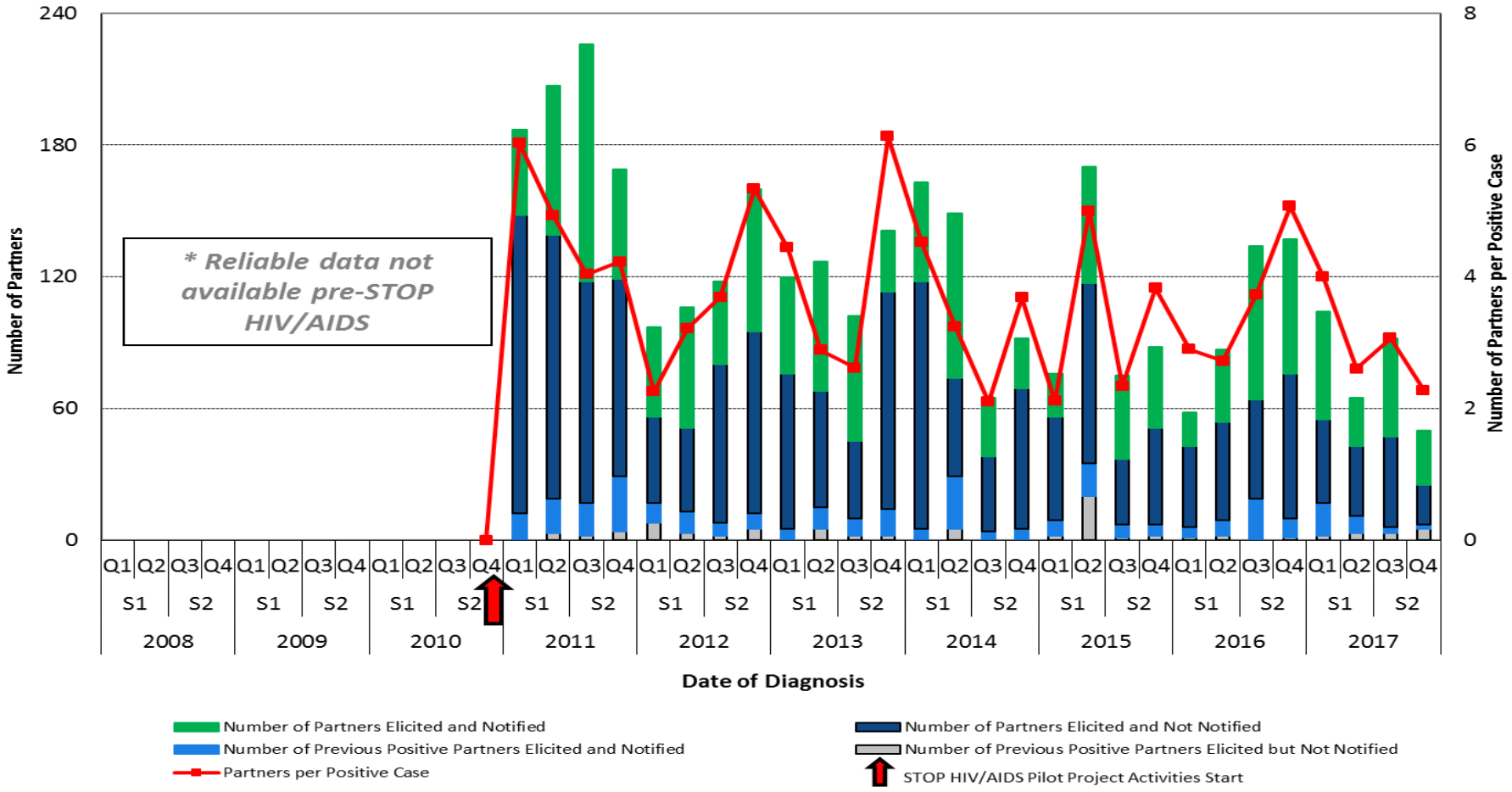
Figure 8. Proportion of New Diagnoses with Records of Public Health Follow-up



Source: Enhanced HIV Contact Tracing Form.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. June 11, 2018.

Public Health Surveillance Unit

Figure 9. Total Number of Partners Elicited, Number of Partners Elicited per Case and Number of Partners Notified



Source: Enhanced HIV Contact Tracing Form.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. June 11, 2018.

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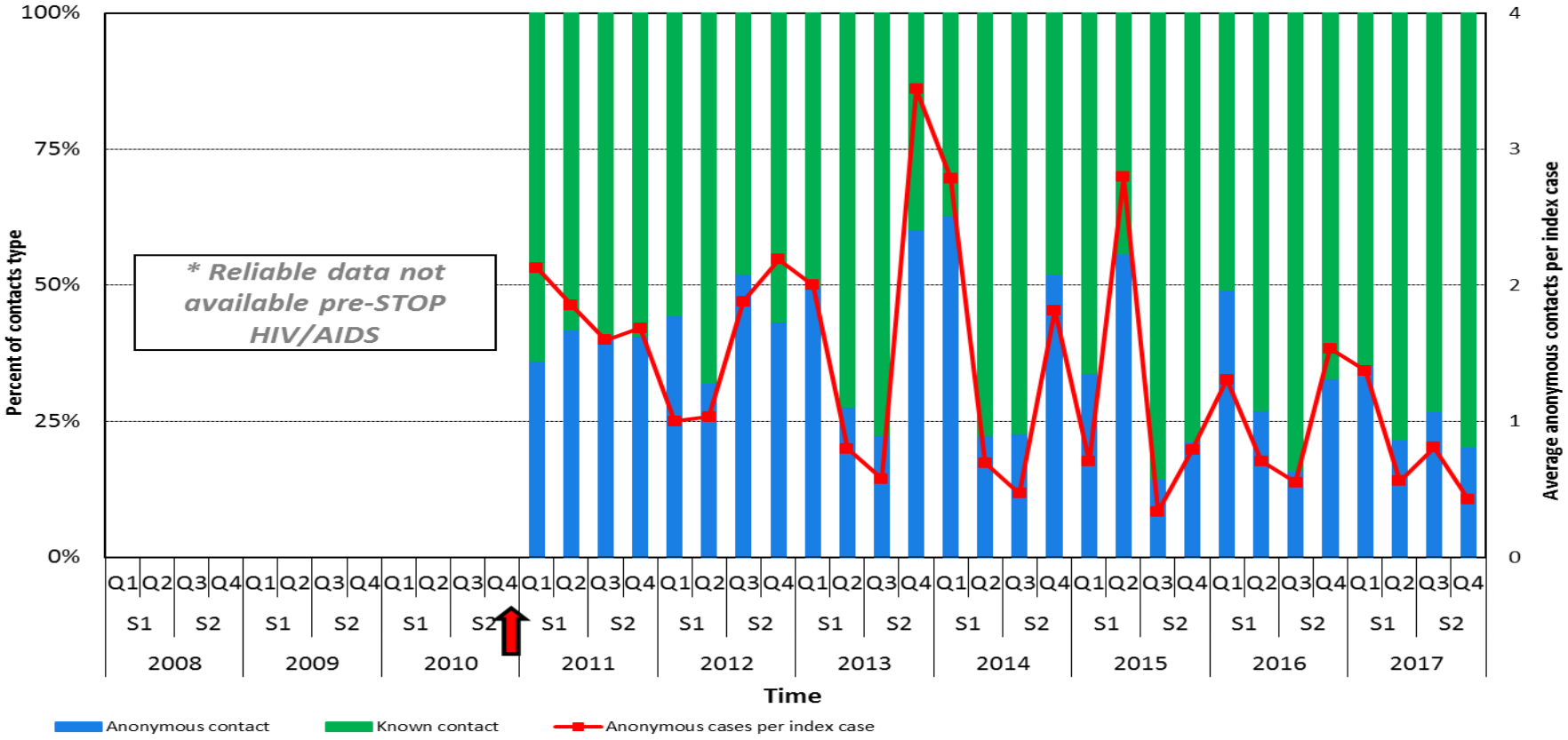
Figure 10. Proportion of Known Contacts and Average Number of Anonymous Contacts per Index Case



Source: Enhanced HIV Contact Tracing Form.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. June 11, 2018.

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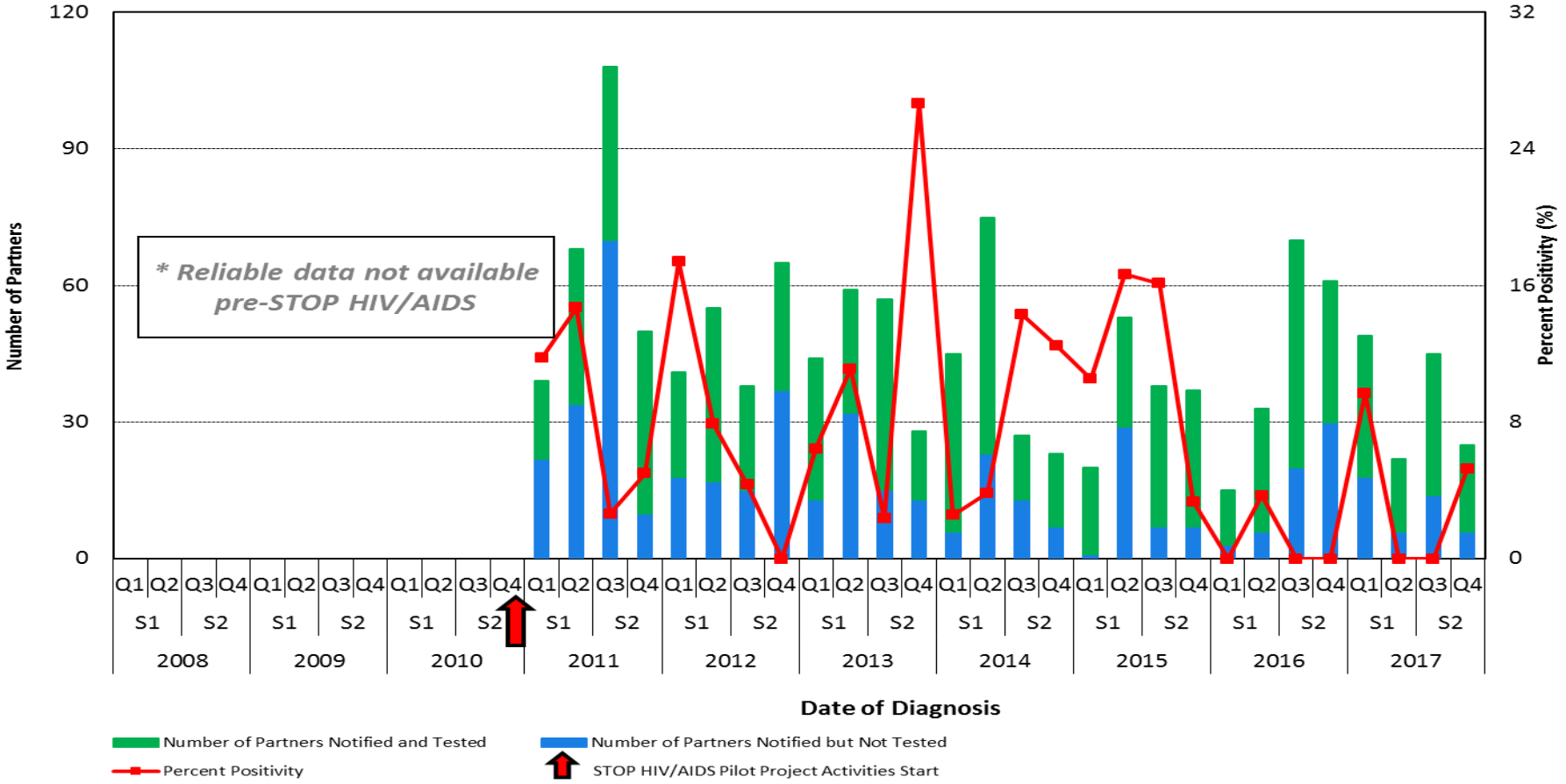
Figure 11. Number of Contacts Notified and Tested for HIV and Percent Positivity due to Contact Tracing



Source: Enhanced HIV Contact Tracing Form.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. June 11, 2018.

Section 4. Treatment Indicators

Figures, Maps and Tables

Table 7,8. Proportion of Patients Linked to Care within 30 Days by Gender, Exposure and Year of Diagnosis

Vancouver HSDA (Table 7):

In 2014-2017, the proportion of males with MSM exposure linked to care within 30 days of diagnosis continued to increase to 77% compared to previous years while males with heterosexual exposure declined to 81% from a peak of 94% in 2010-2013. In the period of 2014-2017, time to linkage to care was shortest among males with MSM exposure with 6 days followed by males with IDU exposure at 7 days.

In 2014-2017, the proportion of females with IDU exposure linked to care within 30 days was highest among all exposure categories at 100%. The time to linkage to care overall was an average of 6 days among males and females.

Rest of VCH (Table 8):

The proportion of males with MSM exposure linked to care within 30 days of diagnosis increased in 2014-2017 to 91% compared to previous years. There was also a decrease in time to linkage to care among those with heterosexual exposure compared to the previous time period.

The proportion of females linked to care within 30 days increased in 2014-2017 to 100% compared to previous years. However, not enough cases were available to detect a trend.

In general, linkage to care times in the rest of VCH are greater than median times to linkage in Vancouver across all exposure groups.

Table 9,10. Proportion of Patients Linked to Care within 30 Days by Gender, Age Group and Year of Diagnosis

Vancouver HSDA (Table 9):

Males aged 60+ had the highest proportion linked to care within 30 days of diagnosis compared to all other age groups in 2014-2017 and males aged 30-39 years had the lowest. Males aged 15-29 and 30-39 years had the fastest median days to linkage with 6 days, while males aged 60 years or older at diagnosis had the slowest median days to linkage with 8 days.

In 2014-2017, too few females were diagnosed to assess trend in proportion linked to care by age category. Overall, there is an increasing trend in the proportion linked to care as well as a reduction in the median days to linkage.

Rest of VCH (Table 10):

In 2014-2017, too few males were diagnosed to assess trend in proportion linked to care by age category. Overall, there is an increasing trend in proportion linked to care as well as a reduction in the median days to linkage.

There are not enough cases to classify by age group for females. But overall, an increase in the proportion of patients linked to care within 30 days was observed.

Table 11,12. Proportion of Patients Currently Retained in Care by Gender, Exposure and Year of Care

Vancouver HSDA (Table 11)

In 2017, among known exposure categories, males with MSM/IDU exposure had the highest proportion of individuals retained in care followed by those with heterosexual exposure. Since 2003, the total proportion of males retained in care remains steady.

In 2017, a greater proportion of females with heterosexual exposure were retained in care compared to those with IDU exposure.

Rest of VCH (Table 12)

In 2017, among known exposure categories, a greater proportion of males with MSM exposure were currently retained in care compared to other exposure groups.

The proportion of female patients in 2017 retained in care with heterosexual exposure has increased since 2014.

Table 13,14. Proportion of Patients Currently Prescribed ARVs by Gender, Exposure and Year of Care

Vancouver HSDA (Table 13)

In 2017, the exposure category with the greatest proportion of individuals currently prescribed ARVs was among MSM/IDU (74%) followed by those with heterosexual exposure (71%). Compared to previous years, the proportion of males in all exposure categories, except those with unknown exposure, who were prescribed ARVs, has consistently increased since 2003.

The proportion of females with heterosexual exposure who were prescribed ARVs remained steady compared to 2016 although an increasing trend is observed since 2003.

Rest of VCH (Table 14)

Males with IDU exposure had the greatest proportion of individuals who were prescribed ARVs in 2017 (83%). Since 2003, the proportion of males who were prescribed ARVs has increased among those with MSM, IDU or heterosexual exposures.

Since 2004, the proportion of females who were prescribed ARVs increased from 29% to 78% in 2017.

Overall, there was an increasing trend in the proportion of males and females currently prescribed ARVs.

Table 15, 16. Mean Monitored Viral Load and Proportion of HIV Positive Individuals Not Fully Suppressed with Viral Load > 200 Copies/mL

Vancouver HSDA (Table 15)

The table shows a steady decline in the mean monitored viral load (copies/ml) since 2008 from 744 copies/ml to 53 copies/ml in the second half of 2017. This corresponds with a steady increase in the proportion of HIV positive individuals with a prescription for antiretroviral therapy. The inverse relationship was observed for decline in both the proportion and absolute number of individuals with a viral load > 200 copies/ml since 2008.

Rest of VCH (Table 16)

Similar to Vancouver HSDA, the same trends were observed in the rest of VCH with increasing individuals on ARVs and decreasing monitored viral load since 2008.

Figure 12. Mean Monitored Viral Load (copies/ml) and Proportion of HIV Positive Individuals not Fully Suppressed with Viral Load > 200 Copies/mL

From 2009 to 2017, the mean monitored viral load (copies/ml) has steadily declined in both Vancouver HSDA and the rest of VCH. This trend was similarly observed in the proportion of those with unsuppressed viral loads. The mean monitored viral load was below detectable levels (<200 copies/ml) since the initiation of STOP HIV/AIDS.

Maps 7, 8. Mean Monitored viral load (copies/ml) by LHAs

From July 1, 2010 to December 31, 2017, the mean monitored viral load across all LHAs decreased to less than 200 copies/mL. There were noticeable declines in mean monitored viral load for all LHAs.

Table 7. Proportion of Patients Linked to Care within 30 Days of Diagnosis by Gender, Exposure and Year of Diagnosis *(Vancouver HSDA)*

Gender	Exposure	Year of Diagnosis							
		2003-2005		2006-2009		2010-2013		2014-2017	
		Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage
Male	MSM	57.6	14	64.1	12	73.6	9	77.1	6
	MSM/IDU	60.7	16	60.0	17	64.3	10	100.0	25
	IDU	43.0	13	60.8	13	72.2	6.5	81.3	7
	Heterosexual	61.9	13	71.6	9	94.1	7	80.8	10
	Other*	57.1	18.5	40.0	13	–	–	41.7	9
	Unknown	–	–	20.0	1	73.3	7	44.4	8.5
	SubTotal	55.6	14	63.2	12	75.0	8	75.7	6
Female	IDU	30.2	18.5	40.9	12.5	64.7	2	100.0	7
	Heterosexual	53.3	13	86.0	12	77.8	9	62.5	5
	Other*	–	–	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–	–	–
	SubTotal	39.5	14	62.6	12	74.5	9	78.1	6

Table 8. Proportion of Patients Linked to Care within 30 Days of Diagnosis by Gender, Exposure and Year of Diagnosis *(rest of VCH)*

Gender	Exposure	Year of Diagnosis							
		2003-2005		2006-2009		2010-2013		2014-2017	
		Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage
Male	MSM	64.0	20	46.2	13.5	78.8	11.5	90.9	8
	IDU	33.3	9.5	40.0	13	–	–	–	–
	Heterosexual	53.8	13	55.6	14	80.0	16	66.7	13
	Other*	–	–	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–	–	–
	SubTotal	55.3	15	51.2	14	80.0	12.5	83.3	8.5
Female	IDU	–	–	–	–	–	–	–	–
	Heterosexual	66.7	22.5	85.7	12.5	–	–	100.0	10
	Other*	–	–	–	–	–	–	–	–
	Unknown	–	–	–	–	–	–	–	–
	SubTotal	66.7	22.5	75.0	12.5	85.7	16	100.0	10

*Other includes blood/blood products, occupational, perinatal and other exposures
Source: Public Health Surveillance Unit (HIV Surveillance Data).
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 24, 2018.

Public Health Surveillance Unit

Table 9. Proportion of Patients Linked to Care within 30 Days of Diagnosis by Gender, Age Group and Year of Diagnosis *(Vancouver HSDA)*

Gender	Age Group	Year of Diagnosis 2003-2005		2006-2009		2010-2013		2014-2017	
		Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage
Male	15-29	43.0	19.0	56.3	13.0	67.4	9.0	75.6	6.0
	30-39	57.2	14.0	59.7	13.0	68.2	9.0	74.7	6.0
	40-49	53.8	13.5	64.4	11.0	83.0	7.0	75.0	7.0
	50-59	64.1	12.0	75.7	12.0	80.6	7.0	77.2	7.0
	60+	74.1	13.0	83.3	8.0	100.0	9.5	78.3	8.0
	SubTotal	55.6	14.0	63.2	12.0	75.0	8.0	75.7	6.0
Female	15-29	38.5	11.0	37.5	9.5	66.7	13.0	57.1	3.0
	30-39	56.5	18.0	72.4	14.0	73.3	1.0	75.0	9.0
	40-49	25.9	15.0	78.6	19.0	73.3	7.0	85.7	6.0
	50-59	40.0	21.0	77.8	7.0	100.0	12.5	–	4.0
	60+	–	–	80.0	6.5	–	–	–	7.5
	SubTotal	38.8	14.0	61.8	12.0	74.5	9.0	78.1	6.0

Table 10. Proportion of Patients Linked to Care within 30 Days of Diagnosis by Gender, Age Group and Year of Diagnosis *(rest of VCH)*

Gender	Age Group	Year of Diagnosis 2003-2005		2006-2009		2010-2013		2014-2017	
		Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage	Linked to Care	Median Days to Linkage
Male	15-29	57.1	25.0	50.0	14.0	76.9	14.5	100.0	12.0
	30-39	40.0	10.5	55.6	16.0	66.7	8.5	83.3	8.0
	40-49	65.0	13.0	41.2	12.0	83.3	13.5	60.0	3.0
	50-59	40.0	22.0	42.9	13.0	85.7	12.5	90.0	9.0
	60+	60.0	22.0	–	–	80.0	11.0	–	15.0
	SubTotal	55.3	15.0	51.2	14.0	80.0	12.5	86.1	8.0
Female	15-29	–	–	–	–	–	–	–	6
	30-39	–	–	–	–	–	–	–	12.5
	40-49	–	–	–	–	–	–	–	29
	50-59	–	–	–	–	–	–	–	8.5
	60+	–	–	–	–	–	–	–	10
	SubTotal	62.5	22.0	75.0	12.5	85.7	16.0	100.0	10

*Other includes blood/blood products, occupational, perinatal and other exposures
*Individual Aged less than 14 was excluded from the table
Source: Public Health Surveillance Unit (HIV Surveillance Data).
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 24, 2018.

Table 11. Proportion of Patients Currently Retained in Care by Gender, Exposure and Year of Care *(Vancouver HSDA)*

Gender	Exposure	Year of Care														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Male	MSM	92.5	85.7	82.8	81.1	82.4	81.2	79.9	82.3	81.9	82.4	81.6	80.6	77.5	77.3	76.7
	MSM/IDU	-	61.5	80.0	76.5	75.0	78.6	81.8	86.7	85.7	83.0	87.5	86.0	84.7	86.7	78.6
	IDU	69.2	72.1	69.7	62.7	72.3	76.6	78.3	76.5	78.4	79.7	76.7	76.0	75.0	71.1	68.0
	Heterosexual	100.0	66.7	78.4	71.7	76.3	78.3	78.4	83.6	84.0	84.7	83.3	83.8	84.0	81.0	78.3
	Other*	-	-	80.0	87.5	66.7	44.4	45.5	61.5	69.2	66.7	73.3	66.7	68.4	77.8	76.5
	Unknown	-	-	-	-	-	-	-	71.4	71.4	71.4	77.8	88.2	85.3	86.1	82.5
	Subtotal	90.3	78.3	79.6	76.7	79.4	79.6	79.0	81.5	81.6	82.1	81.3	80.7	78.2	77.6	76.3
Female	IDU	66.7	66.7	55.3	56.9	55.4	61.6	69.7	74.4	79.0	80.5	79.5	77.9	82.8	71.9	70.8
	Heterosexual	83.3	64.3	85.0	78.6	80.0	84.3	79.3	78.3	79.0	90.0	84.0	83.7	86.6	77.9	76.4
	Other*	-	-	-	-	-	-	100.0	83.3	100.0	83.3	100.0	100.0	83.3	50.0	85.7
	Subtotal	75.0	67.6	66.7	64.6	65.7	71.7	74.8	76.5	79.8	85.4	82.5	81.7	84.9	74.8	74.6

Table 12. Proportion of Patients Currently Retained in Care by Gender, Exposure and Year of Care *(rest of VCH)*

Gender	Exposure	Year of Care														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Male	MSM	-	84.6	72.7	85.2	79.4	82.5	83.3	86.0	81.0	84.3	83.3	85.1	86.3	86.5	86.3
	IDU	-	-	80.0	50.0	50.0	63.6	80.0	80.0	60.0	75.0	83.3	81.8	81.8	90.9	72.7
	Heterosexual	-	100.0	77.8	80.0	66.7	91.7	93.8	83.3	85.7	68.2	87.0	81.5	82.8	77.4	75.0
	Other*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unknown	-	-	-	-	-	-	-	-	-	-	-	100.0	100.0	100.0	100.0
	Subtotal	100.0	86.4	75.7	79.5	71.7	81.3	85.5	85.0	80.2	80.2	84.8	84.9	86.0	85.1	83.2
Female	IDU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heterosexual	-	-	60.0	66.7	66.7	90.0	84.6	92.9	78.6	78.6	81.3	72.2	76.2	75.0	80.0
	Other*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Subtotal	-	60.0	62.5	66.7	72.7	91.7	87.5	89.5	84.2	84.2	87.0	76.0	75.0	74.2	83.9

*Other includes blood/blood products, occupational, perinatal and other exposures.
Source: Public Health Surveillance Unit (HIV Surveillance Data) & BCCfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

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Table 13. Proportion of Patients Currently Prescribed ARVs by Gender, Exposure and Year of Care *(Vancouver HSDA)*

Gender	Exposure	Year of Care														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Male	MSM	17.9	22.7	28.3	31.0	37.2	42.9	50.9	58.2	62.6	66.4	56.1	61.3	64.5	66.8	63.9
	MSM/IDU	14.3	11.1	17.9	28.2	33.3	45.5	53.1	66.7	70.2	72.9	66.7	72.7	77.3	77.3	74.2
	IDU	5.6	19.4	22.7	32.4	36.9	43.5	50.0	55.5	62.3	67.3	63.3	65.1	72.8	71.6	65.5
	Heterosexual	33.3	34.7	38.7	44.3	50.0	58.3	60.2	62.8	69.5	72.0	62.0	64.7	71.7	73.3	71.1
	Other*	-	-	40.0	45.5	53.8	43.8	50.0	54.5	58.3	56.0	50.0	52.9	61.8	61.8	58.8
	Unknown	-	40.0	60.0	60.0	57.1	47.2	47.9	58.9	56.9	55.8	40.9	50.6	49.4	50.0	41.7
	Subtotal	18.0	23.3	28.8	33.5	39.3	45.0	51.8	58.7	63.3	66.6	56.4	61.3	65.1	66.8	63.1
Female	IDU	0.0	8.6	9.1	10.3	19.0	25.6	34.1	44.3	58.3	62.2	58.9	61.7	65.4	64.5	60.0
	Heterosexual	20.0	12.5	19.4	25.6	29.3	42.4	46.1	52.3	62.0	66.4	65.1	67.5	73.0	73.8	68.2
	Other*	-	-	-	-	-	83.3	75.0	77.8	77.8	88.9	80.0	80.0	80.0	80.0	90.0
	Unknown	-	-	-	-	-	-	-	40.0	33.3	42.9	33.3	41.7	50.0	58.3	50.0
	Subtotal	11.1	11.3	13.5	17.4	25.0	34.9	41.3	49.2	60.2	64.7	61.6	64.3	69.0	69.4	64.6

Table 14. Proportion of Patients Currently Prescribed ARVs by Gender, Exposure and Year of Care *(rest of VCH)*

Gender	Exposure	Year of Care														
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Male	MSM	50.0	27.8	34.6	37.5	46.5	52.1	62.3	61.5	68.0	75.6	58.5	65.1	74.5	82.1	78.9
	MSM/IDU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IDU	-	-	33.3	28.6	27.3	63.6	90.9	81.8	91.7	92.3	91.7	83.3	91.7	83.3	83.3
	Heterosexual	-	12.5	18.2	45.5	41.7	62.5	73.7	69.6	68.0	72.0	58.8	64.7	76.5	70.6	69.4
	Other*	-	-	-	-	-	-	-	-	-	-	20.0	40.0	40.0	60.0	60.0
	Unknown	-	-	-	-	-	33.3	57.1	50.0	57.1	66.7	71.4	78.6	78.6	78.6	64.3
	Subtotal	35.3	27.3	29.2	38.2	41.4	53.7	67.0	64.2	68.6	74.8	60.8	66.7	75.4	78.9	75.7
Female	IDU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heterosexual	-	20.0	50.0	50.0	50.0	63.6	46.2	64.3	73.3	68.8	44.4	59.3	66.7	74.1	77.8
	Other*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Unknown	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.0
	Subtotal	-	28.6	44.4	45.5	46.2	66.7	50.0	61.9	72.7	66.7	48.6	62.2	70.3	75.7	75.7

*Other includes blood/blood products, occupational, perinatal and other exposures

Source: Public Health Surveillance Unit (HIV Surveillance Data) & BCCfE Drug Treatment Program Data.

Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 24, 2018.

Table 15. Mean Monitored Viral Load and Proportion of HIV Positive Individuals Not Fully Suppressed with Viral Load > 200 Copies/mL *(Vancouver HSDA)*

Year	Half years	VCH53		VCH54		
		Mean Monitored vL (copies/mL)	Proportion on ARVs (%)	Proportion of all HIV positive individuals with viral load (>200 copies/mL)	Numerator/Denominator of VCH54	Proportion on ARVs (%)
2008	Jan-Jun	744	56	59	(375/641)	29
	July-Dec	577	61	53	(360/683)	31
2009	Jan-Jun	367	66	49	(360/731)	34
	July-Dec	311	70	44	(337/772)	35
2010	Jan-Jun	246	76	40	(324/814)	44
	July-Dec	210	77	37	(326/880)	43
2011	Jan-Jun	147	84	31	(283/907)	52
	July-Dec	126	86	30	(294/981)	57
2012	Jan-Jun	107	90	25	(253/1023)	62
	July-Dec	97	91	23	(244/1064)	64
2013	Jan-Jun	90	92	22	(242/1112)	66
	July-Dec	76	94	20	(223/1130)	72
2014	Jan-Jun	74	94	18	(216/1182)	71
	July-Dec	63	95	15	(185/1205)	75
2015	Jan-Jun	63	97	15	(188/1235)	81
	July-Dec	57	97	15	(184/1244)	84
2016	Jan-Jun	53	97	11	(135/1263)	79
	July-Dec	55	97	12	(154/1282)	84
2017	Jan-Jun	52	98	10	(123/1261)	85
	July-Dec	53	97	9	(115/1223)	75

Source: Public Health Surveillance Unit (HIV Surveillance Data) & BCCfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. July 5, 2018.

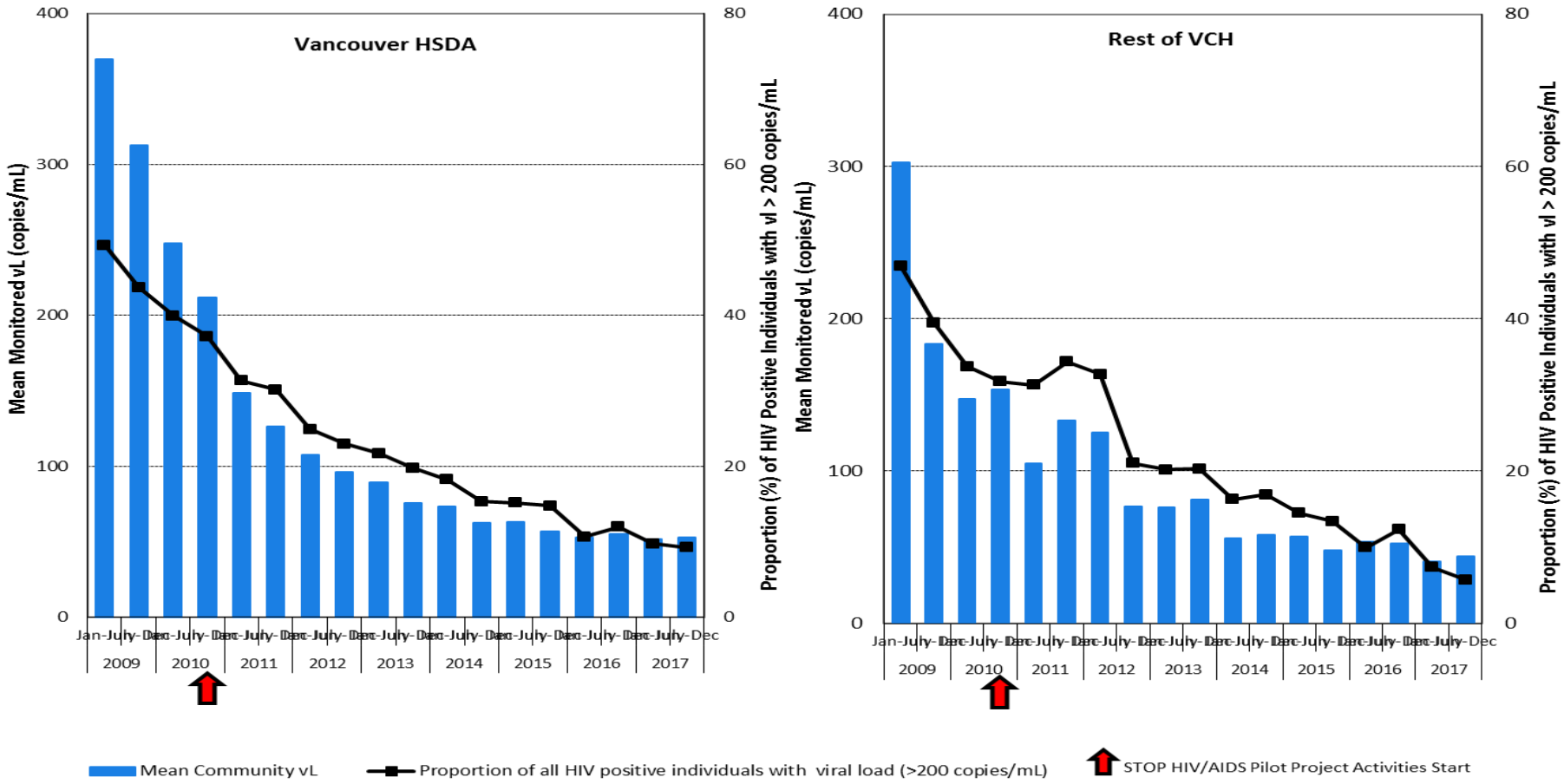
Table 16. Mean Monitored Viral Load and Proportion of HIV Positive Individuals Not Fully Suppressed with Viral Load > 200 Copies/mL *(rest of VCH)*

Year	Half years	VCH53		VCH54		
		Mean Monitored vL (copies/mL)	Proportion on ARVs (%)	Proportion of all HIV positive individuals with viral load (>200 copies/mL)	Numerator/Denominator of VCH54	Proportion on ARVs (%)
2008	Jan-Jun	956	58	62	(32/52)	31
	July-Dec	408	67	49	(28/57)	39
2009	Jan-Jun	303	76	47	(31/66)	52
	July-Dec	184	79	39	(28/71)	54
2010	Jan-Jun	148	78	34	(26/77)	42
	July-Dec	154	78	32	(27/85)	41
2011	Jan-Jun	105	83	31	(26/83)	54
	July-Dec	133	80	34	(34/99)	47
2012	Jan-Jun	125	86	33	(35/107)	63
	July-Dec	77	93	21	(24/114)	75
2013	Jan-Jun	76	92	20	(24/119)	67
	July-Dec	81	93	20	(25/123)	72
2014	Jan-Jun	56	96	16	(21/129)	86
	July-Dec	58	95	17	(23/136)	83
2015	Jan-Jun	57	96	14	(21/145)	76
	July-Dec	48	98	13	(20/149)	85
2016	Jan-Jun	53	98	10	(16/160)	81
	July-Dec	52	98	12	(20/162)	90
2017	Jan-Jun	41	98	7	(12/163)	75
	July-Dec	44	97	6	(9/156)	67

Source: Public Health Surveillance Unit (HIV Surveillance Data) & BCCfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 24, 2018.

Public Health Surveillance Unit

Figure 12. Mean Monitored Viral Load (vL) and Proportion of HIV Positive Individuals Not Fully Suppressed with Viral Load > 200 Copies/mL

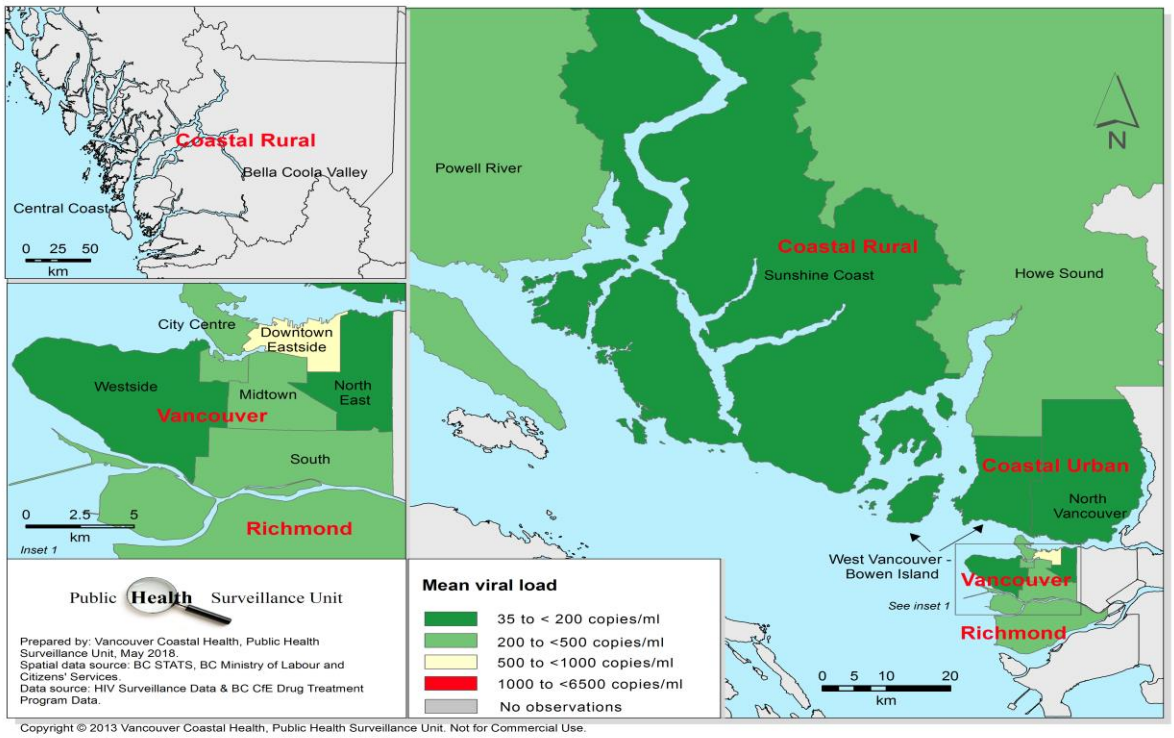


Source: Public Health Surveillance Unit (HIV Surveillance Data) & BCCfE Drug Treatment Program Data.
Prepared by: Vancouver Coastal Health, Public Health Surveillance Unit. May 24, 2018.

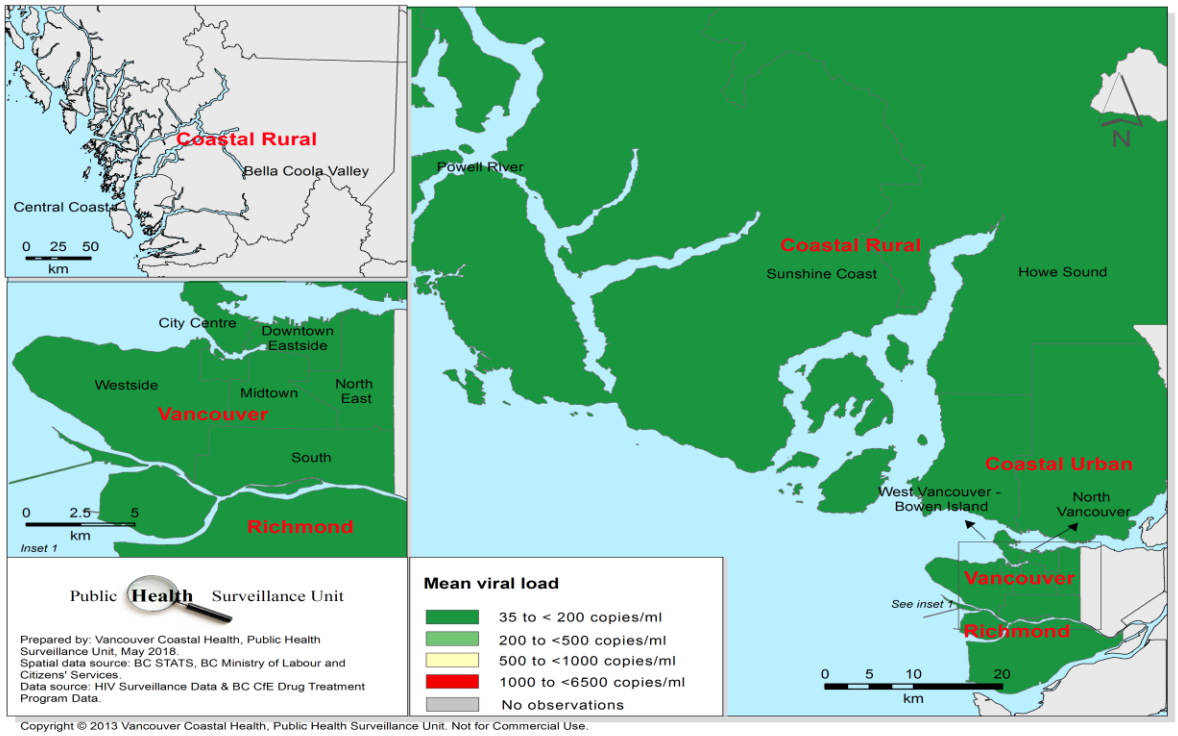
Public Health Surveillance Unit

Mean Monitored Viral Load (copies/ml) by Local Health Area

Map 7. Historical Average (January 2008 – June 2010)



Map 8. Average since Stop Initiative (July 2010 – December 2017)



Appendix A. Indicator Definitions and Rationale

Testing Indicators

VCH 1. Number of Point of Care Tests

Total number of Point of Care HIV tests administered by all sites engaged in STOP HIV/AIDS memorandums of understanding (in a given time period).

Rationale: Point-of-Care testing allows rapid on-site assessment of potentially HIV positive individuals, it improves access to care which may lead to increased case-finding, and reduced number of individuals who are unaware of their HIV status.

Data Source: HIV Point-of-Care (POC) Data

VCH4a. Number of New Positive POC Tests

Number of unique individuals who have had a positive POC HIV test in a given time period.

Rationale: Assessment of this indicator provides a measure of the success of testing initiatives and activities under the STOP HIV/AIDS Pilot Project.

Additional Selection Criteria:

- Previous positives are excluded.

Data Source: HIV Point-of-Care (POC) Data

VCH8a. Overall number of HIV lab tests (either from VCH residents or those who tested at a VCH clinic)

Total number of HIV lab tests, either from VCH residents or a VCH clinic including non-VCH residents who test in VCH.

Rationale: A primary objective of the STOP HIV/AIDS project is to increase testing across VCH Region. Assessing this indicator over time will provide a picture of how STOP HIV/AIDS is influencing HIV testing among clinical practices.

Data Source: HIV Laboratory Testing Data

VCH8b: Number of HIV lab tests from all clinics in VCH and HSDAs

Total number of HIV lab tests ordered from a clinic in VCH and HSDAs.

Rationale: A primary objective of the STOP HIV/AIDS project is to increase testing across VCH Region. Assessing this indicator over time will provide a picture of how STOP HIV/AIDS is influencing HIV testing among clinical practices.

Additional Selection Criteria:

- HIV lab testing records without a known clinic address are excluded.

Data Source: HIV Laboratory Testing Data

VCH11a: Number of HIV lab tests from residents of VCH and HSDAs

Total number of HIV lab tests ordered from residents of Vancouver Coastal Health Authority.

Rationale: Often people from outside the Health Authority will visit VCH to undergo HIV testing, this indicator is a measure of the testing volumes among residents of this Health Authority.

Additional Selection Criteria:

- HIV lab testing records without available residency information are included.

Data Source: HIV Laboratory Testing Data

VCH11d: Number of HIV lab tests from non-residents of VCH who tested in VCH.

Total number of HIV lab tests ordered from non-residents of Vancouver Coastal Health Authority.

Rationale: Often people from outside the Health Authority will visit VCH to undergo HIV testing, this indicator will measure this trend.

Additional Selection Criteria:

- HIV lab testing records without available residency information are excluded.

Data Source: HIV Laboratory Testing Data

VCH13a. Number of positive HIV diagnoses for residents of VCH and HSDAs

Total number of new unique HIV positive diagnoses within VCH as a whole and each HSDA.

Rationale: Increased case finding to reduce the number of individuals who are unaware of their HIV positive status is a primary objective of the STOP HIV/AIDS pilot project. This indicator is a direct measure of the success of the project.

Additional Selection Criteria:

- Individuals who may have been previously HIV positive are excluded.
- Individuals who tested in VCH without residency information are included.

Data Source: PHSU Reportable HIV Surveillance Data

VCH14a. Percent positivity of residents of VCH and HSDAs

The proportion of positive individuals diagnosed per HIV lab test administered for VCH residents.

Rationale: Increased case finding to reduce the number of individuals who are unaware of their HIV positive status is a primary objective of the STOP HIV/AIDS pilot project. This indicator will measure if STOP HIV/AIDS is indeed finding these individuals.

Additional Selection Criteria:

- Individuals who may have been previously HIV positive are excluded.
- Individuals who tested in VCH without residency information are included.

Data Source: PHSU Reportable HIV Surveillance Data and HIV Laboratory Testing Data

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VCH45a. Proportion of HIV patients with CD4 count > 500 cells/mL or acute stage at time of diagnosis

Proportion of individuals diagnosed HIV positive in a given time period who have a CD4 cell count of >500 cells/mL or acute stage at the time of diagnosis.

Rationale: Diagnosing individuals earlier on in the course of disease enables them to get on treatment earlier, improves patient quality of life and reduce the transmission in the community.

Analytical Definition

- Numerator: A subset of the denominator with a first CD4 cell count at diagnosis is >500 cells/mL or in acute stage.
- Denominator: All new HIV positive cases diagnosed in a given time period with a CD4 test on record.

Additional Selection Criteria:

- The CD4 count at time of diagnosis is selected from the testing which was closest to the diagnosis date. And testing should be within 1 year after diagnosis.
- CD4 testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH45b. Proportion of HIV patients with CD4 count < 200 cells/mL at diagnosis

Proportion of individuals diagnosed HIV positive in a given time period who have a CD4 cell count <200 cells/mL at the time of diagnosis.

Rationale: Finding HIV positive individuals before late stage is an important objective of the STOP HIV/AIDS program. Diagnosing individuals earlier on in the course of disease enables them to get on treatment earlier, and improves patient quality of life. It is also an indication that we are reducing the number of individuals in the population who are unaware of their HIV infection.

Analytical Definition

- Numerator: A subset of the denominator with a first CD4 cell count < 200 cell/mL at diagnosis and not at acute stage at time of diagnosis.
- Denominator: All new HIV positive cases diagnosed in a given time period with a CD4 test on record.

Additional Selection Criteria:

- The CD4 count at time of diagnosis is selected from the value on the testing date which was closest to the diagnosis. The test should also be within 1 year after diagnosis.
- CD4 testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

Public Health Management Indicators

VCH16. Proportion of new positives with record of public health follow-up

The proportion of unique new positives who have documentation of public health follow-up

Rationale: Contact tracing aims to reduce transmission of HIV, and is also effective in reducing the incidence of HIV in the population. This is an important public health strategy to reach individuals who may not be aware of their HIV status. Initiating contact tracing is to elicit partner information from an index case is a critical first step and will be important to track STOP HIV/AIDS success.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

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VCH17. Number of contacts elicited

Total number of unique contacts elicited from HIV positive clients in a given time period.

Rationale: see VCH16.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

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VCH17a. Average number of contacts elicited per HIV positive case

Average number of unique contacts elicited per HIV positive client in a given time period.

Rationale: see VCH16

Analytical Definition

- Numerator: Total number of unique contacts elicited in a given time period (VCH17)
- Denominator: Total number of unique HIV index cases of all contacts elicited in the given time period.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

VCH19. Proportion of contacts notified

Proportion of unique contacts notified of their potential exposure to HIV in a given time period.

Rationale: Managing infection in people with more than one current sexual partner will have a significant impact on the spread of HIV, thus assessing the success of partner notification practice will be an important measure. Moreover, evidence suggests that the method of partner notification is associated with the rate of partners presenting for medical evaluation.

Analytical Definition

- Numerator: Total number of unique contacts notified in a given time period.
- Denominator: Total number of unique contacts elicited from HIV positive clients in a given time period.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

VCH23a. Proportion of notified contacts tested for HIV

Proportion of Contacts tested for HIV in a given time period.

Rationale: The goal of contact tracing is to inform contacts of their risk of infection, encourage contacts to be tested for HIV and identify individuals who are HIV positive. This indicator will be an important measure of the success of the enhanced public health efforts under STOP HIV/AIDS pilot project.

Analytical Definition

- Numerator: Number of contacts tested for HIV in a given time period.
- Denominator: Number of contacts notified of their potential exposure to HIV.

Additional Selection Criteria:

- Contacts known to be previously positive are excluded.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

VCH23b. Number of notified contacts who tested HIV positive

Number of contacts who tested HIV positive in a given time period.

Rationale: A second measure of case-finding and contact tracing success is identifying individuals who are HIV positive.

Additional Selection Criteria:

- Contacts known to be previously positive are excluded.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

VCH23c. Percent positivity (%) due to Contact Tracing

The proportion of positive contacts diagnosed per contact tested for HIV.

Rationale: A second measure of case-finding and contact tracing success is identifying individuals who are HIV positive, and the yield of positive cases from these efforts.

Analytical Definition

- Numerator: Number of unique contacts tested for HIV who tested positive
- Denominator: Proportion of contacts tested for HIV in a given time period

Additional Selection Criteria:

- Exclude contacts known to be previously positive.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

VCH24. Proportion of notified contacts who were known to be previously positive

Proportion of contacts who were previously positive in a given time period.

Rationale: Identifying partners in the latent period of infection may identify those from whom infection was acquired, but overall this indicator will provide a picture of the HIV population in VCHA.

Analytical Definition

- Numerator: Number of contacts known/determined to be previously positive in a given time period.
- Denominator: Proportion of unique contacts notified of their potential exposure to HIV in a given time period.

Data Source: PHSU Reportable HIV Surveillance Data and Enhanced HIV Contact Tracing Form

Treatment Indicators

VCH41. Proportion of new diagnoses linked to care within 30 days of diagnosis

Proportion of individuals with an HIV positive test in a given time period, who have at least a HIV viral load (vL) or a CD4 test on record within 30 days of diagnosis.

Rationale: It is vital that linkage to HIV-care occur as soon after diagnosis as possible so that a clinical evaluation can be conducted, eligibility for ARV therapy and linkage to other services can be established to minimize the risk of transmission. Standard care for persons with HIV includes regular clinical and laboratory assessment. As part of enhanced HIV guidelines, new HIV diagnoses should receive a vL test or a CD4 test within 30 days of diagnosis.

Analytical Definition

- Numerator: A subset of the denominator having a CD4 or a vL test within 30 days of diagnosis.
- Denominator: Total number of new HIV positive cases diagnosed in a given time period.

Additional Selection Criteria:

- CD4 and/or vL testing records that occurred prior to diagnosis date are excluded from this analysis.
- Individuals deceased by the end of the half year are excluded.
- CD4 or viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH44b. Time to linkage to HIV care among those newly diagnosed with HIV (median days).

The interval between first HIV positive test and first HIV CD4 or viral load, among all individuals diagnosed in the given time period.

Rationale: It is vital that linkage to HIV-care occur as soon after diagnosis as possible so that a clinical evaluation can be conducted, eligibility for ARV therapy and linkage to other services can be established to minimize the risk of transmission. Standard care for persons with HIV includes regular clinical and laboratory assessment. As part of enhanced HIV guidelines, new HIV diagnoses should receive a vL test or a CD4 test within 30 days of diagnosis. This indicator provides a picture of how quickly HIV positive individuals are in fact receiving the appropriate care.

Additional Selection Criteria:

- CD4 or viral load testing records that occurred prior to diagnosis date are excluded from this analysis.
- Individuals deceased by the end of the half year are excluded.
- CD4 or viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH46a. Proportion of HIV patients currently retained in care

Proportion of HIV positive individuals in the database who have had the recommended number of vL tests in a given time period.

Rationale: Because HIV disease progression is highly variable and can occur rapidly, and treatment requires constant evaluation for efficacy and safety, HIV patients need to be closely monitored on a regular basis. Standard practice requires a minimum of 3 visits/laboratory assignments annually.

Analytical Definition

- Numerator: Total number of newly diagnosis cases who having at least 2 vL or CD4 test and with at least 3 month apart in a year, or at least 1 vL or CD4 test for those diagnosed less than 1 year.
- Denominator: Total number of newly diagnosis in the dataset.
- Year to Date: take the value from the current half-year and previous half-year.

Additional Selection Criteria:

- This cohort will retrospectively select back over the past 12 months.
- Only individuals linked with BCCfE Drug Treatment Data are included.
- Individuals without any CD4 or vL test since diagnosis are excluded.
- Individuals diagnosed less than half year for a given time period are excluded.
- Individuals deceased before the end of a given time period are excluded.
- CD4 and Viral load testing records that occurred prior to diagnosis date are excluded from this analysis.
- CD4 and Viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH47b. Proportion of matched HIV patients not found in care

Proportion of all known HIV positive individuals in the population who have been diagnosed for at least 9 months, and have not had a vL test within the past 9 months.

Rationale: Due to the need for long-term monitoring of both disease progression and the efficacy of any therapy, as well as the status of comorbid conditions or lifestyle factors, long-term retention in HIV-related care is imperative to minimize the risk of HIV-related morbidity and mortality.

Analytical Definition

- Numerator: Number of HIV patients in the denominator who have not had a vL for at least 9 months
- Denominator: All individuals in the dataset who have been HIV positive for at least 9 months.
- Year to Date: take the value from the current half-year and previous half-year.

Additional Selection Criteria:

- Only individual linked with BCCfE Drug Treatment Data are included.
- Individuals diagnosed less than 9 months from the end of a given time period are excluded.
- Individuals deceased before by the end of a given time period are excluded.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH48. Proportion of patients who are currently prescribed ARVs

Total alive HIV positive individuals who have a prescription for ARVs in a given time period.

Rationale: A primary objective of the STOP HIV/AIDS program is to ensure that more HIV positive individuals are actively engaged in care and on antiretroviral therapy.

Analytical Definition

- Numerator: Total number of individuals who have a prescription for ARVs in the last two months of the given time period.
- Denominator: Total alive HIV positive individuals in a given time period.

- Year to Date: take the value from the current half-year and previous half-year.

Additional Selection Criteria:
- Individuals deceased by the end of a given time period are excluded.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH49. Proportion of patients who have discontinued and currently not restarted ARVs

Proportion of alive HIV positive individuals who have not had a prescription for ARVs for at least 2 consecutive months, and not resumed it in the coming month.

Rationale: Not only is it important to ensure that more HIV positive individuals are actively engaged and retained on ARV treatment, it is equally critical for STOP HIV/AIDS pilot project success to reduce the barriers to optimal treatment adherence and the number of people who discontinue ARVs.

Analytical Definition
- Numerator: Number of individuals who have not had a prescription for ARVs for at least 2 consecutive months AND have not resumed taking ARVs during the given time period.
- Denominator: All alive HIV positive individuals who have ever been on ARV treatment.
- Year to Date: take the value from the current half-year and previous half-year.

Additional Selection Criteria:
- The last four month ARV value will be considered in a given time period.
- Records with ARV prescription prior to HIV diagnosis are excluded.
- Individuals deceased by the end of the given time period are excluded.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH51. Proportion of individuals newly taking ARVs who achieve viral suppression within 9 months since treatment starts

Proportion of individuals who are taking ARVs for the first time and who achieve viral suppression within 9 months.

Rationale: Adherence to treatment protocols is essential to reducing the morbidity and mortality associated with HIV and AIDS. The majority of individuals who adhere to ARV treatment protocols achieve virologic suppression, and thus measuring this status serves as a proxy measurement for treatment adherence.

Analytical Definition
- Numerator: A subset of the denominator with having two consecutive viral load record of <200 copies per/mL both taken after therapy start and at least one of which is taken within the first nine months of therapy
- Denominator: All HIV positive individuals initiating first ever ARV treatment in a given time period and who have at least two viral load tests on record.
- Year to Date: take the value from the current half-year and previous half-year.

Additional Selection Criteria:
- This cohort will retrospectively select back over the past 12 months.

- Individuals deceased by the end of the given time period are excluded.
- Individuals with first initiative ARV prescription prior to HIV diagnosis are excluded.
- Viral load testing records that occurred prior to diagnosis date are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH52. Proportion of all individuals on ARVs who currently virally suppressed with viral load less than 200 copies/mL

Proportion of all individuals who are prescribed ARVs and achieved viral suppression.

Rationale: Adherence to treatment protocols is essential to reducing the morbidity and mortality associated with HIV and AIDS. The majority of individuals who adhere to ARV treatment protocols achieve virologic suppression, and thus measuring this status serves as a proxy measurement for treatment adherence. It is important to know the measure of this indicator in both new ARV starts and all individuals on ARV treatment.

Analytical Definition

- Numerator: A subset of the denominator who have two consecutive viral load records of <200 copies per/mL and with at least 3 month apart in the given time period after therapy start.
- Denominator: All HIV positive individuals who were on ARV treatment in a given time period and who have at least 2 viral load tests on record.
- Year to Date: take the value from the current half-year and previous half-year.

Additional Screening Criteria:

- This cohort will retrospectively select back over the past 12 months.
- Individuals deceased by the end of the given time period are excluded.
- Individuals with first initiative ARV prescription prior to HIV diagnosis are excluded.
- Viral load testing records that occurred prior to diagnosis are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH53. Mean monitored viral load of all known HIV positive individuals within VCH

Mean vL values of all HIV positive individuals in the dataset within a given time period.

Rationale: Mean monitored viral load is an indicator of the average viral burden for a particular population of HIV-positive persons, and is related to treatment effectiveness and transmission risk.

Additional Selection Criteria:

- Individuals deceased by the end of the given time period are excluded.
- Viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

VCH54. Proportion of all individuals with viral load greater than 200 copies/mL

The proportion of HIV positive individuals who have at least a vL tests >200 copies/mL within the given time period.

Rationale: HIV positive individuals with vL levels >200 copies/mL on record are considered to be infective, as opposed to suppressed individuals who are less likely to transmit HIV. This indicator also provides a measure of monitored viral load.

Analytical Definition

- Numerator: A subset of the denominator who have at least a viral load >200 copies/mL within a given time period.
- Denominator: All alive HIV positive individuals in the dataset

Additional Selection Criteria:

- Individuals deceased by the end of the given time period are excluded.
- Viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BCCfE Drug Treatment Data.

Further Graphs, Maps and Tables

Mean Monitored Viral Load

Rationale: Community viral load is a population-based measure of HIV-infected individual's concentration of plasma HIV-1 RNA (viral load). It is an attractive indicator to monitor the progress of HIV care and treatment when assessed over time. However there is some confusion over the definition and measurement of this indicator. In August of 2011, the US CDC issued a guideline on measurement of community viral load. The document proposed a family of viral load measurements, including population viral load, community viral load, in-care viral load and monitored viral load. **In this report, we will use the monitored viral load to track the progress of HIV care and treatment.** Monitored Viral Load is limited to the readily observable HIV viral loads of persons who have been diagnosed with HIV infection, who are receiving HIV medical care and disease monitoring through viral load testing, and whose test results are available for surveillance. The guideline also suggests using the most recent viral load result per person for the analysis in the given time period.

Additional Selection Criteria:

- The most recent viral load is used to the analysis in a given time period.
- Individuals deceased by the end of the given time period are excluded.
- Viral load testing records with either missing dates or missing values are excluded from this analysis.

Data Source: PHSU Reportable HIV Surveillance Data and BC CfE Drug Treatment Data.

Appendix B. Population Monitoring Data Sources

Appendix B – Population Monitoring Data Sources

HIV Point-of-Care (POC) Data

POC testing volumes reported from VCH sites engaged in STOP HIV/AIDS activities through Vancouver Coastal Health Authority Memorandums of Understanding.

Limitations: This data is not representative of all clinics in Vancouver HSDA or VCH, and thus testing volumes of clinics conducting POC tests outside of STOP HIV/AIDS initiatives are not captured. For this reason, the data likely reflect an underestimate of the true counts for POC testing volumes within the VCH population.

Data on POC preliminary positives, false positives and previous positives is received from VCH CD Control Department. All clinics in VCH who do conduct POC testing report any preliminary positive HIV tests to VCH CD Control Department. VCH CD Control Department conducts follow-up on a reported POC positives to determine if confirmation testing has been completed, and notes any previous and false positives.

Limitations: This process is relatively new, and as a result not all sites conducting POC testing are reporting these data to VCH CD Control Department. For this reason, the data likely reflect an underestimate of the true counts for preliminary positives, false positives and previous positives.

HIV Laboratory Testing Data

Data on HIV laboratory testing volumes is captured from both the PHSA Public Health Microbiology and Reference Laboratory (for all HIV confirmatory western blot analyses in the province of BC) and Providence Health Care (for first-step HIV confirmatory testing for all HIV tests ordered at St. Paul's Hospital).

Limitations: PHSA Public Health Microbiology Reference Laboratory testing data is raw data on all HIV tests conducted within VCH, and analyses were produced using aggregate counts. This data does take into account multiple HIV tests for same sample, but do not take into account multiple HIV tests conducted for an individual within a 30-day period, and thus does not determine test counts by "testing episodes". Data capture for all HIV testing done at St Paul's Hospital was initiated in April 2008, and thus results reported herein for Q1 of 2008 do not include counts done at St. Paul's Hospital.

PHSU Reportable HIV Surveillance Data

Data on all HIV positive tests in VCH is reported to the Public Health Surveillance Unit at Vancouver Coastal Health Authority. This data is captured on a monthly basis, and includes information on sociodemographic characteristics, place of HIV testing, address of residence at time of diagnosis, HIV risk factors and stage of HIV disease at diagnosis. This data does not report on individuals who tested in VCH but are non-residents of VCH.

HIV Clinical Monitoring Data

Clinical monitoring data includes information on viral load (vL) testing information and CD4 testing information that are captured by the BC Centre for Excellence in HIV/AIDS. Viral load data and CD4 data are captured for all HIV positive individuals having such clinical monitoring completed in the province of BC. These data are to be updated in real time, however in some instances there may be small lag times between sample draw date and the time the result ends up in the data base (typically less than 15 days).

Limitations: Real time updates has not always been in place for CD4 values. From 2007 and earlier only annual updates of CD4 measurements were received. Furthermore, all CD4 results are not consistently captured and uploaded into the BC CfE database, as not all sites completing these tests have been linked to source data.

Drug Treatment Program Data

Treatment of nearly all HIV positive individuals in the province of BC is delivered or coordinated through the BC Centre for Excellence Drug Treatment Program. As a result information on treatment regimens, date of treatment starts and restarts is captured for all HIV positive individuals involved in this program.

Limitations: Raw data from the CfE Drug Treatment Program is not provided for these analyses, instead some data have been cleaned and rolled into aggregate counts. As a result, there are some assumptions that have been made in order to work with this data format. These are described in the data definitions.