annual surveillance report

HIV and Sexually Transmitted Infections 2008

BC Centre for Disease Control
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY

STI HIV Prevention and Control

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INTRODUCTION

This annual report marks a departure from previous annual reports produced by the Division of STI HIV Prevention and Control at BCCDC. This report focuses entirely on the epidemiology of HIV and other sexually transmitted infections in British Columbia, and has been renamed the Annual Surveillance Report.

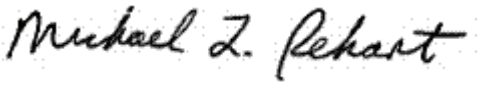
This shift in emphasis was motivated by a desire to improve the timeliness of reporting of surveillance data, with an earlier release of the report each year. We will be providing updates on our Division's programs and activities on the BCCDC website (www.bccdc.ca) and through our newsletter SHAKE (STI, HIV and AIDS Knowledge Exchange, which is accessible at www.phsanewsletters.ca).

For this report, the following changes have been made from the epidemiology section of previous reports:

- Where feasible, we have provided historic data to provide a picture of longer-term trends in addition to the trends in the past 10 years;
- Ten-year trends by age and ethnic group have been provided;
- We have provided data in greater detail for chlamydia and gonorrhea infections, with a breakdown by genital, extra-genital, and perinatally-acquired infections;
- Data provided by the Oak Tree Clinic, which provides antenatal care directly and indirectly for pregnant women with HIV infection, has been included alongside data related to prenatal HIV testing, in order to provide a more comprehensive picture of HIV in pregnancy in BC.
- We have included a technical appendix which contains a description of data sources, notes regarding the interpretation of surveillance data, and case definitions.

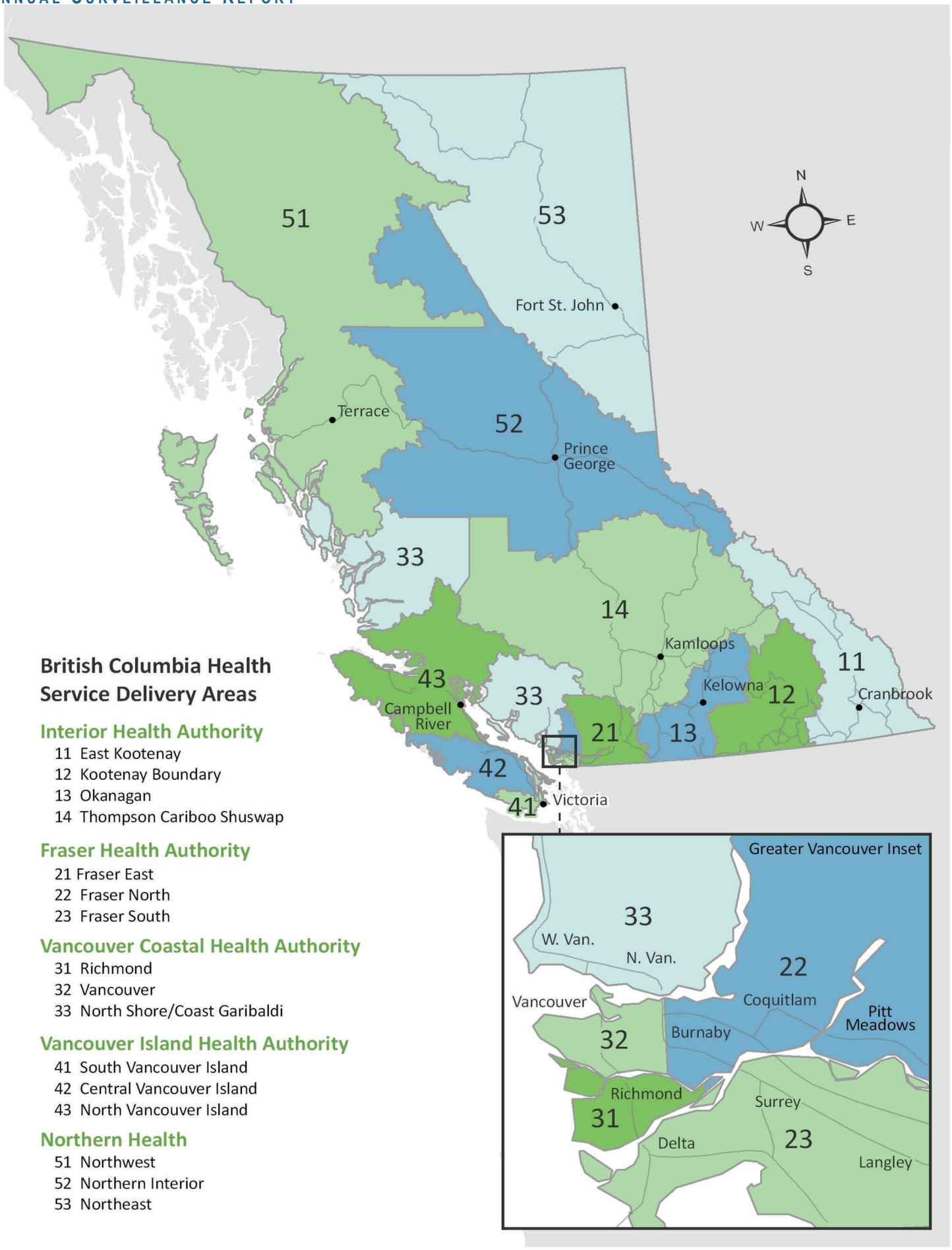
We hope that these changes will enhance the usefulness of this report. Please do not hesitate to contact us with any questions or comments – feedback is always welcome.

Dr. Mark Gilbert
Physician Epidemiologist, STI/HIV Prevention and Control



Dr. Michael Rekart
Director, STI/HIV Prevention and Control

2008



British Columbia Health Service Delivery Areas

Interior Health Authority
- 11 East Kootenay
- 12 Kootenay Boundary
- 13 Okanagan
- 14 Thompson Cariboo Shuswap

Fraser Health Authority
- 21 Fraser East
- 22 Fraser North
- 23 Fraser South

Vancouver Coastal Health Authority
- 31 Richmond
- 32 Vancouver
- 33 North Shore/Coast Garibaldi

Vancouver Island Health Authority
- 41 South Vancouver Island
- 42 Central Vancouver Island
- 43 North Vancouver Island

Northern Health
- 51 Northwest
- 52 Northern Interior
- 53 Northeast

OVERVIEW OF TRENDS

Chlamydia

In 2008, 10,629 cases of genital chlamydia were reported in BC for a rate of 239.3 per 100,000 population. This is an increase from 227.6 per 100,000 population in 2007 (9,971 cases). The majority of cases are female, with the highest rates of infection in females between the ages of 15 and 24 years. The overall trend in chlamydia infection rates has been increasing since 1998.

Gonorrhea

The 2008 gonorrhea rate for BC (31.3 per 100,000 population) increased from 2007 (27.9 per 100,000 population), reflecting an increase in case reports from 1,220 to 1,391. The majority of cases are male, with the highest rates of infection in males between the ages of 20 and 29 years and in females between 15 and 24 years of age.

Pelvic Inflammatory Disease (PID), ectopic pregnancy (EP), and tubal infertility (TI)

Physician billing and hospital discharge rates for PID and EP have decreased overall since 1997, with trends in 2007 showing small variation. The hospital discharge rate for TI has remained stable since 1997. PID, EP, and TI are potential complications of chlamydia and gonorrhea infection in women.

Infectious Syphilis

The provincial rate of infectious syphilis has shown an overall increasing trend since 1997, although the provincial rate has been relatively stable since 2004. The provincial rate increased slightly in 2008 (7.4 per 100,000 population, 328 cases) from 2007 (6.8 per 100,000 population, 300 cases). In 2008, the number of infectious syphilis cases among men who have sex with men (MSM) continued to increase (accounting for 70.1% of all BC cases), while the number of infectious syphilis cases among persons who are street-involved, sex trade workers or patrons of sex trade workers (16.2%) and heterosexual persons with no other risk factors (11.3%) decreased.

HIV

The rate of persons testing newly positive for HIV decreased in 2008 to 7.9 (350 cases) from 8.9 per 100,000 population in 2007 (389 cases). In 2008, the greatest number of persons testing newly positive for HIV continued to be in MSM, who accounted for 51.1% of 2008 cases. The number of persons testing newly positive for HIV among people who use injection drugs showed an decrease in 2008, from 117 cases in 2007 to 56 cases in 2008 (16.0% of all cases). Aboriginal persons are overrepresented in BC's HIV epidemic, particularly Aboriginal females who comprised 25.0% of all new positive HIV tests among females in BC in 2008. (Note: the number of new positive HIV tests in 2008 by exposure category and ethnicity are not yet final due to reporting delay).

AIDS

In 2007, the AIDS rate in BC decreased to 1.8 per 100,000 population (78 cases), compared to 2.1 per 100,000 population (91 cases) in 2006.

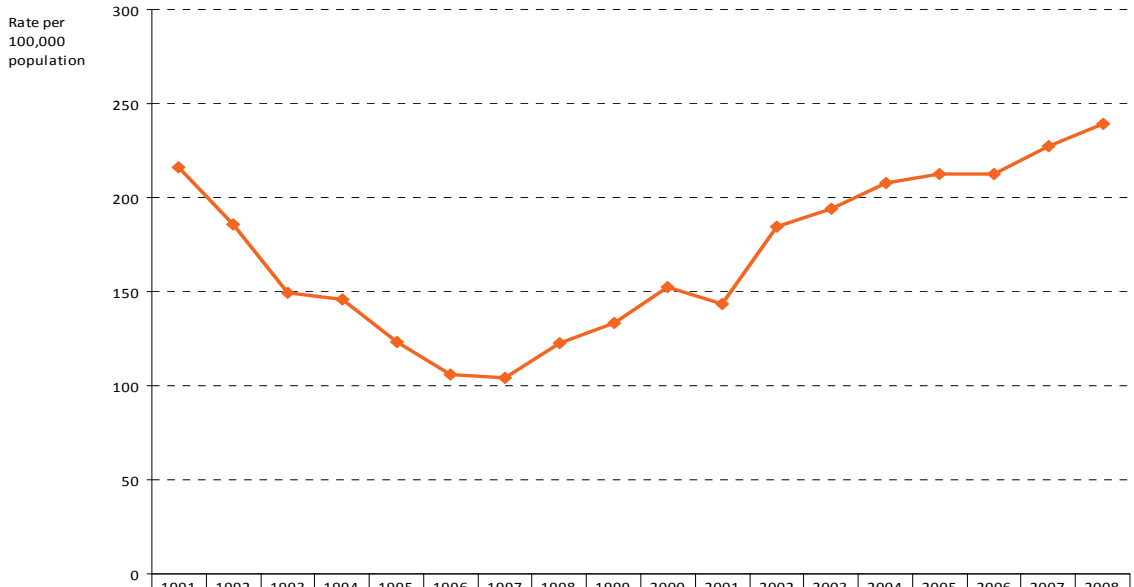
Chlamydia

Genital Chlamydia

After a prolonged period of declining rates, the rate of genital chlamydia in BC began to increase in 1998 and has increased steadily since that time. The rate of genital chlamydia in 2008 (239.3 per 100,000) increased from 2007 (227.6 per 100,000) in parallel with Canadian rates, from 9,971 to 10,629 cases. This increase was observed for both sexes; however, females continue to have twice the rate of infection compared to males. The majority of Chlamydia infections were detected in persons less than 30 years of age, with the highest rates among females aged 15-19 and 20-24 years and males aged 20-24 years. Rates have been increasing over time in most age groups for both males and females. The highest rates of genital Chlamydia infection in 2008 were in Northern Interior HSDA, Northwest HSDA, Vancouver HSDA, and Thompson Cariboo Shushwap HSDA.

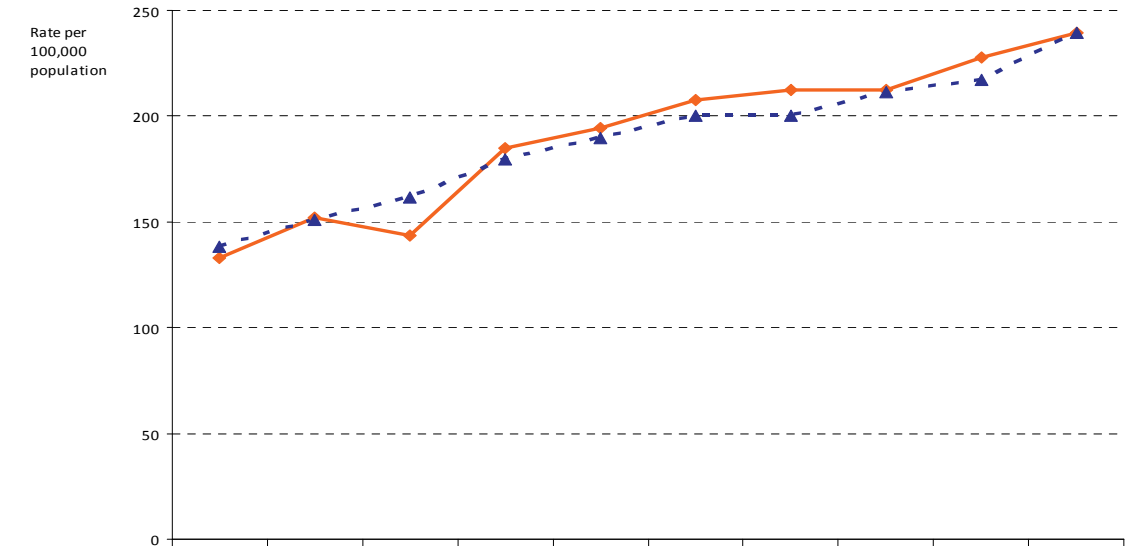
It is important to note that many genital Chlamydia infections are asymptomatic, and diagnosed infections reflect a fraction of the total population burden. The greater number of infections among females is in part due to greater testing in females, as a result of routine screening at the time of visits for other reasons (e.g., pap testing, contraception counseling).

3.1 Genital chlamydia case reports and rates in BC, historical trends, 1991 to 2008



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BC Reports	7,294	6,434	5,321	5,366	4,660	4,116	4,116	4,877	5,343	6,150	5,855	7,603	8,071	8,733	9,045	9,172	9,971	10,629
BC Rate	216.2	185.5	149.2	146.0	123.4	106.2	104.2	122.4	133.2	152.3	143.6	184.7	194.2	207.7	212.3	212.3	227.6	239.3

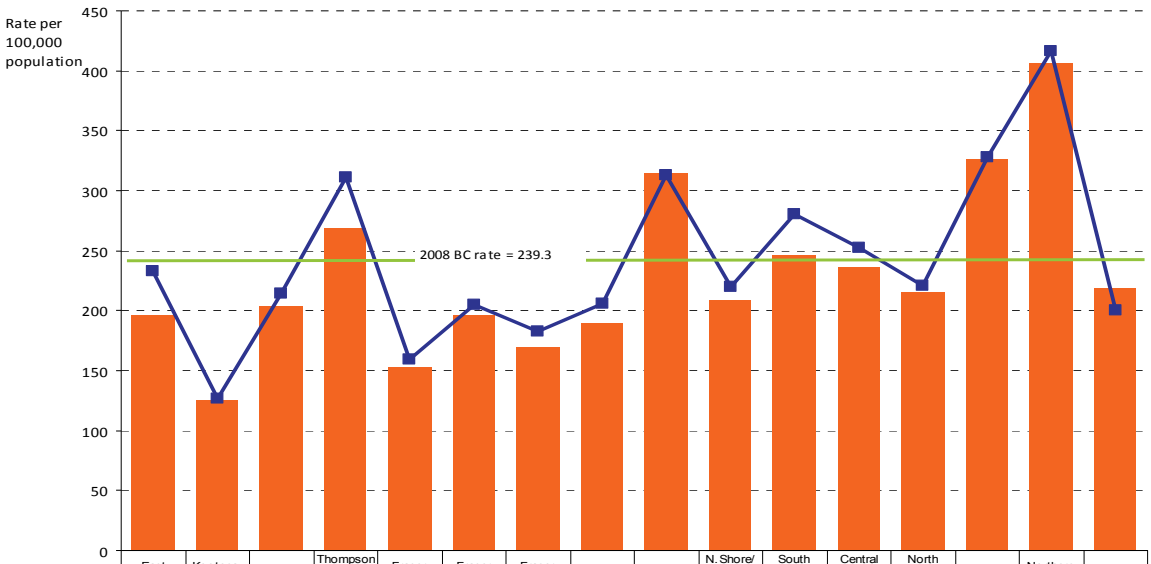
3.2 Genital chlamydia case reports and rates in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
BC Reports	5,343	6,150	5,855	7,603	8,071	8,733	9,045	9,172	9,971	10,629
BC Rate	133.2	152.3	143.6	184.7	194.2	207.7	212.3	212.3	227.6	239.3
Canadian Rate	138.2	150.9	161.4	179.4	189.4	200.1	200.4	211.4	217.3	239.3

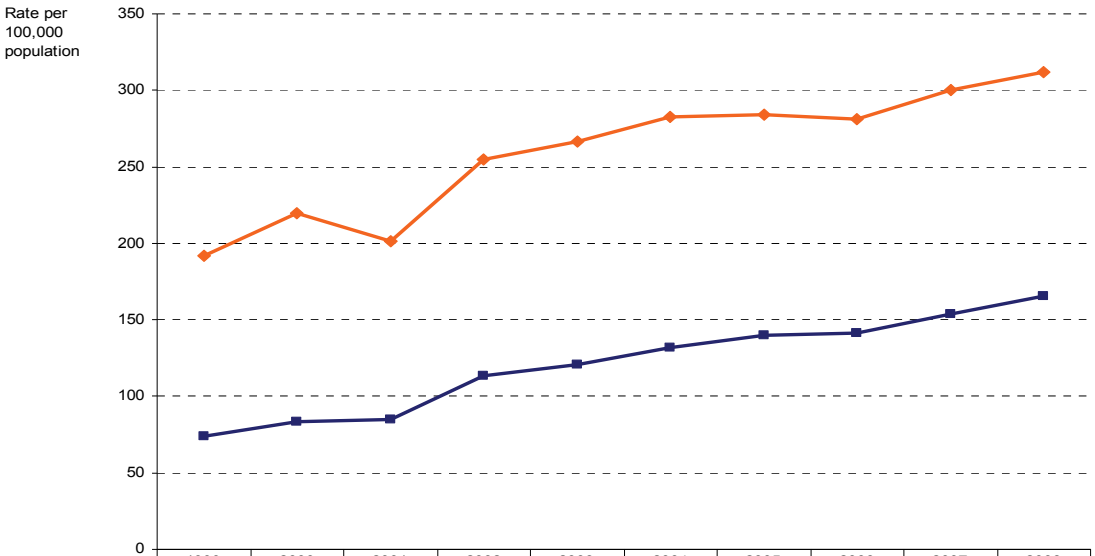
*2008 Canadian rate is projected and is subject to change (Public Health Agency of Canada, 2009).

3.3 Genital chlamydia case reports and rates in BC by health service delivery area, 2007 to 2008



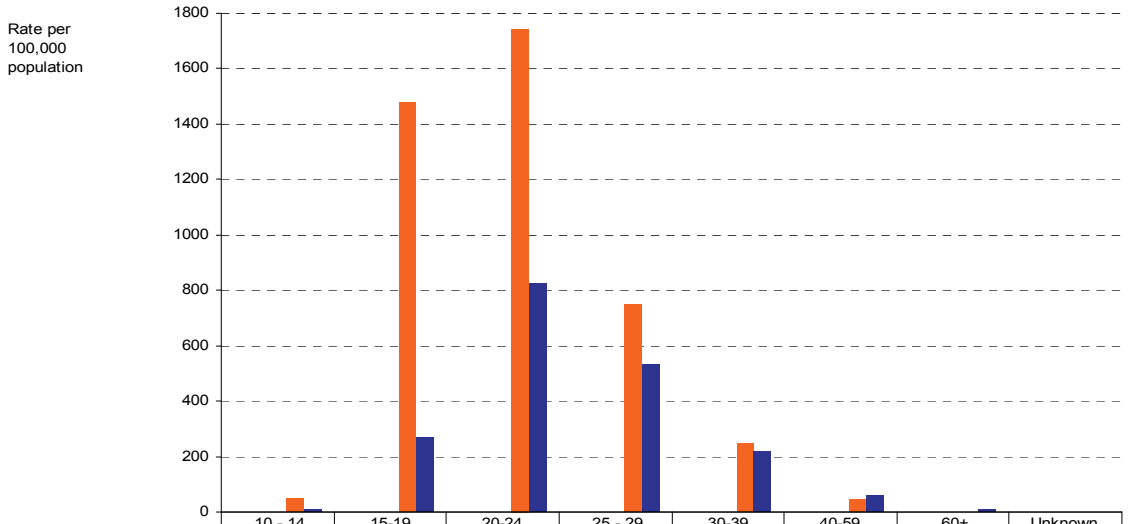
	East Kootenay	Kootenay Boundary	Okanagan	Thompson Cariboo Shuswap	Fraser East	Fraser North	Fraser South	Richmond	Vancouver	N. Shore/ Coast Garibaldi	South Vancouver Island	Central Vancouver Island	North Vancouver Island	Northwest	Northern Interior	Northeast
Reports 2008	184	101	751	694	444	1,210	1,253	391	1,996	615	1,037	671	269	252	603	138
Rate 2007	196.2	126.1	204.2	269.2	152.6	196.3	169.8	190.2	315.4	208.8	246.5	236.3	214.9	325.7	406.3	219.4
Rate 2008	233.4	126.4	214.4	311.4	159.0	205.0	182.4	206.3	313.5	220.3	280.7	252.2	220.3	328.0	416.5	200.1

3.4 Genital chlamydia case reports and rates in BC by sex, 1999 to 2008



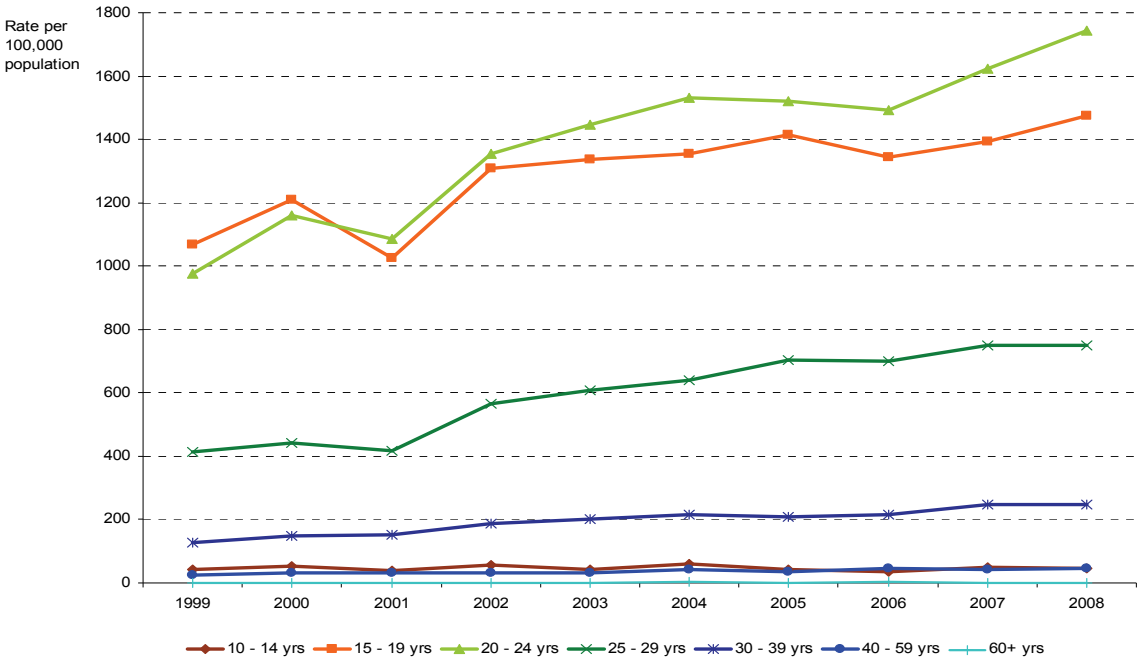
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - Female	3,864	4,470	4,143	5,289	5,585	5,984	6,096	6,132	6,623	6,985
Reports - Male	1,478	1,676	1,712	2,313	2,483	2,748	2,948	3,034	3,343	3,637
Rate - Female	191.5	219.9	201.7	255.0	266.6	282.3	283.9	281.5	299.9	311.9
Rate - Male	74.1	83.5	84.6	113.3	120.5	131.9	139.5	141.6	153.9	165.1

3.5 Genital chlamydia case reports and rates in BC by age group and sex, 2008



	10 - 14	15-19	20-24	25 - 29	30-39	40-59	60+	Unknown
Reports - Female	58	2,029	2,666	1,147	762	305	7	11
Reports - Male	8	386	1,304	835	668	405	29	2
Reports - Unknown/Trans	0	2	0	0	0	0	0	5
Rate - Female	47.1	1,475.9	1,743.3	749.9	247.5	44.6	1.5	
Rate - Male	6.1	266.3	823.3	532.2	219.7	60.3	7.0	

3.6 Female genital chlamydia rates in BC by age group, 1999 to 2008

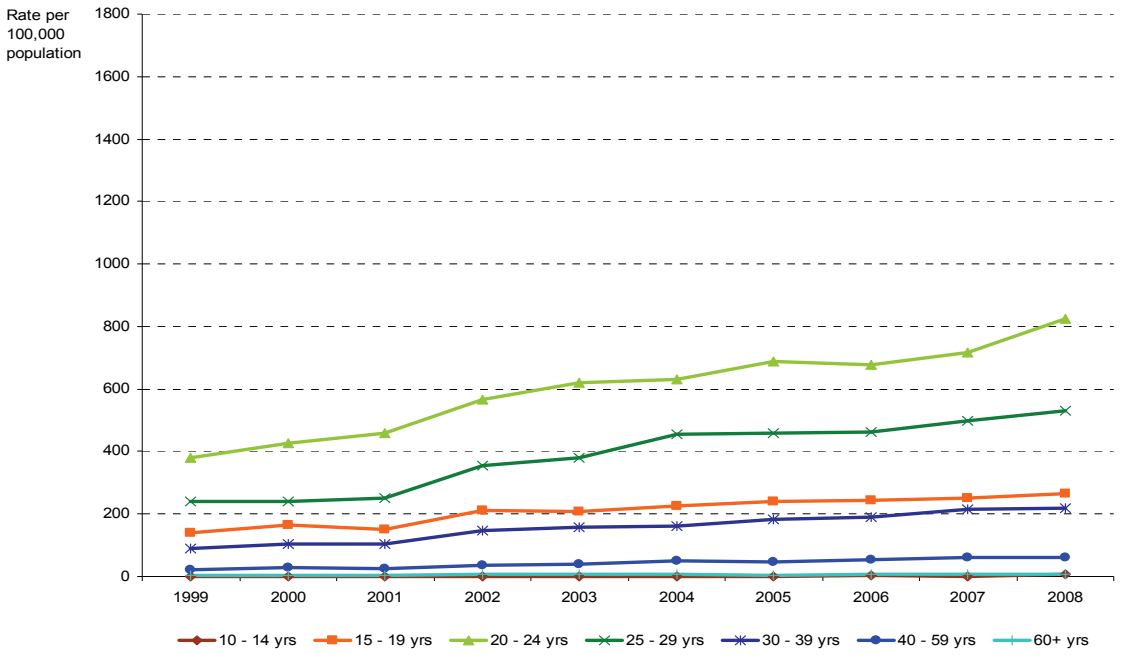


3.A Female genital chlamydia case reports and rates in BC by age group, 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Cases	54	70	52	71	56	76	55	45	61	58
	Rate	42.3	54.8	40.6	55.4	43.8	59.7	43.5	35.7	48.9	47.1
15 - 19 yrs	Cases	1,393	1,606	1,390	1,788	1,826	1,843	1,929	1,846	1,926	2,029
	Rate	1068.7	1209.3	1026.6	1307.0	1338.3	1355.4	1414.8	1344.5	1392.7	1475.9
20 - 24 yrs	Cases	1,254	1,501	1,428	1,839	2,020	2,214	2,249	2,245	2,462	2,666
	Rate	974.6	1160.2	1084.8	1355.6	1444.7	1530.7	1519.9	1492.9	1622.1	1743.3
25 - 29 yrs	Cases	582	606	559	757	810	866	974	994	1,097	1,147
	Rate	412.9	442.5	416.9	567.1	606.9	638.9	702.1	698.6	748.5	749.9
30 - 39 yrs	Cases	413	478	494	591	626	666	641	656	761	762
	Rate	125.6	146.8	152.9	185.9	200.9	217.3	210.3	215.0	248.4	247.5
40 - 59 yrs	Cases	136	175	181	188	201	274	229	317	296	305
	Rate	24.4	30.4	30.6	30.9	32.1	42.7	34.9	47.3	43.8	44.6
60+ yrs	Cases	2	3	3	5	6	12	5	13	6	7
	Rate	0.5	0.8	0.8	1.3	1.5	2.9	1.2	3.0	1.3	1.5
Total*	Cases	3864	4470	4143	5289	5585	5984	6096	6132	6623	6985
	Rate	191.5	219.9	201.7	255.0	266.6	282.3	283.9	281.5	299.9	311.9

Rate per 100,000 population
*Includes cases under age 10 and unknown/missing age

3.7 Male genital chlamydia rates in BC by age group, 1999 to 2008



3.B Male genital chlamydia case reports and rates in BC by age group, 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Case	2	1	2	1	1	1	0	6	2	8
	Rate	1.5	0.7	1.5	0.7	0.7	0.7	0.0	4.5	1.5	6.1
15 - 19 yrs	Case	194	233	220	310	301	326	344	349	365	386
	Rate	139.6	163.8	151.1	212.5	208.1	226.5	239.5	242.5	250.6	266.3
20 - 24 yrs	Case	507	573	630	799	908	952	1,070	1,069	1,139	1,304
	Rate	380.8	427.4	460.7	567.9	620.2	629.6	686.9	677.3	717.9	823.3
25 - 29 yrs	Case	342	331	341	479	509	623	645	666	741	835
	Rate	240.4	239.1	251.6	356.0	378.3	455.5	460.5	462.9	496.9	532.2
30 - 39 yrs	Case	293	339	331	463	490	489	553	574	652	668
	Rate	88.8	104.2	103.2	147.0	159.1	161.4	183.6	190.4	215.8	219.7
40 - 59 yrs	Case	121	166	155	221	235	311	311	345	406	405
	Rate	21.8	29.1	26.4	36.7	38.1	49.2	48.1	52.4	61.0	60.3
60+ yrs	Case	9	9	8	21	21	28	18	24	35	29
	Rate	2.9	2.8	2.5	6.3	6.1	7.8	4.9	6.3	8.8	7.0
Total*	Case	1,478	1,676	1,712	2,313	2,483	2,748	2,948	3,034	3,343	3,637
	Rate	74.1	83.5	84.6	113.3	120.5	131.9	139.5	141.6	153.9	165.1

Rate per 100,000 population
*Includes cases under age 10 and unknown/missing age

Extragenital Chlamydia

A small number of extra-genital Chlamydia infections are detected each year in BC, with 25 cases identified in 2008 (10 female, 15 male). The 152 extra-genital infections between 1999 and 2008 were identified in specimens from the following sites: eye (117 cases, 77.0%), throat (18 cases, 11.8%), lung (4 cases, 2.6%%), and other sites (13 cases, 8.6%).

3.C Extragenital chlamydia case reports in BC by sex and site/culture, 1999 to 2008

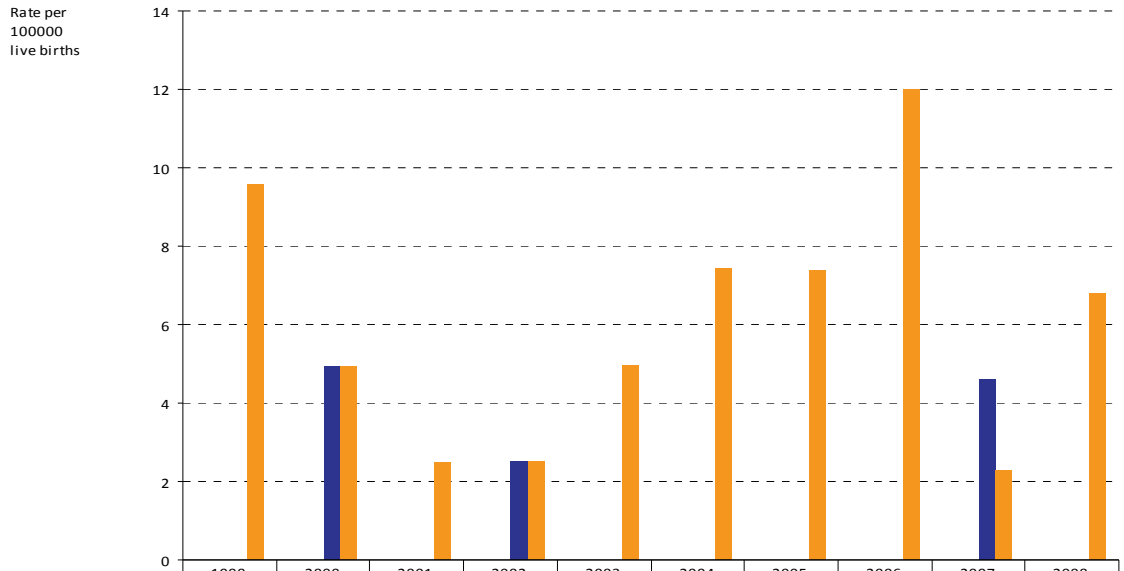
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Female	Throat	0	0	0	0	0	0	0	1	2	0
	Eye	5	7	8	6	6	5	9	6	3	3
	Lung	0	2	0	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0	0	1	7
	Female total	5	9	8	6	6	5	9	7	6	10
Male	Throat	0	0	0	0	0	0	4	4	1	6
	Eye	7	4	2	8	3	12	5	8	5	5
	Lung	0	0	0	1	0	0	0	0	1	0
	Other	0	0	0	0	0	0	0	0	1	4
	Male total	7	4	2	9	3	12	9	12	8	15
Total	Throat	0	0	0	0	0	0	4	5	3	6
	Eye	12	11	10	14	9	17	14	14	8	8
	Lung	0	2	0	1	0	0	0	0	1	0
	Other	0	0	0	0	0	0	0	0	2	11
	Total	12	13	10	15	9	17	18	19	14	25

Perinatally-acquired Chlamydia

In 2008, three cases of perinatally-acquired chlamydia infection were observed (for a rate of 6.8 cases per 100,000 live births), which is within the range of expected cases based on the past ten years (range 1-5 cases per year). Historically, the majority of cases have chlamydia detected in conjunctival specimens (84% of cases over the past 10 years), with 16% of cases having chlamydia detected in specimens from the respiratory tract.

Very few jurisdictions have published rates of perinatally-acquired chlamydia infections, and historic trend data for BC is not currently available. However, it is likely that the current standard of screening and treatment of chlamydia infection in pregnant women in BC has resulted in an overall lower rate of perinatally-acquired chlamydia.

3.8 Perinatally-acquired chlamydia case reports and rates in BC by site/culture, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - Respiratory	0	2	0	1	0	0	0	0	2	0
Reports - Conjunctival	4	2	1	1	2	3	3	5	1	3
Rate - Respiratory	0.0	4.9	0.0	2.5	0.0	0.0	0.0	0.0	4.6	0.0
Rate - Conjunctival	9.6	4.9	2.5	2.5	5.0	7.4	7.4	12.0	2.3	6.8

Gonorrhea

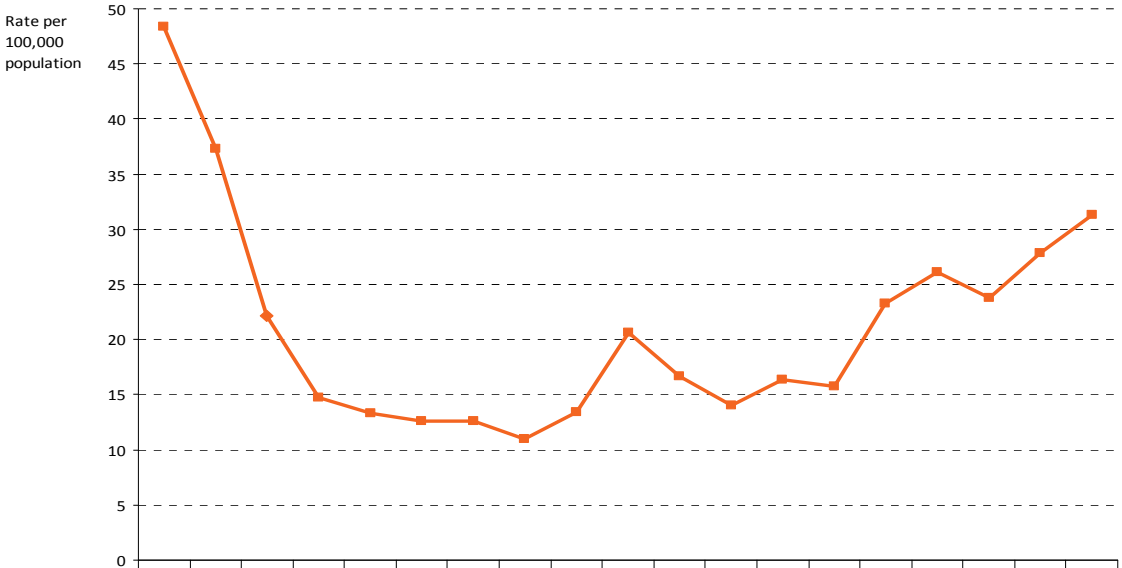
Genital Gonorrhea

After a prolonged period of declining or stable rates, the rate of genital gonorrhea in BC began to increase in 1998 and has increased since that time, paralleling Canadian rates. The genital gonorrhea rate for BC increased in 2008 (31.3 per 100,000) from 2007 (27.9 per 100,000), reflecting an increase in case reports from 1,220 to 1,391. Increased genital gonorrhea rates were observed in many HSDA in 2008, with the highest rates in Northern Interior HSDA, Vancouver HSDA, Thompson Cariboo Shushwap HSDA, and Northwest HSDA.

In the past 5 years, the rate of infection among males has been relatively stable while the rate of infection among females has been increasing. Males continue to have a greater rate of infection compared to females. Females in the 15-19 and 20-24 year age groups had the highest rates of genital gonorrhea, and rates have been increasing in most age groups among females. Males in the 20-24 and 25-29 year age groups had the highest rates of genital gonorrhea; the greatest increases in rates among males were also in these age groups.

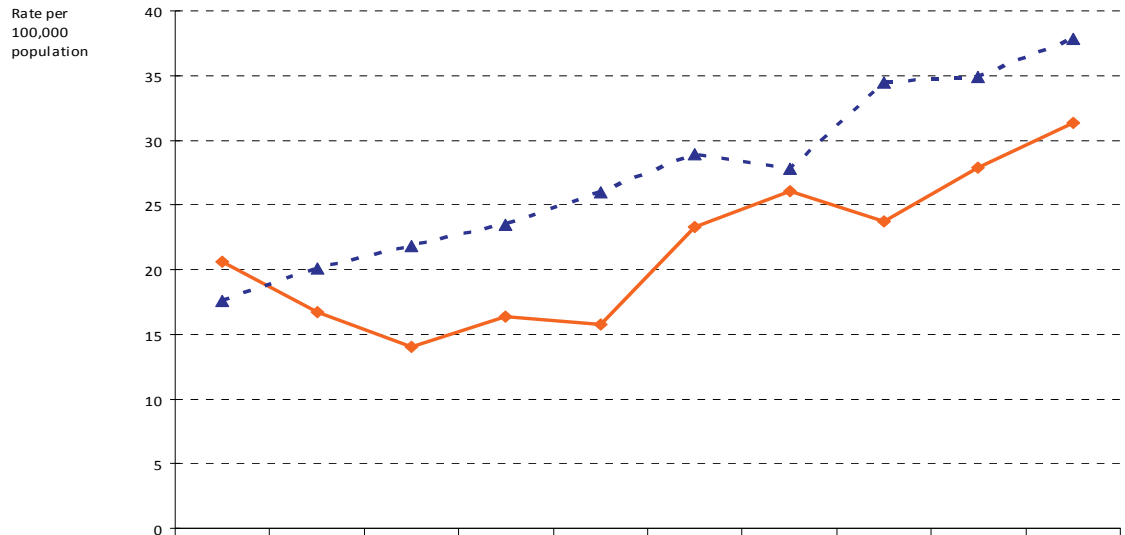
Gonorrhea infections may be asymptomatic or symptoms may be mild. Males are more likely to show signs of gonorrheal infection (e.g., urethral discharge) which may lead to seeking medical attention and contribute to the observed greater number of gonorrheal infections observed in males in BC. Based on reports from other jurisdictions, transmission of gonorrhea among men who have sex with men (MSM) may also contribute to the increased number of cases observed in males.

4.1 Genital gonorrhea case reports and rates in BC, historical trends, 1991 to 2008



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BC Reports	1,592	1,257	769	527	488	476	488	432	534	827	675	571	675	656	979	1,111	1,026	1,220	1,391
BC Rate	48.4	37.3	22.2	14.8	13.3	12.6	12.6	10.9	13.4	20.6	16.7	14.0	16.4	15.8	23.3	26.1	23.7	27.9	31.3

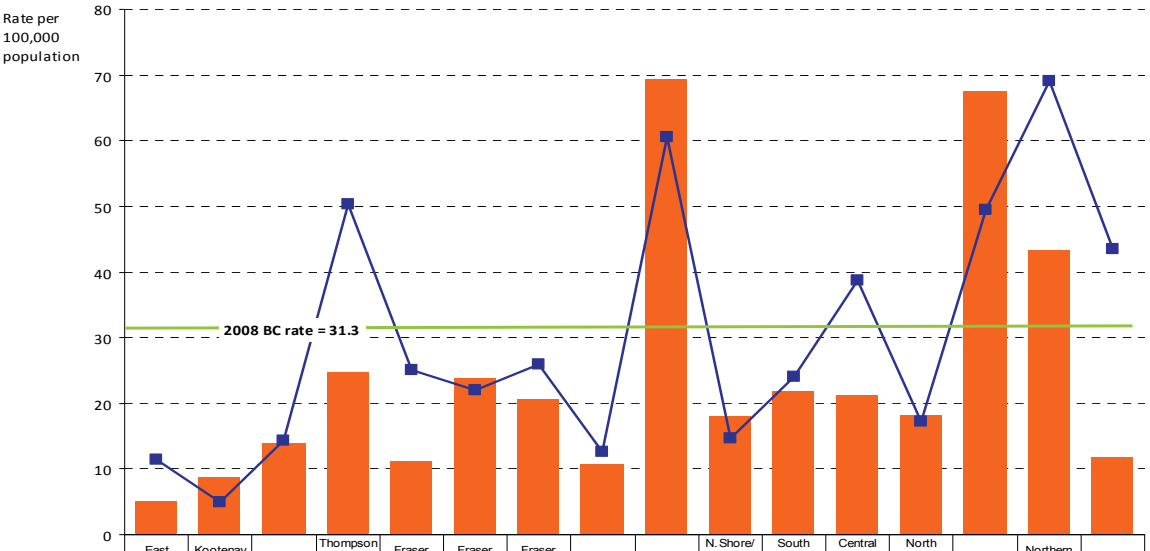
4.2 Genital gonorrhea case reports and rates in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
BC Reports	827	675	571	675	656	979	1,111	1,026	1,220	1,391
BC Rate	20.6	16.7	14.0	16.4	15.8	23.3	26.1	23.7	27.9	31.3
Canadian Rate	17.6	20.1	21.8	23.5	26.0	28.9	27.8	34.5	34.9	37.8

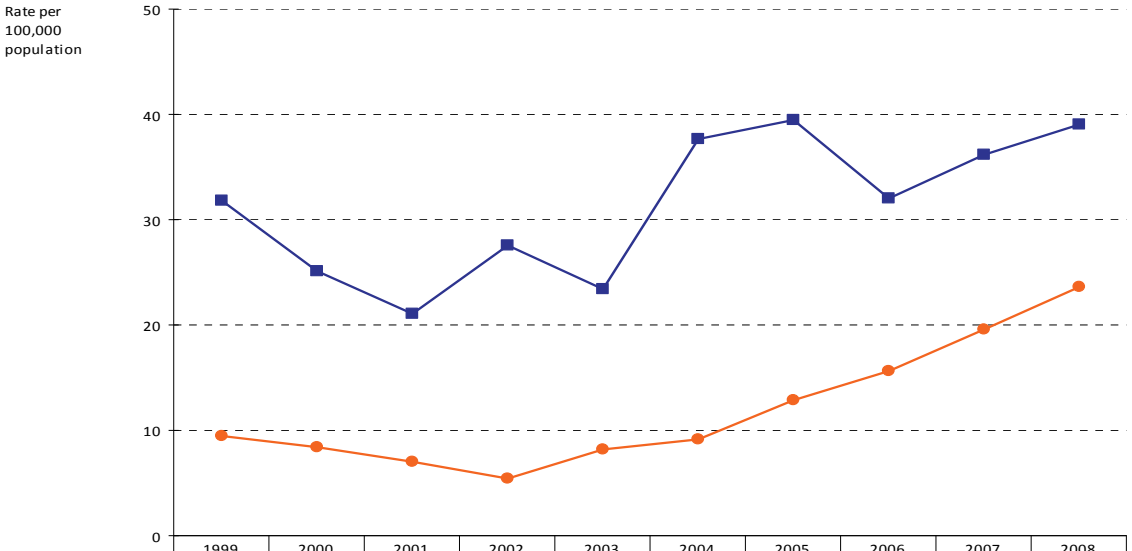
*2008 Canadian rate is projected and is subject to change (Public Health Agency of Canada, 2009).

4.3 Genital gonorrhea case reports and rates in BC by health service delivery area, 2007 to 2008



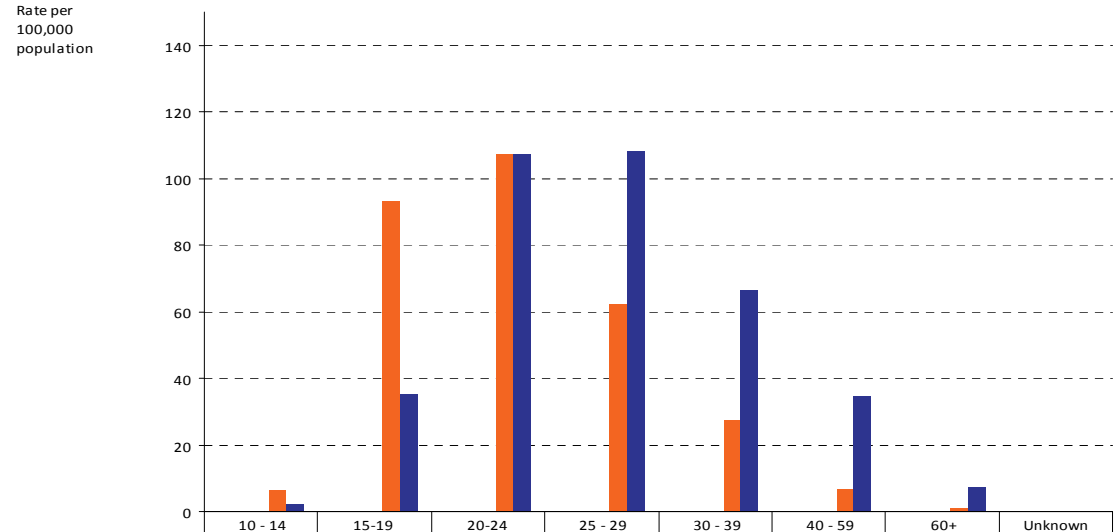
	East Kootenay	Kootenay Boundary	Okanagan	Thompson Cariboo Shuswap	Fraser East	Fraser North	Fraser South	Richmond	Vancouver	N. Shore/ Coast Garibaldi	South Vancouver Island	Central Vancouver Island	North Vancouver Island	Northwest	Northern Interior	Northeast
Reports 2008	9	4	50	112	70	130	178	24	386	41	89	103	21	38	100	30
Rate 2007	5.1	8.7	13.9	24.8	11.3	23.8	20.6	10.7	69.5	18.1	21.8	21.3	18.2	67.5	43.4	11.7
Rate 2008	11.4	5.0	14.3	50.3	25.1	22.0	25.9	12.7	60.6	14.7	24.1	38.7	17.2	49.5	69.1	43.5

4.4 Genital gonorrhea case reports and rates in BC by sex, 1999 to 2008



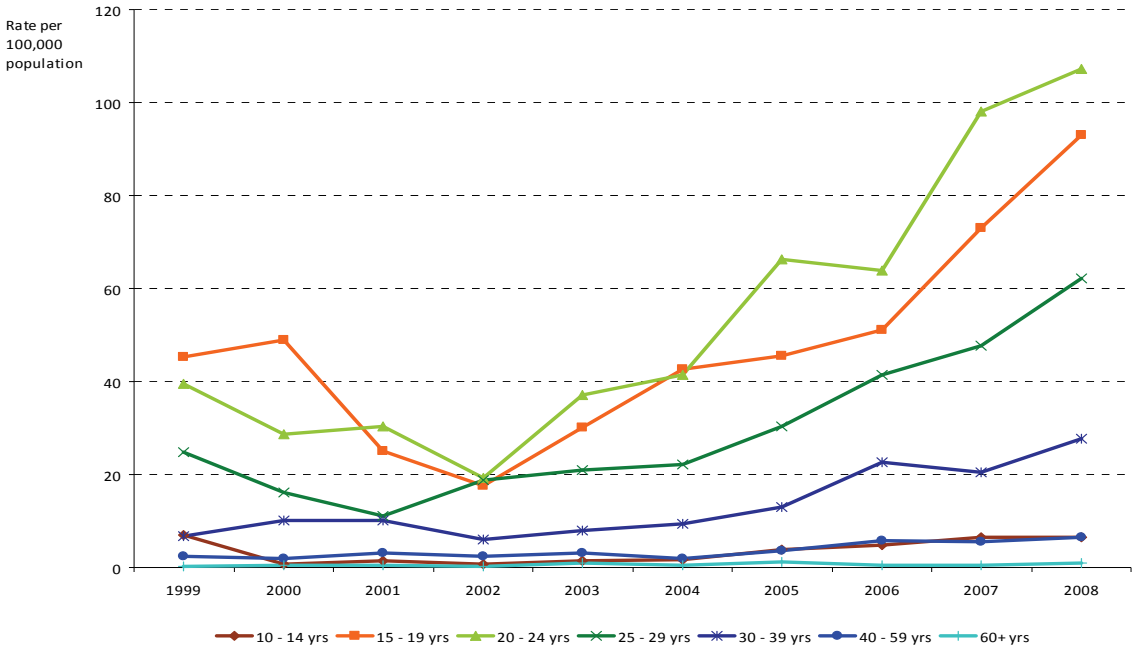
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - Male	634	503	426	563	483	785	835	685	786	860
Reports - Female	192	171	145	112	172	193	276	340	432	529
Rate - Male	31.8	25.1	21.0	27.6	23.4	37.7	39.5	32.0	36.2	39.0
Rate - Female	9.5	8.4	7.1	5.4	8.2	9.1	12.9	15.6	19.6	23.6

4.5 Genital gonorrhea case reports and rates in BC by age group and sex, 2008



	10 - 14	15-19	20-24	25 - 29	30 - 39	40 - 59	60+	Unknown
Reports - Female	8	128	164	95	85	45	4	0
Reports - Male	3	51	170	170	202	233	31	0
Reports - Unknown/Trans	0	0	0	0	0	1	0	1
Rate - Female	6.5	93.1	107.2	62.1	27.6	6.6	0.8	
Rate - Male	2.3	35.2	107.3	108.4	66.4	34.7	7.5	

4.6 Female genital gonorrhea rates in BC by age group , 1999 to 2008



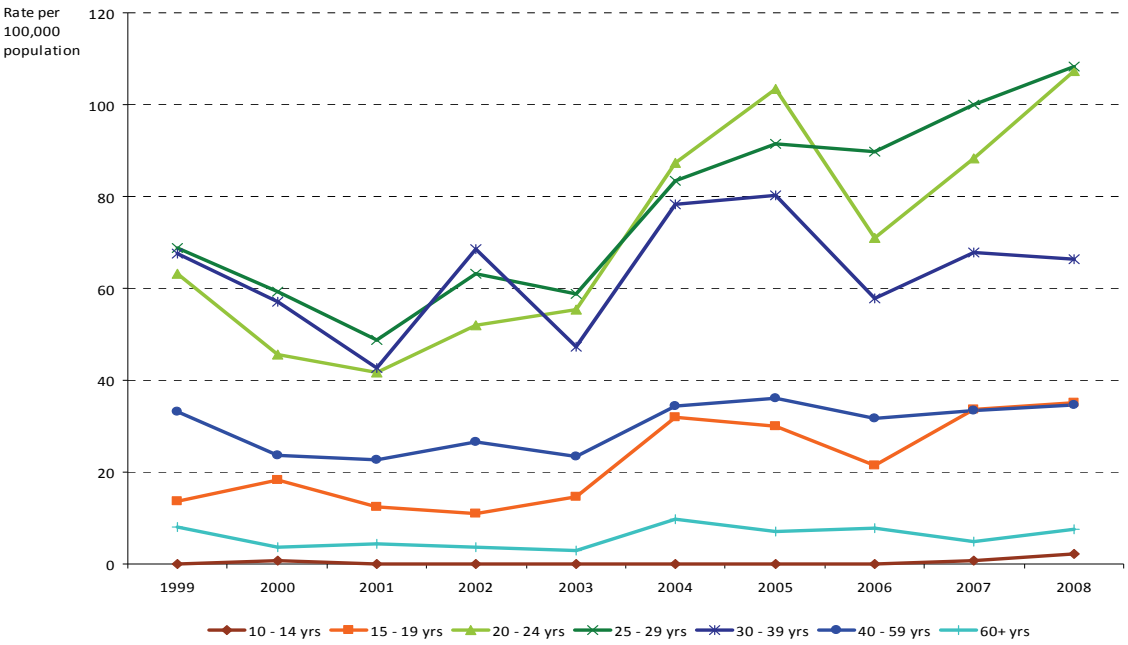
4.A Female genital gonorrhea case reports and rates in BC by age group , 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Cases	9	1	2	1	2	2	5	6	8	8
	Rate	7.1	0.8	1.6	0.8	1.6	1.6	4.0	4.8	6.4	6.5
15 - 19 yrs	Cases	59	65	34	24	41	58	62	70	101	128
	Rate	45.3	48.9	25.1	17.5	30.0	42.7	45.5	51.0	73.0	93.1
20 - 24 yrs	Cases	51	37	40	26	52	60	98	96	149	164
	Rate	39.6	28.6	30.4	19.2	37.2	41.5	66.2	63.8	98.2	107.2
25 - 29 yrs	Cases	35	22	15	25	28	30	42	59	70	95
	Rate	24.8	16.1	11.2	18.7	21.0	22.1	30.3	41.5	47.8	62.1
30 - 39 yrs	Cases	22	33	33	19	25	29	40	69	63	85
	Rate	6.7	10.1	10.2	6.0	8.0	9.5	13.1	22.6	20.6	27.6
40 - 59 yrs	Cases	14	11	19	14	19	12	23	38	38	45
	Rate	2.5	1.9	3.2	2.3	3.0	1.9	3.5	5.7	5.6	6.6
60+ yrs	Cases	1	2	2	1	4	2	5	2	2	4
	Rate	0.3	0.5	0.5	0.3	1.0	0.5	1.2	0.5	0.4	0.8
Total*	Cases	192	171	145	112	172	193	276	340	432	529
	Rate	9.5	8.4	7.1	5.4	8.2	9.1	12.9	15.6	19.6	23.6

Rate per 100,000 population

*Includes cases under age 10 and unknown/missing age

4.7 Male genital gonorrhea rates in BC by age group, 1999 to 2008



4.B Male genital gonorrhea case reports and rates in BC by age group , 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Cases	0	1	0	0	0	0	0	0	1	3
	Rate	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.3
15 - 19 yrs	Cases	19	26	18	16	21	46	43	31	49	51
	Rate	13.7	18.3	12.4	11.0	14.5	32.0	29.9	21.5	33.6	35.2
20 - 24 yrs	Cases	84	61	57	73	81	132	161	112	140	170
	Rate	63.1	45.5	41.7	51.9	55.3	87.3	103.4	71.0	88.2	107.3
25 - 29 yrs	Cases	98	82	66	85	79	114	128	129	149	170
	Rate	68.9	59.2	48.7	63.2	58.7	83.3	91.4	89.7	99.9	108.4
30 - 39 yrs	Cases	223	186	137	216	146	237	242	174	205	202
	Rate	67.5	57.2	42.7	68.6	47.4	78.2	80.3	57.7	67.8	66.4
40 - 59 yrs	Cases	184	135	133	160	144	218	234	209	223	233
	Rate	33.1	23.6	22.7	26.6	23.3	34.5	36.2	31.7	33.5	34.7
60+ yrs	Cases	25	12	14	12	10	35	26	30	19	31
	Rate	8.0	3.8	4.3	3.6	2.9	9.8	7.1	7.9	4.8	7.5
Total*	Cases	634	503	426	563	483	785	835	685	786	860
	Rate	31.8	25.1	21.0	27.6	23.4	37.7	39.5	32.0	36.2	39.0

Rate per 100,000 population
*Includes cases under age 10 and unknown/missing age

Extragenital Gonorrhea

A small number of extra-genital gonorrhea infections are detected each year in BC, with 51 cases identified in 2008 (6 female, 45 male). The 543 extra-genital infections between 1999 and 2008 were identified from the throat (483 cases, 89.0%), eye (12 cases, 2.2%) or other sites (37 cases, 6.8%), or represented disseminated gonococcal infection (11 cases, 2.0%).

4.C Extragenital gonorrhea case reports in BC by site/culture and sex , 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Female	Throat	7	7	5	6	6	1	14	16	15	3
	Eye	1	0	0	0	0	1	0	0	1	1
	Other	1	0	0	1	2	3	3	3	5	1
	DGI*	1	1	0	1	0	1	2	0	0	1
	Female Total	10	8	5	8	8	6	19	19	21	6
Male	Throat	29	22	28	41	27	54	74	41	46	41
	Eye	1	1	0	2	1	0	1	0	1	1
	Other	0	0	0	0	1	1	10	4	0	2
	DGI*	1	1	0	0	1	0	0	0	0	1
	Male Total	31	24	28	43	30	55	85	45	47	45
Total	Throat	36	29	33	47	33	55	88	57	61	44
	Eye	2	1	0	2	1	1	1	0	2	2
	Other	1	0	0	1	3	4	13	7	5	3
	DGI*	2	2	0	1	1	1	2	0	0	2
	Total	41	32	33	51	38	61	104	64	68	51

*DGI: Disseminated gonococcal infection

Perinatally-acquired Gonorrhea

Between 1999 and 2008, no cases of perinatally-acquired gonorrhea were identified.

Pelvic inflammatory disease Ectopic pregnancy, and Tubal infertility

Pelvic Inflammatory Disease (PID), ectopic pregnancy (EP) and tubal infertility (TI) are conditions in women of reproductive age (i.e., 15-44 years), which can be caused by sexually transmitted infections, particularly chlamydia and gonorrhea infections. As such, looking at the rates of these conditions provides an indication of the trends in complications of these STI. Data is presented through 2007 only due to expected delays in reporting, collation and data transfer. This report includes data on physician billings and hospital discharges provided by the BC Ministry of Health (see appendix for details).

Pelvic Inflammatory Disease

Rates of hospital discharges and physician billings related to PID have declined appreciably over time, with 2007 rates lower than 2006 rates (to 176.9 physician billings per 100,000 women aged 15-44 years, and 54.7 hospital discharges per 100,000 women aged 15-44 years).

Ectopic Pregnancy

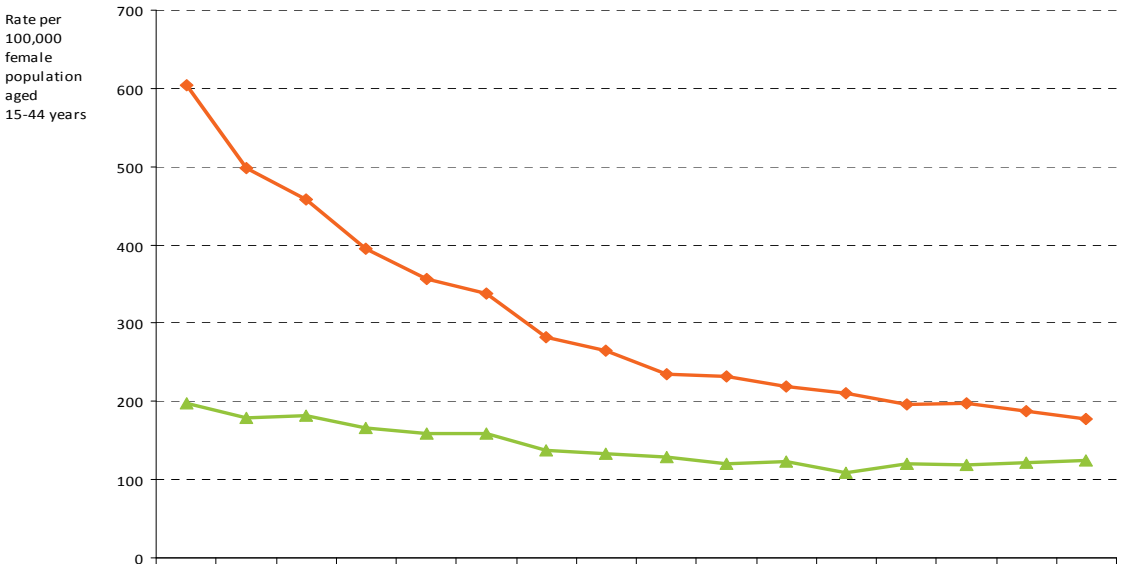
A more moderate decrease in rates of hospital discharges and physician billings related to EP has been observed over time. In 2007, the rate of hospital discharges for EP continued to decrease, to 49.7 per 100,000 women aged 15-44 years in 2007. The rate of EP-related physician billings has remained relatively stable since 2001 with a slight increase observed in 2007 (124.3 billings per 100,000 women aged 15-44 years).

Tubal Infertility

Only hospital discharge data is available for TI. The rate of TI-related hospital discharge has been relatively stable since 1997, with a decrease observed in 2007 (14.2 discharges per 100,000 women aged 15-44 years).

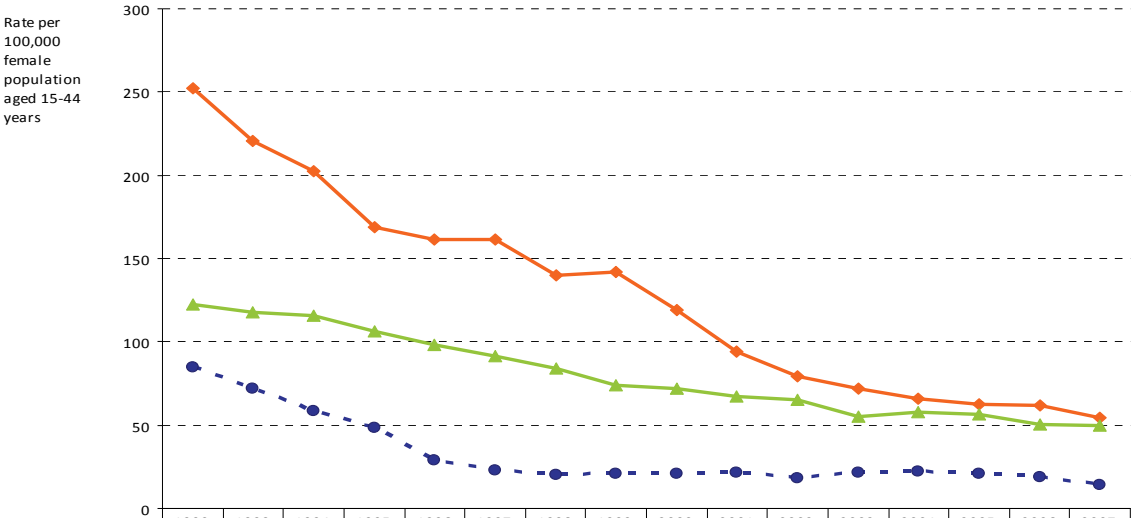
Taken together, these data indicate that despite overall increasing rates of chlamydia and gonorrhea infections among females in BC, an increase in potential complications of these infections has not been observed. As these complications are prevented by appropriate antibiotic treatment, this finding likely reflects the success of chlamydia public health control programs (implemented after chlamydia became a reportable infection in 1994) in identifying new cases of chlamydia and gonorrhea and ensuring appropriate treatment.

5.1 Number and rate of women aged 15-44 with a physician billing related to PID or EP in BC, 1992 to 2007



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
PID Number	4,874	4,111	3,879	3,418	3,169	3,054	2,544	2,384	2,114	2,083	1,970	1,896	1,773	1,789	1,706	1,623
EP Number	1,597	1,478	1,541	1,436	1,410	1,435	1,241	1,203	1,156	1,078	1,106	979	1,081	1,075	1,107	1,140
PID Rate	604.1	498.1	458.3	394.7	356.2	338.4	282.1	264.6	235.2	231.3	218.7	210.7	196.5	197.2	186.9	176.9
EP Rate	197.9	179.1	182.1	165.8	158.5	159.0	137.6	133.5	128.6	119.7	122.8	108.8	119.8	118.5	121.3	124.3

5.2 Number and rate of women aged 15-44 with a hospital discharge related to PID, EP or TI in BC, 1992 to 2007



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
PID Number	2,037	1,823	1,716	1,460	1,434	1,457	1,260	1,281	1,068	849	714	646	596	566	564	502
EP Number	987	971	978	920	874	825	759	664	646	603	588	498	524	515	460	456
TI Number	684	594	494	420	256	209	183	187	186	196	166	194	200	190	171	130
PID Rate	252.5	220.9	202.8	168.6	161.2	161.5	139.7	142.2	118.8	94.3	79.3	71.8	66.0	62.4	61.8	54.7
EP Rate	122.3	117.7	115.6	106.2	98.2	91.4	84.2	73.7	71.9	67.0	65.3	55.3	58.1	56.8	50.4	49.7
TI Rate	84.8	72.0	58.4	48.5	28.8	23.2	20.3	20.8	20.7	21.8	18.4	21.6	22.2	20.9	18.7	14.2

Infectious Syphilis

Infectious Syphilis

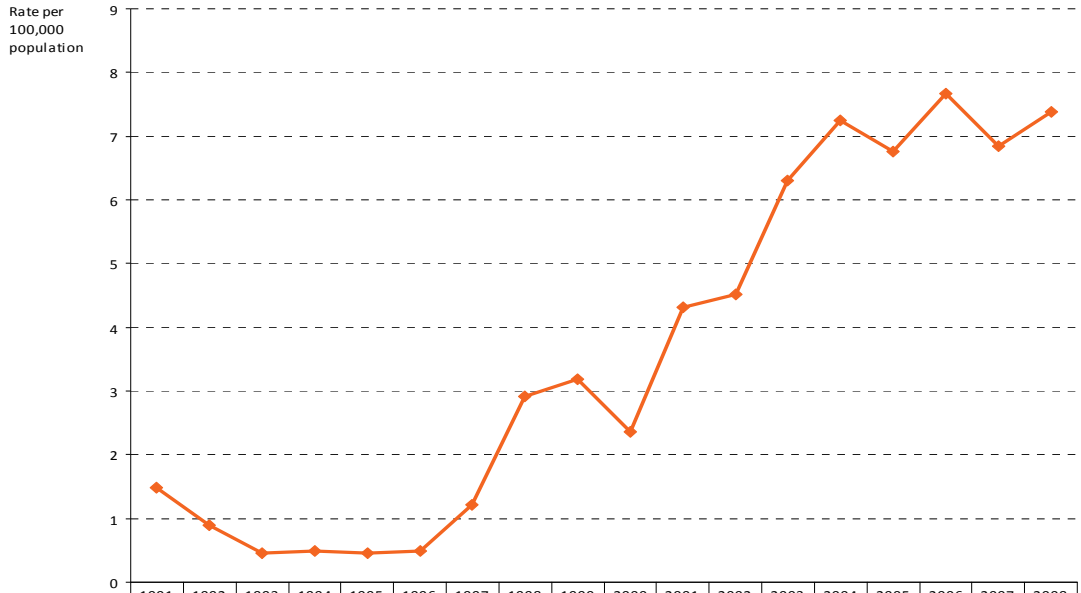
The rate of infectious syphilis increased from 6.8 in 2007 to 7.4 per 100,000 population in 2008 reflecting an increase from 300 to 328 cases. Overall provincial rates of syphilis may be stabilizing following steady increases since 1997. The BC rate of infectious syphilis remains approximately two times higher than the Canadian rate.

The majority of cases continue to be male with increasing rates among males compared to declining rates in females. The highest rates of infection are observed in males between the ages of 25 and 59 years, with the greatest increase in rates in males in these age groups. Trends are variable by HSDA; the highest rate was observed in Vancouver HSDA (32.4 per 100,000; 206 cases).

These differences by sex are explained by the continued outbreak of infectious syphilis among men who have sex with men (MSM), which has been ongoing since 2002. In 2008, 230 cases of infectious syphilis occurred in MSM, accounting for 70.1% of all BC cases (increasing from 174 cases and 58.0% of all cases in 2007). HIV positive MSM are disproportionately affected, accounting for 59.6% of all MSM cases in 2008 (41.5% of all BC cases). Syphilis case reports among street-involved persons, sex trade workers and their patrons decreased in 2008 (53 cases, 16.2%), as did cases among heterosexual persons without other risk factors (37 cases, 11.3%)

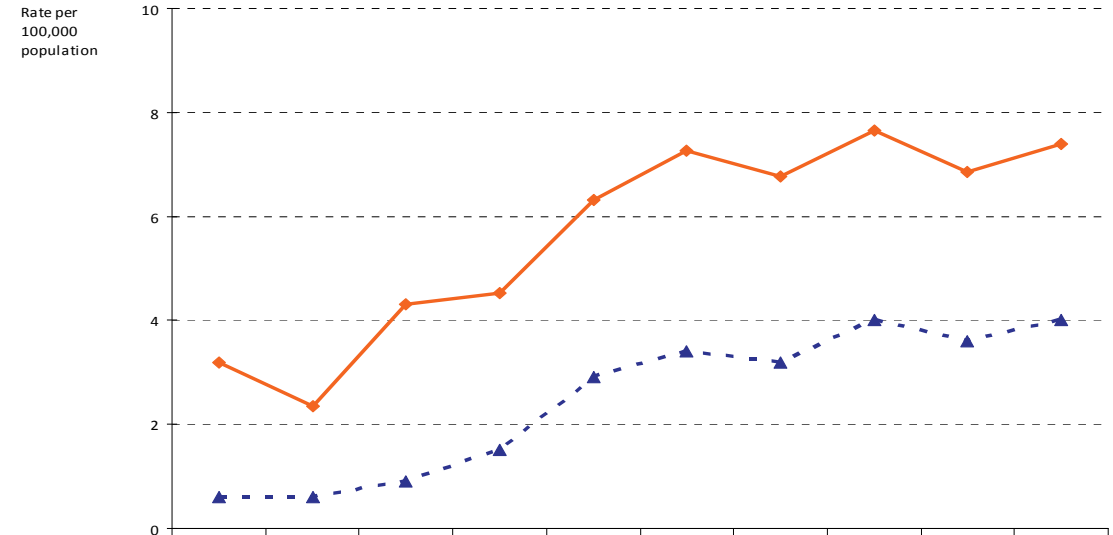
Similar to previous years, the majority of new cases of infectious syphilis were among persons of Caucasian ethnicity (61.9%), followed by cases among persons of Asian (10.1%) and Aboriginal (8.8%) ethnicity. Among females, Aboriginal females continue to be disproportionately represented, accounting for 29.3% of all female cases in 2008.

6.1 Infectious syphilis case reports and rates in BC, historical trend, 1991 to 2008



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BC Reports	50	31	16	18	17	19	48	116	128	95	176	186	262	305	288	331	300	328
BC Rate	1.5	0.9	0.4	0.5	0.5	0.5	1.2	2.9	3.2	2.4	4.3	4.5	6.3	7.3	6.8	7.7	6.8	7.4

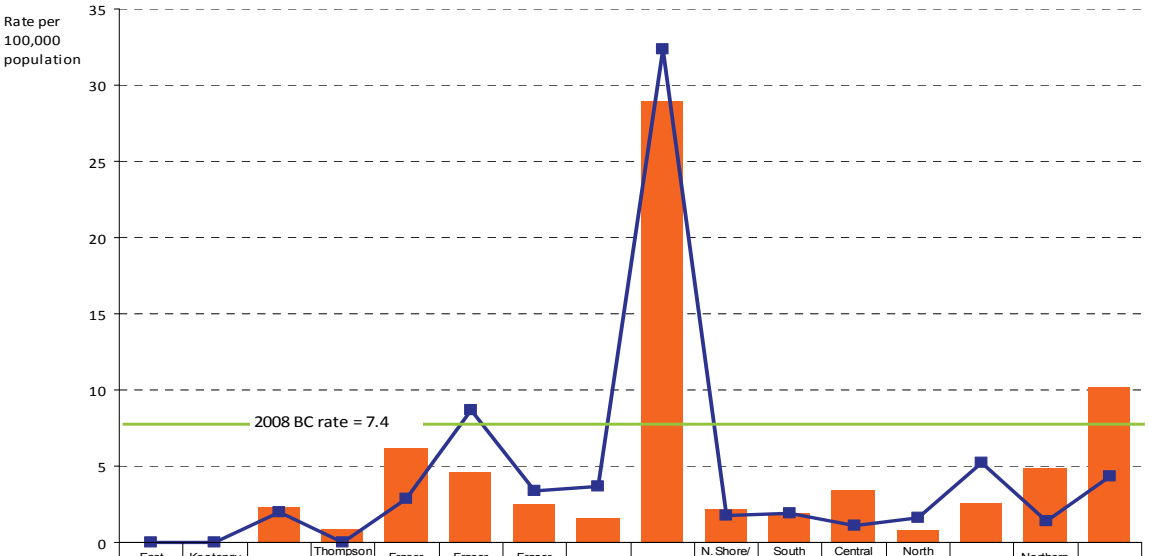
6.2 Infectious syphilis case reports and rates in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
BC Reports	128	95	176	186	262	305	288	331	300	328
BC Rate	3.2	2.4	4.3	4.5	6.3	7.3	6.8	7.7	6.8	7.4
Canadian Rate	0.6	0.6	0.9	1.5	2.9	3.4	3.2	4.0	3.6	4.0

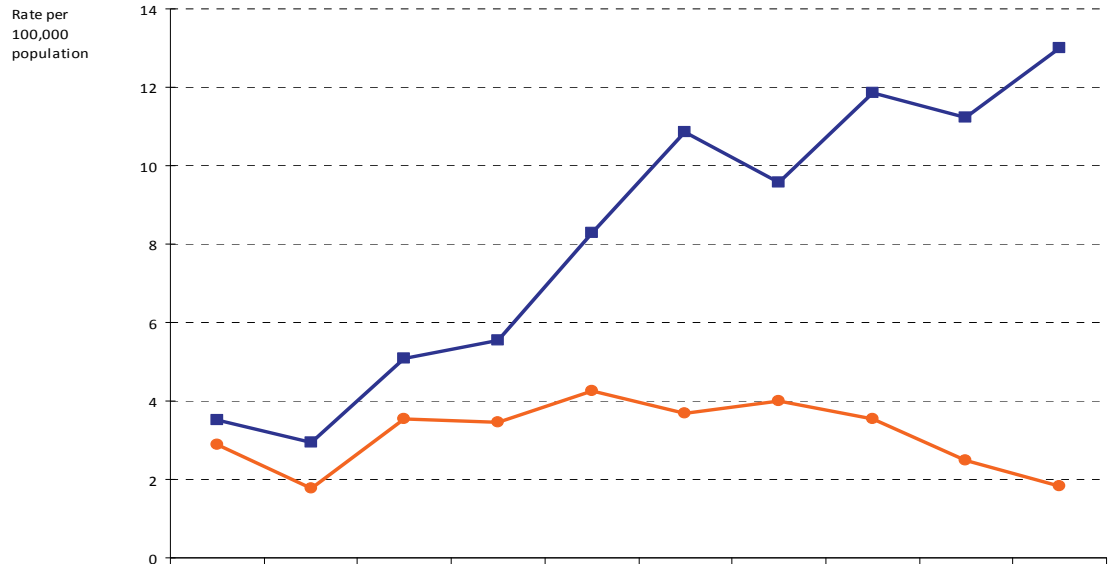
*2008 Canadian rate is projected and is subject to change (Public Health Agency of Canada, 2009).

6.3 Infectious syphilis case reports and rates in BC by health service delivery area, 2007 to 2008



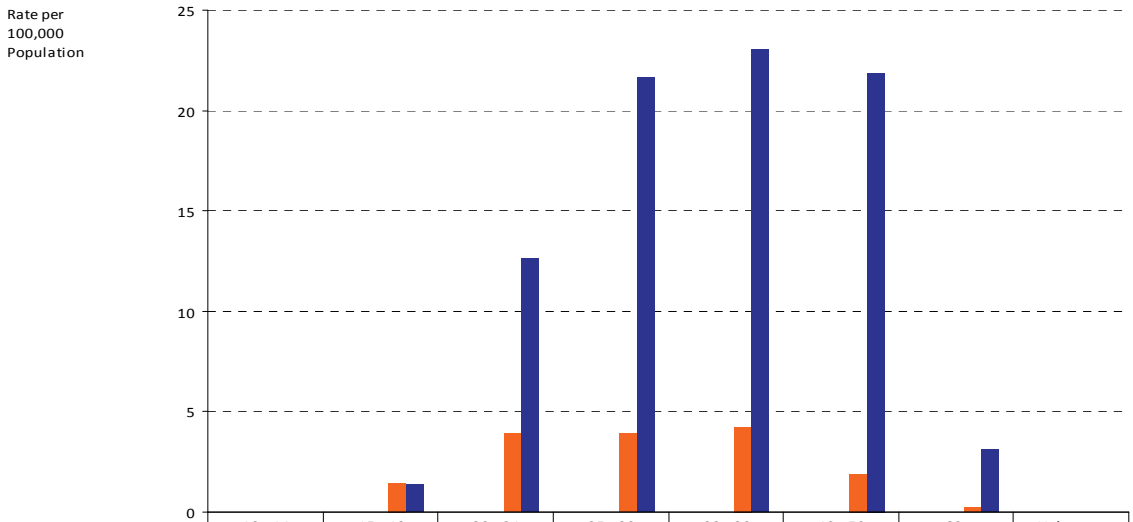
	East Kootenay	Kootenay Boundary	Okanagan	Thompson Cariboo Shuswap	Fraser East	Fraser North	Fraser South	Richmond	Vancouver	N. Shore/ Coast Garibaldi	South Vancouver Island	Central Vancouver Island	North Vancouver Island	Northwest	Northern Interior	Northeast
Reports 2008	0	0	7	0	8	51	23	7	206	5	7	3	2	4	2	3
Rate 2007	0.0	0.0	2.3	0.9	6.2	4.7	2.5	1.6	29.0	2.2	1.9	3.4	0.8	2.6	4.8	10.2
Rate 2008	0.0	0.0	2.0	0.0	2.9	8.6	3.3	3.7	32.4	1.8	1.9	1.1	1.6	5.2	1.4	4.3

6.4 Infectious syphilis case reports and rates in BC by sex, 1999 to 2008



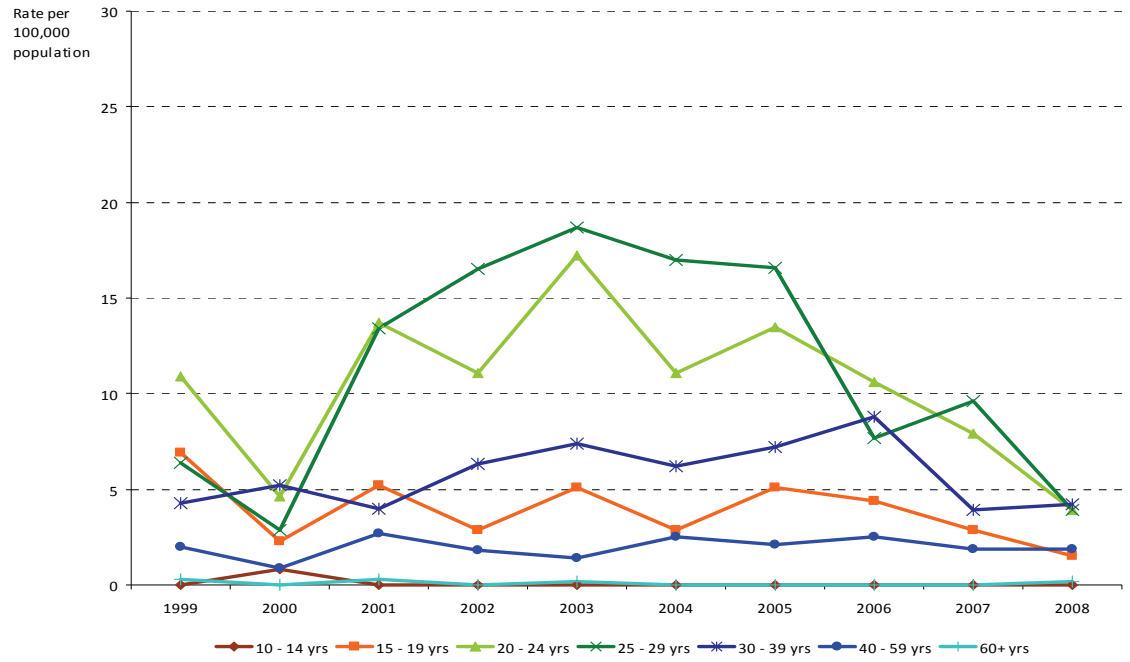
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - Male	70	59	103	113	171	226	202	254	244	286
Reports - Female	58	36	73	72	89	78	86	77	55	41
Rate - Male	3.5	2.9	5.1	5.5	8.3	10.8	9.6	11.9	11.2	13.0
Rate - Female	2.9	1.8	3.6	3.5	4.2	3.7	4.0	3.5	2.5	1.8

6.5 Infectious syphilis case reports and rates in BC by age group and sex, 2008



	10 - 14	15 - 19	20 - 24	25 - 29	30 - 39	40 - 59	60+	Unknown
Reports - Female	0	2	6	6	13	13	1	0
Reports - Male	0	2	20	34	70	147	13	0
Reports - Unknown/Trans	0	0	0	0	1	0	0	0
Rate - Female	-	1.5	3.9	3.9	4.2	1.9	0.2	
Rate - Male	-	1.4	12.6	21.7	23.0	21.9	3.1	

6.6 Female infectious syphilis rates in BC by age group, 1999 to 2008



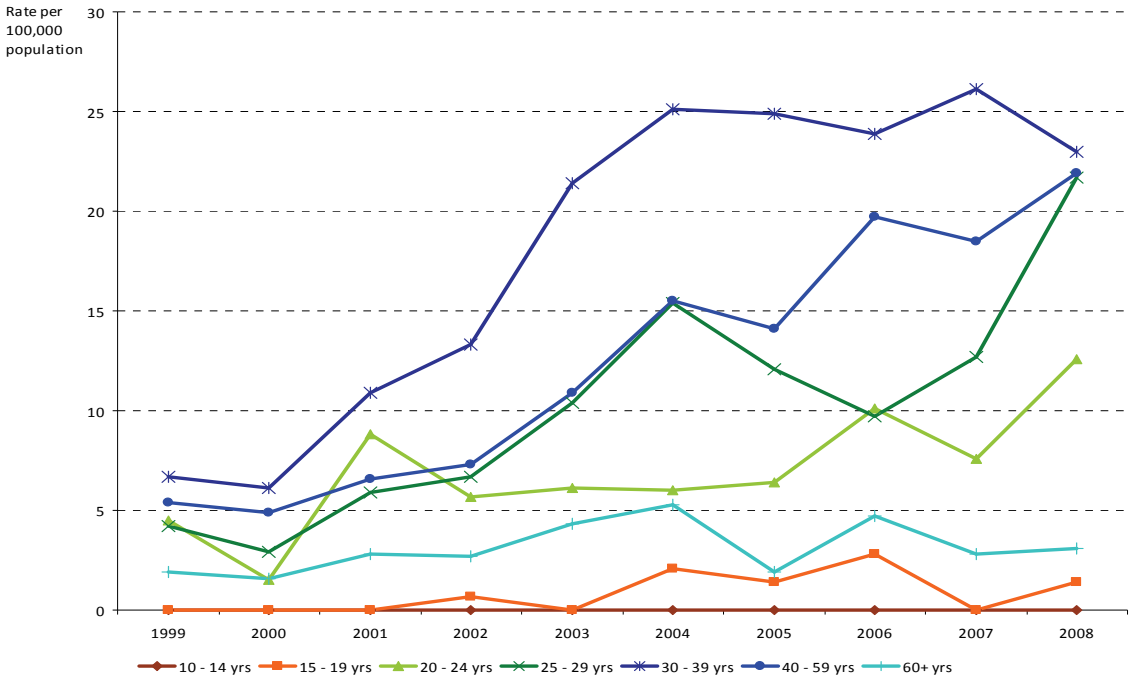
6.A Female infectious syphilis case reports and rates in BC by age group, 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Case	0	1	0	0	0	0	0	0	0	0
	Rates	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 19 yrs	Case	9	3	7	4	7	4	7	6	4	2
	Rates	6.9	2.3	5.2	2.9	5.1	2.9	5.1	4.4	2.9	1.5
20 - 24 yrs	Case	14	6	18	15	24	16	20	16	12	6
	Rates	10.9	4.6	13.7	11.1	17.2	11.1	13.5	10.6	7.9	3.9
25 - 29 yrs	Case	9	4	18	22	25	23	23	11	14	6
	Rates	6.4	2.9	13.4	16.5	18.7	17.0	16.6	7.7	9.6	3.9
30 - 39 yrs	Case	14	17	13	20	23	19	22	27	12	13
	Rates	4.3	5.2	4.0	6.3	7.4	6.2	7.2	8.8	3.9	4.2
40 - 59 yrs	Case	11	5	16	11	9	16	14	17	13	13
	Rates	2.0	0.9	2.7	1.8	1.4	2.5	2.1	2.5	1.9	1.9
60+ yrs	Case	1	0	1	0	1	0	0	0	0	1
	Rates	0.3	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Total*	Case	58	36	73	72	89	78	86	77	55	41
	Rates	2.9	1.8	3.6	3.5	4.2	3.7	4.0	3.5	2.5	1.8

Rate per 100,000 population

*Includes cases under age 10 and unknown/missing age

6.7 Male infectious syphilis rates in BC by age group, 1999 to 2008

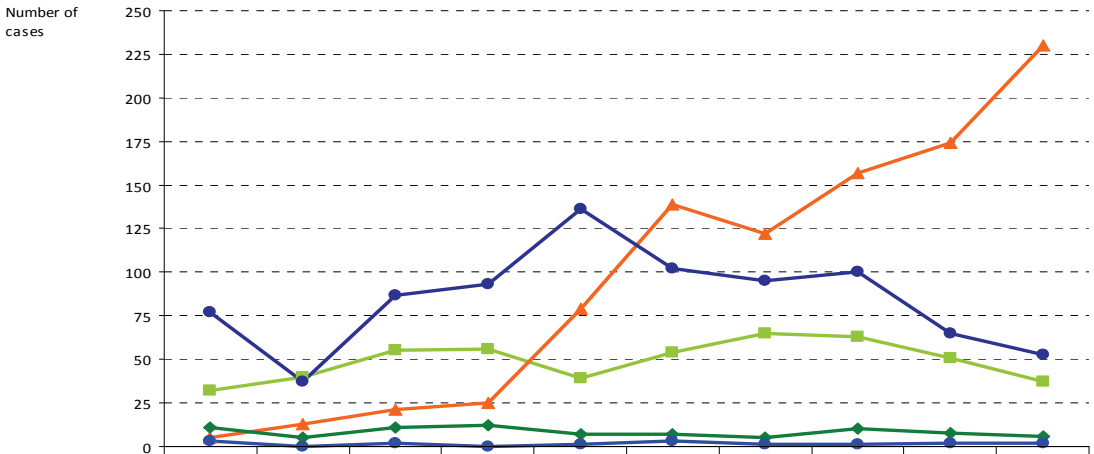


6.B Male infectious syphilis case reports and rates in BC by age group, 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Case	0	0	0	0	0	0	0	0	0	0
	Rates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 - 19 yrs	Case	0	0	0	1	0	3	2	4	0	2
	Rates	0.0	0.0	0.0	0.7	0.0	2.1	1.4	2.8	0.0	1.4
20 - 24 yrs	Case	6	2	12	8	9	9	10	16	12	20
	Rates	4.5	1.5	8.8	5.7	6.1	6.0	6.4	10.1	7.6	12.6
25 - 29 yrs	Case	6	4	8	9	14	21	17	14	19	34
	Rates	4.2	2.9	5.9	6.7	10.4	15.4	12.1	9.7	12.7	21.7
30 - 39 yrs	Case	22	20	35	42	66	76	75	72	79	70
	Rates	6.7	6.1	10.9	13.3	21.4	25.1	24.9	23.9	26.1	23.0
40 - 59 yrs	Case	30	28	39	44	67	98	91	130	123	147
	Rates	5.4	4.9	6.6	7.3	10.9	15.5	14.1	19.7	18.5	21.9
60+ yrs	Case	6	5	9	9	15	19	7	18	11	13
	Rates	1.9	1.6	2.8	2.7	4.3	5.3	1.9	4.7	2.8	3.1
Total*	Case	70	59	103	113	171	226	202	254	244	286
	Rates	3.5	2.9	5.1	5.5	8.3	10.8	9.6	11.9	11.2	13.0

Rate per 100,000 population
*Includes cases under age 10 and unknown/missing age

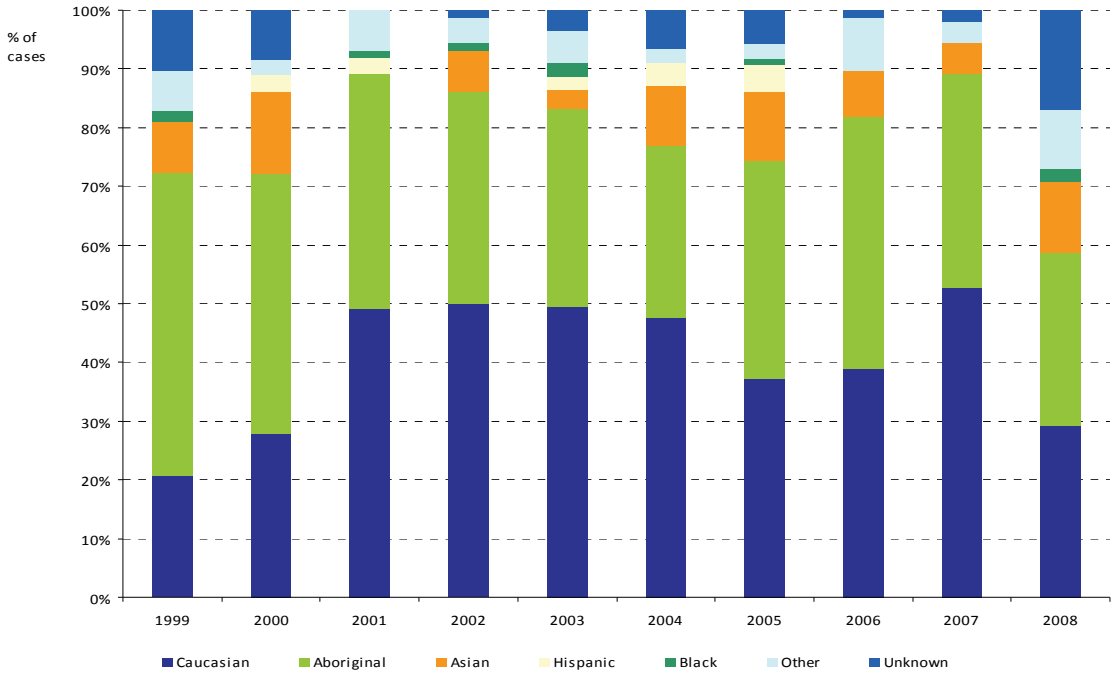
6.8 Infectious syphilis case reports in BC by exposure category, 1999 to 2008



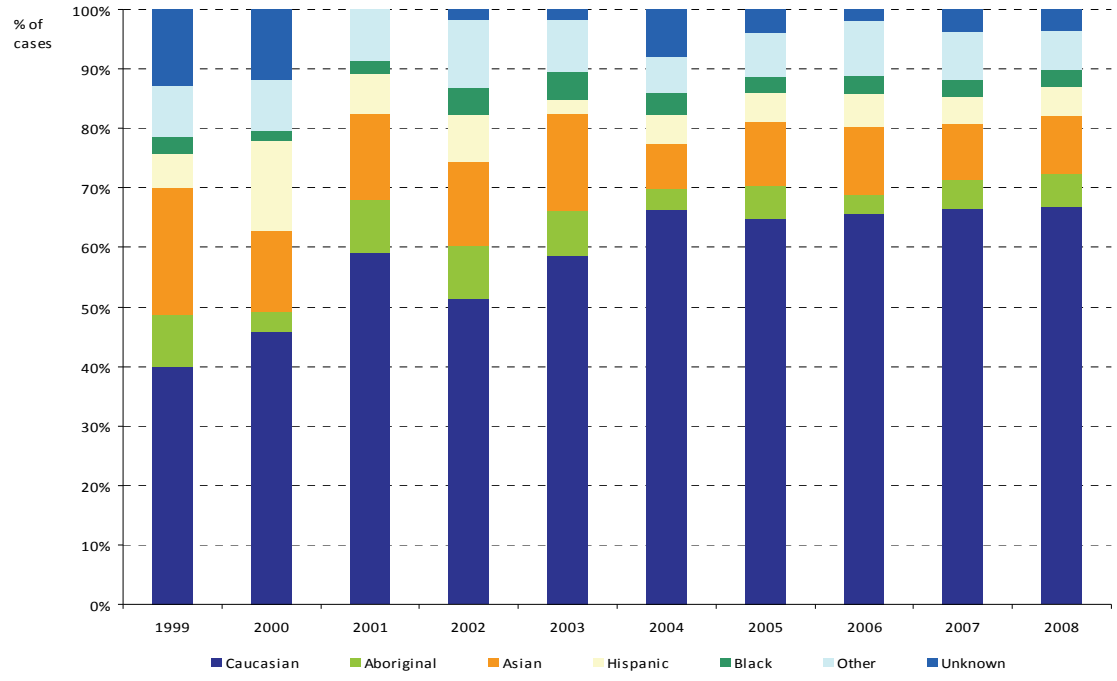
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
HET	32	40	55	56	39	54	65	63	51	37
MSM	5	13	21	25	79	139	122	157	174	230
Outside	11	5	11	12	7	7	5	10	8	6
Street/STW	77	37	87	93	136	102	95	100	65	53
Other/Unknown	3	0	2	0	1	3	1	1	2	2

HET = Heterosexual
MSM = Men who have Sex with Men
Outside = Acquired Outside of Canada
Street/STW = Street-Involved, Sex Trade Worker and Patron
Other/Unknown = Other or Unknown Risk

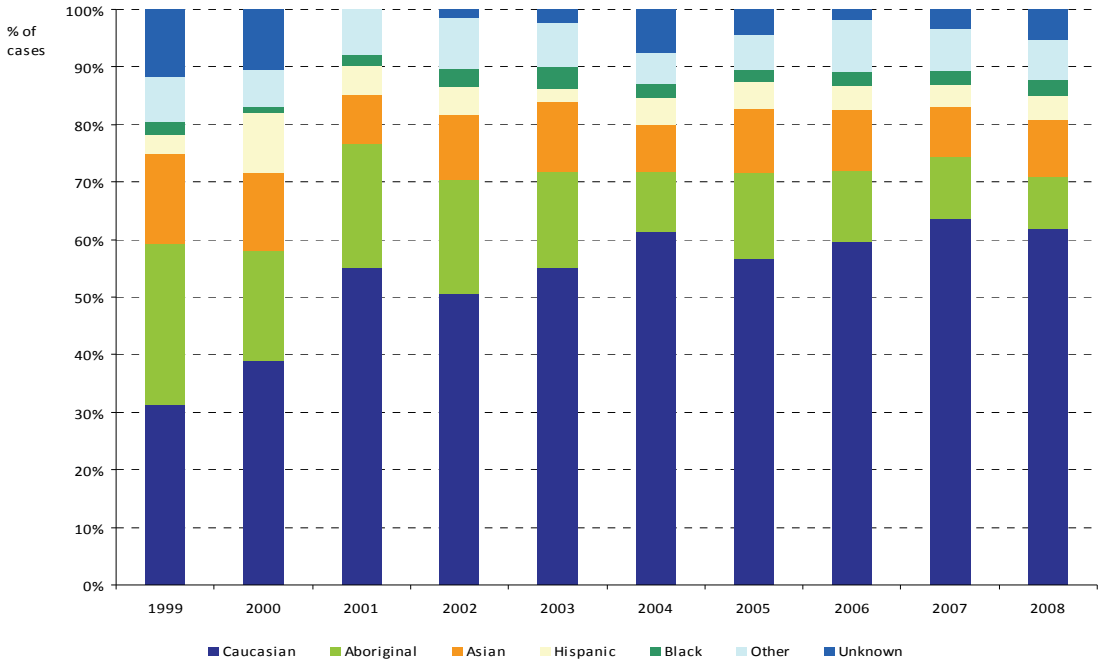
6.9 Female infectious syphilis case reports in BC by ethnicity, 1999 to 2008



6.10 Male infectious syphilis case reports in BC by ethnicity, 1999 to 2008



6.11 Total infectious syphilis case reports in BC by ethnicity, 1999 to 2008



6.C Infectious syphilis case reports and proportions in BC by ethnicity, 2008

		Caucasian	Aboriginal	Asian	Hispanic	Black	Other*	Unknown
Cases	Female	12	12	5	0	1	4	7
	Male	191	16	28	14	8	19	10
	Transgender/Unknown	0	1	0	0	0	0	0
	Total	203	29	33	14	9	23	17
%	Female	29.3	29.3	12.2	0.0	2.4	9.8	17.1
	Male	66.8	5.6	9.8	4.9	2.8	6.6	3.5
	Total	61.9	8.8	10.1	4.3	2.7	7.0	5.2

*Other includes Arab/West Asians, South Asians and Others

Congenital Syphilis

Between 2005 and 2008, nine cases of early congenital syphilis were reported, compared with two cases over the prior six years. Two cases of early congenital syphilis were identified in 2008, for a rate of 4.5 per 100,000 live births. Delayed access to prenatal care and treatment, particularly in women with a history of substance use or street involvement, is a contributing factor to congenital syphilis cases.

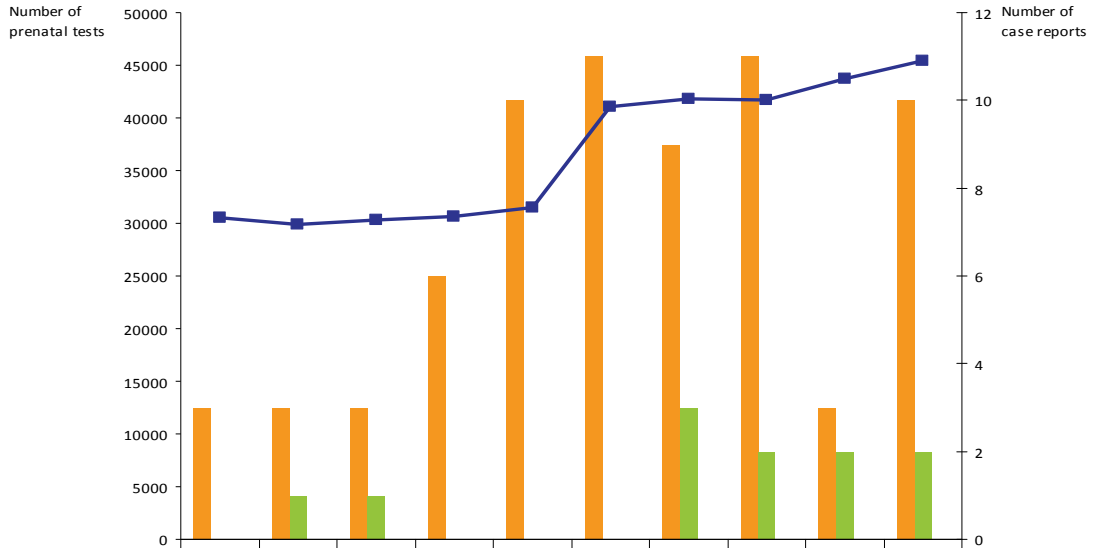
In 2008, ten cases of infectious syphilis were identified among pregnant women (maternal syphilis). The number of maternal syphilis cases has increased provincially since 2001 (with the exception of 2007, where three maternal syphilis cases were identified).

Prenatal Syphilis Testing

The number of prenatal syphilis tests increased in 2004 due to the revision of a laboratory requisition form which improved the identification of prenatal syphilis testing. This improved identification method indicates that the number of prenatal syphilis tests was likely undercounted prior to 2004.

In 2008, 45,450 prenatal screening tests for syphilis were conducted. While the exact coverage of prenatal syphilis testing is unknown among pregnant women, there is an average of approximately 41,000 live births annually in BC which suggests that the coverage of prenatal syphilis testing is high.

6.12 Maternal and early congenital infectious syphilis case reports in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Maternal reports	3	3	3	6	10	11	9	11	3	10
Early congenital reports	0	1	1	0	0	0	3	2	2	2
Early congenital rate*	0.0	2.5	2.5	0.0	0.0	0.0	7.4	4.8	4.6	4.5
Prenatal tests	30541	29917	30315	30637	31455	41064	41812	41657	43681	45450

*Rate per 100,000 live births

HIV

Notes Regarding the Interpretation of HIV Data

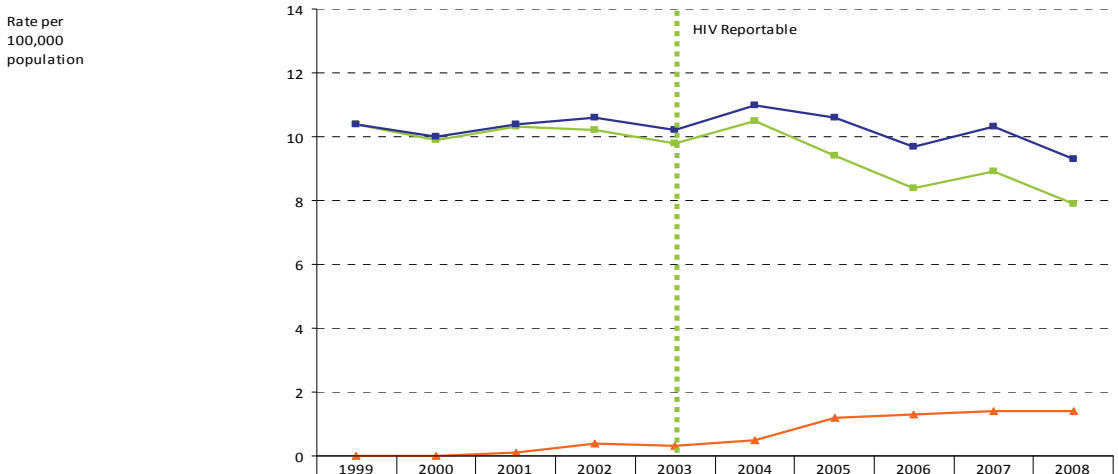
The number of new positive HIV tests is not a true reflection of the number of new HIV infections per year (i.e., HIV incidence), as an individual may have a new positive HIV test one or more years after they became infected with HIV.

HIV became a reportable disease in BC in 2003, which was accompanied by enhanced follow-up of new positive HIV tests by HIV designated nurses. This change has led to more complete follow-up of individuals having new positive HIV tests, and has had a demonstrable impact on the quality of HIV surveillance data through:

- The improved identification of individuals having a first positive HIV test in BC who have a previous positive HIV test outside of BC. These previously positive individuals are excluded from surveillance reporting. As shown in Figure 7.1, the increased exclusion of individuals with a previous positive HIV test has contributed to the observed decline in new positive HIV tests observed in BC since 2004.
- The improved identification of exposure category and ethnicity, resulting in a decrease in the proportion of new positive HIV tests each year where exposure or ethnicity is unknown.

This data quality issue needs to be considered when comparing trends before and after 2003. In this report, we have added a line indicating when HIV became reportable to each figure to serve as a visual reminder of this major influence on observed trends.

7.1 Reported positive HIV test rates* in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - New (+) in BC	416	400	420	418	409	441	400	361	389	350
Reports - 1st (+) in BC, Prev (+) outside BC	n/a	2	6	17	13	20	50	57	63	61
Reports - Total (+) in BC	416	402	426	435	422	461	450	418	452	411
Rate - New (+) in BC	10.4	9.9	10.3	10.2	9.8	10.5	9.4	8.4	8.9	7.9
Rate - 1st (+) in BC, Prev (+) outside BC	n/a	0.0	0.1	0.4	0.3	0.5	1.2	1.3	1.4	1.4
Rate - Total (+) in BC	10.4	10.0	10.4	10.6	10.2	11.0	10.6	9.7	10.3	9.3

*Caution is advised in interpreting historic trends of New Positive Rates of HIV.

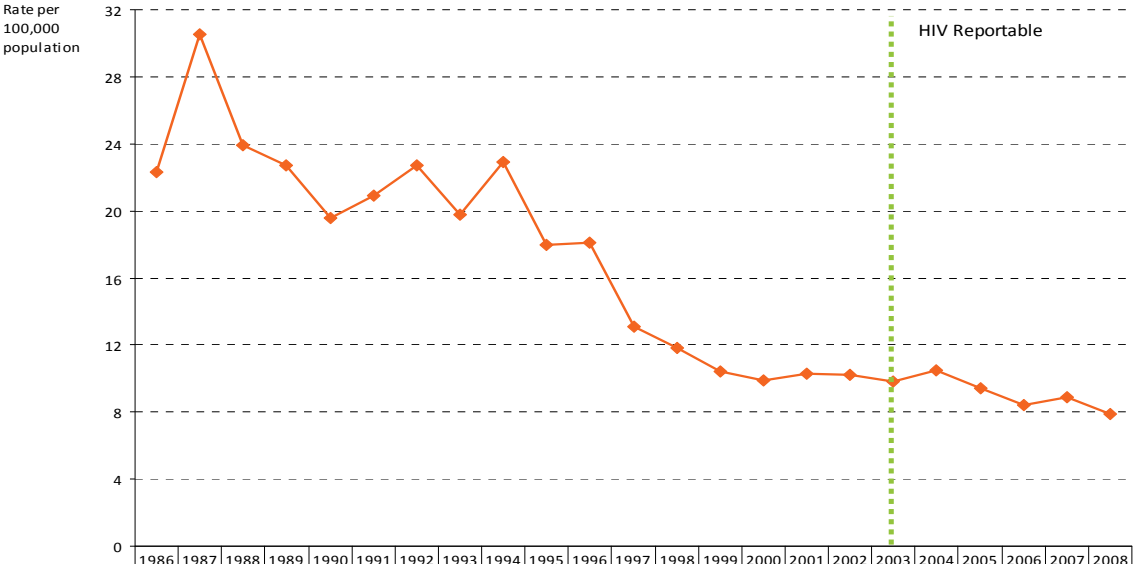
For interpretation of ethnicity and exposure category data, the data presented in this report for 2008 is not final. There is an expected delay in collection of this information for individuals having a new positive HIV test, resulting in a proportion of individuals having unknown ethnicity or exposure category. This proportion will have decreased by the time of next year's report.

Newly Positive HIV tests

The rate of new positive HIV tests decreased in 2008 to 7.9 (350 cases) from 8.9 per 100,000 (389 cases) in 2007, and has been approaching the overall Canadian rate in recent years. The rate of new positive HIV tests continues to be higher among males than females, with the highest rates among males between the ages of 25 and 39 years, and females aged 25-29 years. Increases and decreases in the rate of new positive HIV tests were observed around the province. The highest rates of new positive HIV tests were in Vancouver HSDA (28.0 per 100,000; 178 cases), and Northwest HSDA (16.9 per 100,000; 13 cases).

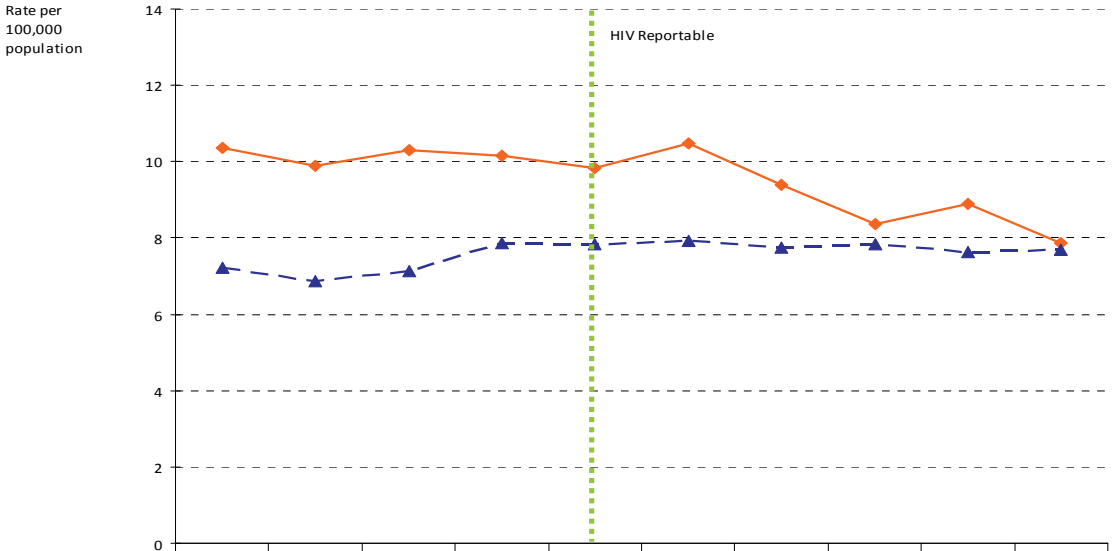
At the time of this report, the ethnicity of 55 individuals having a new positive HIV test (15.7%) in 2008 is unknown. In 2008, the majority of new positive HIV cases were among persons of Caucasian ethnicity (175, 50%), followed by Aboriginal (36 cases, 10.3%) and Asian (30 cases, 8.6%) persons. Aboriginal females in particular are disproportionately represented in BC's HIV epidemic, accounting for 25.0% of all new positive HIV cases among females. Aboriginal males comprised 7.3% of all new positive HIV cases among males. Trends by ethnicity have been relatively stable over time.

7.2 Persons testing newly positive for HIV in BC, historical trend, 1986 to 2008



	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
BC Reports	670	929	746	726	645	704	788	706	840	681	702	519	471	416	400	420	418	409	441	400	361	389	350
BC Rate	22.3	30.5	23.9	22.7	19.6	20.9	22.7	19.8	22.9	18.0	18.1	13.1	11.8	10.4	9.9	10.3	10.2	9.8	10.5	9.4	8.4	8.9	7.9

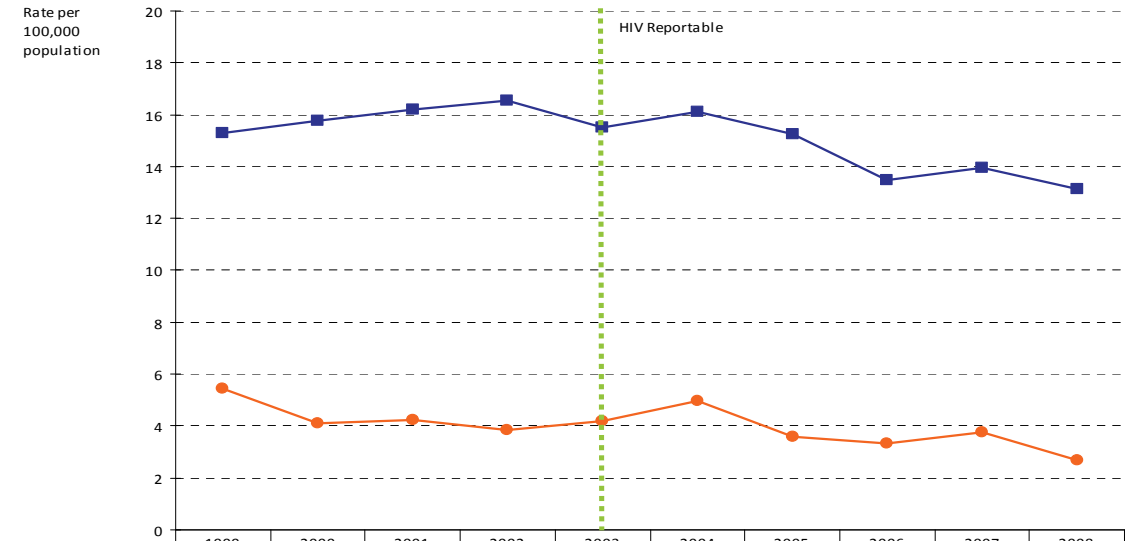
7.3 Persons testing newly positive for HIV in BC, 1999 to 2008



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
BC Reports	416	400	420	418	409	441	400	361	389	350
BC Rate	10.4	9.9	10.3	10.2	9.8	10.5	9.4	8.4	8.9	7.9
Canadian Rate	7.2	6.9	7.1	7.9	7.8	7.9	7.7	7.8	7.6	7.7

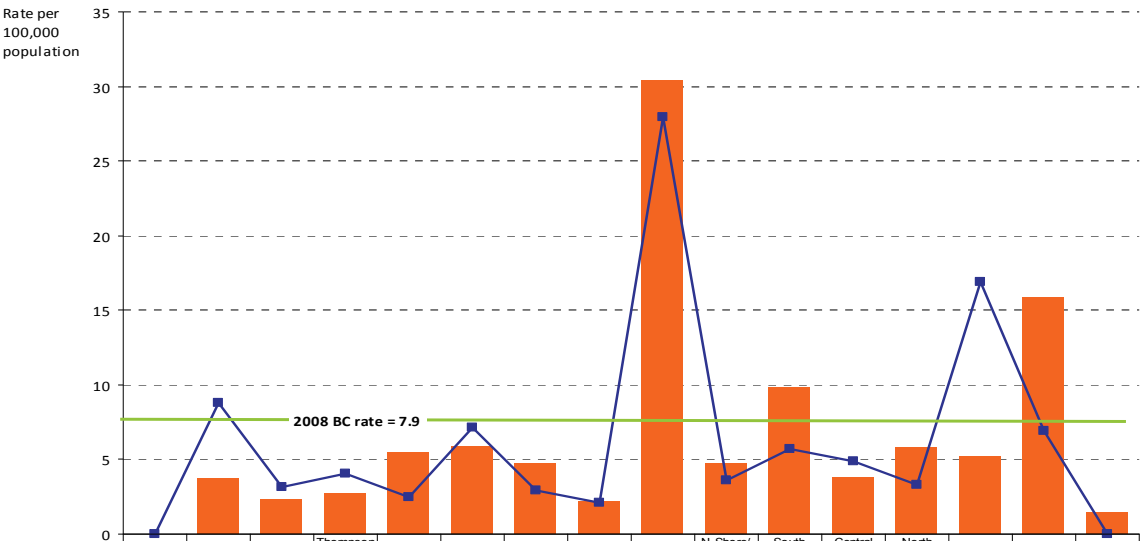
*2008 Canadian rate is projected and is subject to change (Public Health Agency of Canada, 2009).

7.4 Persons testing newly positive for HIV in BC by sex, 1999 to 2008



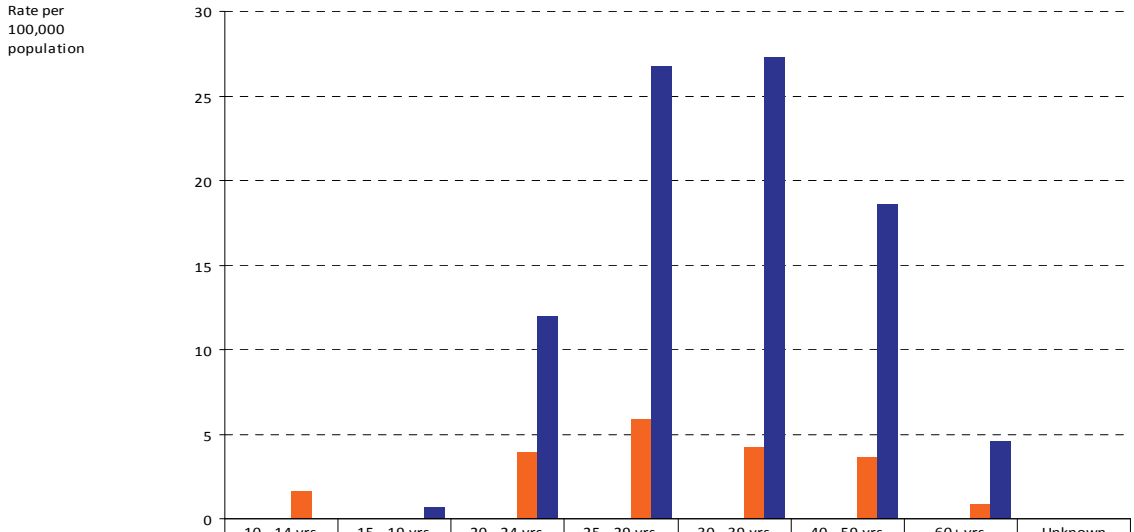
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Reports - Male	305	316	328	338	320	336	322	289	303	289
Reports - Female	110	83	87	80	88	105	77	72	83	60
Rate - Male	15.3	15.8	16.2	16.6	15.5	16.1	15.2	13.5	13.9	13.1
Rate - Female	5.5	4.1	4.2	3.9	4.2	5.0	3.6	3.3	3.8	2.7

7.5 Persons testing newly positive for HIV in BC by health service delivery area, 2007 to 2008



	East Kootenay	Kootenay Boundary	Okanagan	Thompson Cariboo Shuswap	Fraser East	Fraser North	Fraser South	Richmond	Vancouver	N. Shore/ Coast Garibaldi	South Vancouver Island	Central Vancouver Island	North Vancouver Island	Northwest	Northern Interior	Northeast
Reports 2008	0	7	11	9	7	42	20	4	178	10	21	13	4	13	10	0
Rate 2007	0.0	3.7	2.3	2.7	5.5	5.9	4.8	2.1	30.4	4.7	9.8	3.8	5.8	5.2	15.8	1.5
Rate 2008	0.0	8.8	3.1	4.0	2.5	7.1	2.9	2.1	28.0	3.6	5.7	4.9	3.3	16.9	6.9	0.0

7.6 Persons testing newly positive for HIV in BC by age group and sex, 2008



	10 - 14 yrs	15 - 19 yrs	20 - 24 yrs	25 - 29 yrs	30 - 39 yrs	40 - 59 yrs	60+ yrs	Unknown
Reports - Female	2	0	6	9	13	25	4	0
Reports - Male	0	1	19	42	83	125	19	0
Reports - Trans/Unknown	0	0	0	0	0	1	0	0
Rates - Female	1.6	-	3.9	5.9	4.2	3.7	0.8	
Rates - Male	-	0.7	12.0	26.8	27.3	18.6	4.6	

7.A Females testing newly positive for HIV in BC by age group, 1999 to 2008

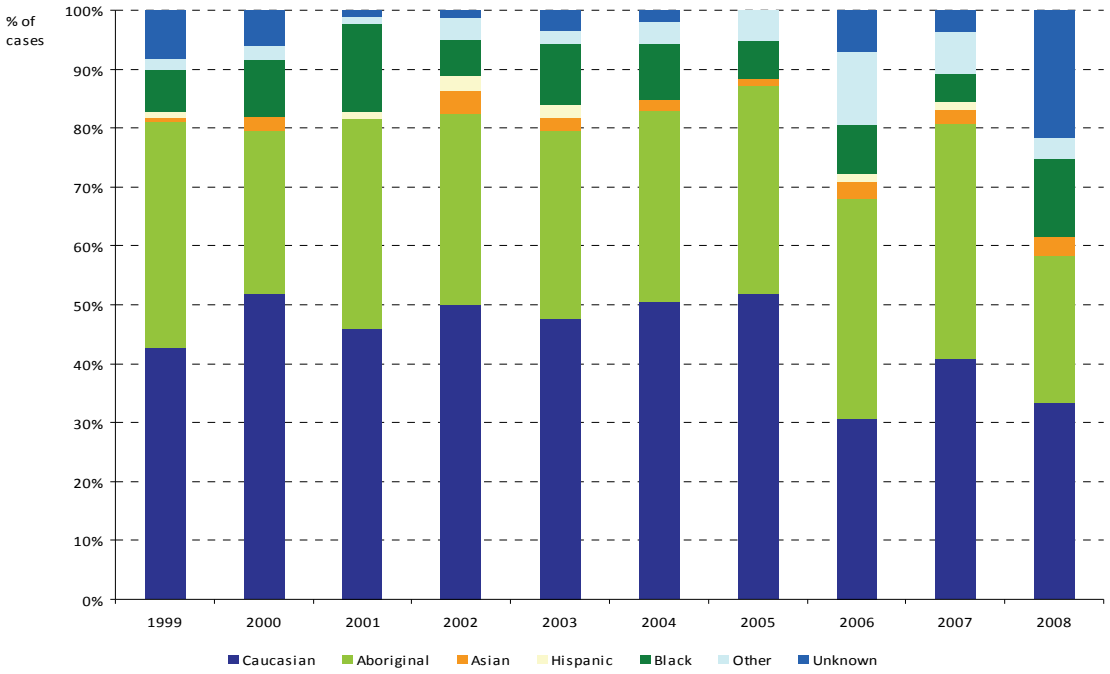
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Case	0	0	0	0	0	2	0	0	0	2
	Rates	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
15 - 19 yrs	Case	3	4	8	4	2	3	3	2	1	0
	Rates	2.3	3.0	5.9	2.9	1.5	2.2	2.2	1.5	0.7	0.0
20 - 24 yrs	Case	17	12	18	6	11	12	7	15	15	6
	Rates	13.2	9.3	13.7	4.4	7.9	8.3	4.7	10	9.9	3.9
25 - 29 yrs	Case	18	14	17	16	15	17	11	10	21	9
	Rates	12.8	10.2	12.7	12.0	11.2	12.5	7.9	7.0	14.3	5.9
30 - 39 yrs	Case	36	24	28	35	33	38	19	23	20	13
	Rates	10.9	7.4	8.7	11.0	10.6	12.4	6.2	7.5	6.5	4.2
40 - 59 yrs	Case	32	29	15	17	25	28	34	15	25	25
	Rates	5.7	5.0	2.5	2.8	4.0	4.4	5.2	2.2	3.7	3.7
60+ yrs	Case	4	0	0	1	2	3	2	6	1	4
	Rates	1.1	0.0	0.0	0.3	0.5	0.7	0.5	1.4	0.2	0.8
Total*	Case	110	83	87	80	88	105	77	72	83	60
	Rates	5.5	4.1	4.2	3.9	4.2	5.0	3.6	3.3	3.8	2.7

7.B Males testing newly positive for HIV in BC by age group, 1999 to 2008

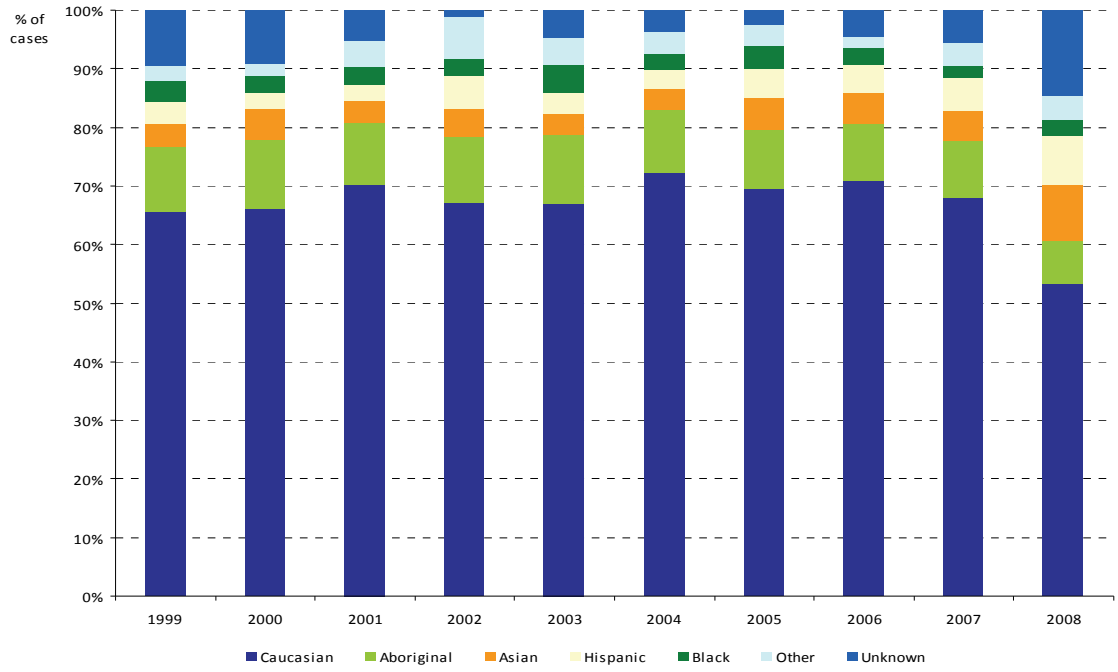
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
10 - 14 yrs	Case	0	1	1	0	1	0	0	1	0	0
	Rates	0.0	0.7	0.7	0.0	0.7	0.0	0.0	0.7	0.0	0.0
15 - 19 yrs	Case	2	3	2	1	2	2	2	3	1	1
	Rates	1.4	2.1	1.4	0.7	1.4	1.4	1.4	2.1	0.7	0.7
20 - 24 yrs	Case	18	19	16	12	12	17	18	18	21	19
	Rates	13.5	14.2	11.7	8.5	8.2	11.2	11.6	11.4	13.2	12.0
25 - 29 yrs	Case	36	41	45	34	32	32	23	36	34	42
	Rates	25.3	29.6	33.2	25.3	23.8	23.4	16.4	25.0	22.8	26.8
30 - 39 yrs	Case	133	117	114	124	105	99	110	87	104	83
	Rates	40.3	36.0	35.5	39.4	34.1	32.7	36.5	28.9	34.4	27.3
40 - 59 yrs	Case	99	122	135	145	153	166	154	122	130	125
	Rates	17.8	21.4	23.0	24.1	24.8	26.3	23.8	18.5	19.5	18.6
60+ yrs	Case	15	12	12	21	15	20	15	21	13	19
	Rates	4.8	3.8	3.7	6.3	4.3	5.6	4.1	5.5	3.3	4.6
Total*	Case	305	316	328	338	320	336	322	289	303	289
	Rates	15.3	15.8	16.2	16.6	15.5	16.1	15.2	13.5	13.9	13.1

Rate per 100,000 population
*Includes cases under age 10 and unknown/missing age

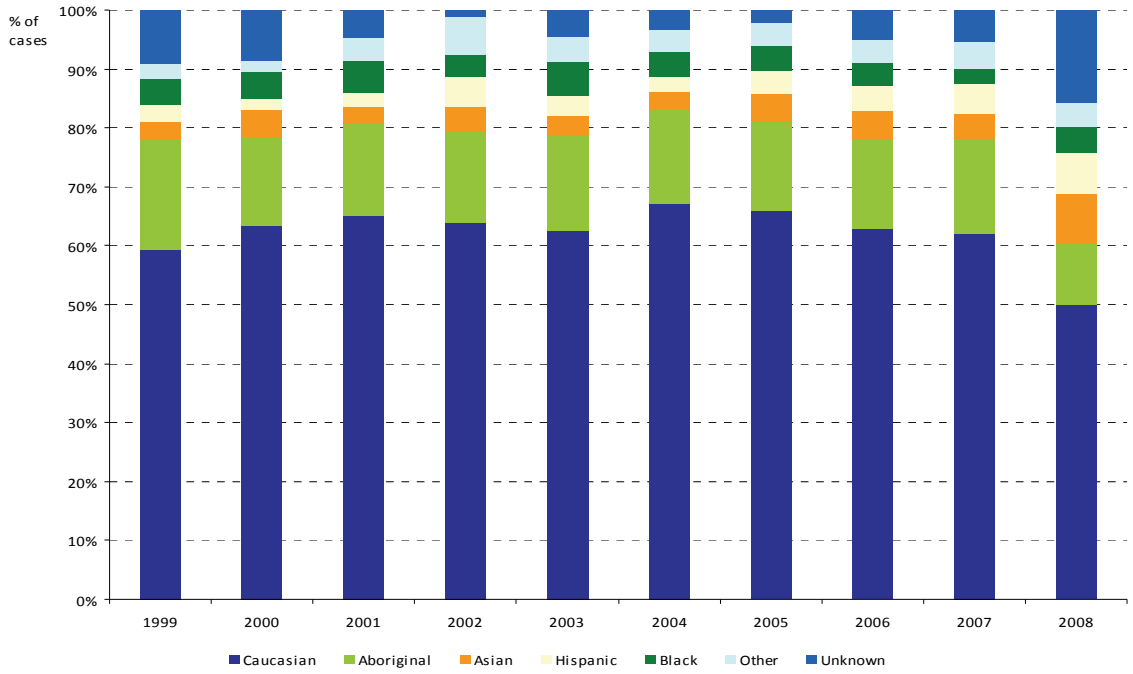
7.7 Females testing newly positive for HIV in BC by ethnicity, 1999 to 2008



7.8 Males testing newly positive for HIV in BC by ethnicity, 1999 to 2008



7.9 Persons testing newly positive for HIV in BC by ethnicity, 1999 to 2008



7.C Persons testing newly positive for HIV in BC by ethnicity and sex, 2008

		Caucasian	Aboriginal	Asian	Hispanic	Black	Other*	Unknown
Cases	Female	20	15	2	0	8	2	13
	Male	154	21	28	24	8	12	42
	Transgender/Unknown	1	0	0	0	0	0	0
	Total	175	36	30	24	16	14	55
%	Female	33.3	25.0	3.3	0.0	13.3	3.3	21.7
	Male	53.3	7.3	9.7	8.3	2.8	4.2	14.5
	Total	50.0	10.3	8.6	6.9	4.6	4.0	15.7

*Other includes Arab/West Asians, South Asians and Others

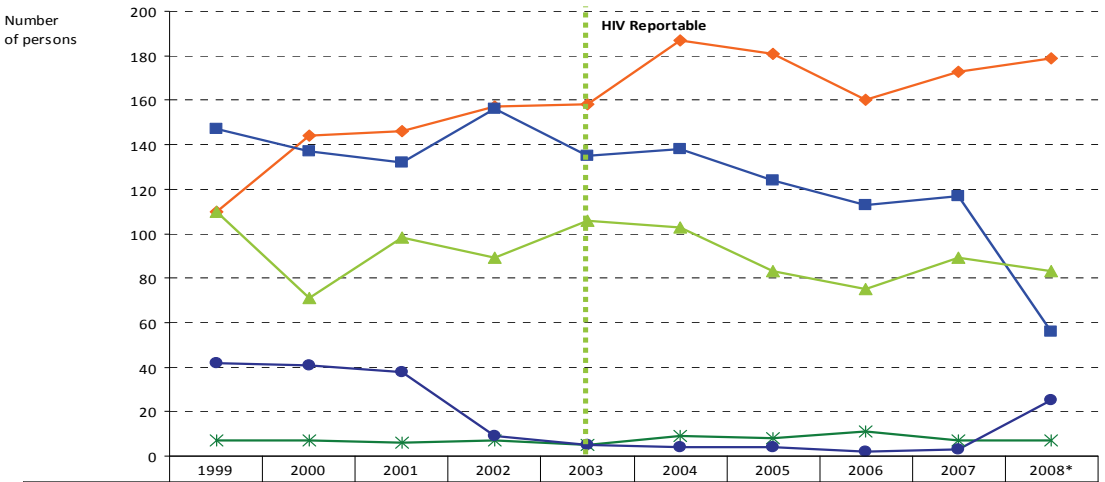
New Positive HIV Tests by Exposure Category

At the time of this report, the exposure category of 25 individuals having a new positive HIV test (7.1%) in 2008 is not identified or is unknown. The final number of individuals in each exposure category for 2008 will change slightly as further information on these 25 individuals is received.

Gay, bisexual, and other men who have sex with men (MSM) continue to be the population most affected by HIV in BC, and now currently comprise over half of all new positive HIV tests in 2008 (179 cases, 51.1%). The number of new positive HIV tests among MSM has increased over time and has not changed substantially from 2004 to 2008.

In contrast, the number of new positive HIV tests among persons who inject drugs (IDU; 56 cases, 16.0%) and individuals in the heterosexual exposure category (76 cases, 21.7%) has decreased since 2004. The large decrease in number of new positive HIV tests among IDU occurred for both males and females, and was observed in most regional health authorities. When looking at trends by quarter, this decline in the new positive HIV tests among IDU may have begun in the last two quarters of 2007. There are several potential explanations for this trend, such as changes in injection behaviours, HIV testing patterns, and the impact of HIV prevention programs in this population including harm reduction programs. We are currently working with public health partners, researchers, and other agencies working with IDU or in the field of substance use in order to better understand this trend.

7.10 Persons testing newly positive for HIV in BC by exposure category, 1999 to 2008

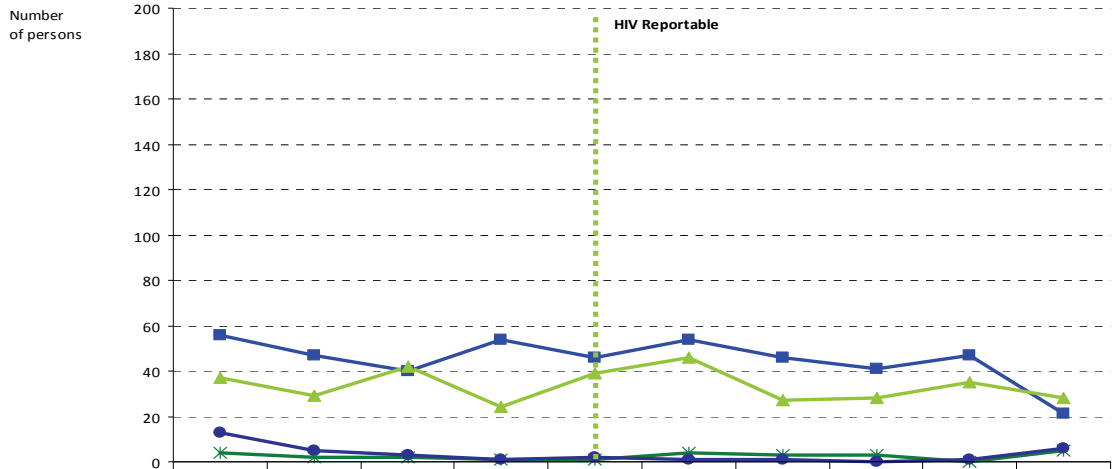


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
MSM	110	144	146	157	158	187	181	160	173	179
IDU	147	137	132	156	135	138	124	113	117	56
HET	110	71	98	89	106	103	83	75	89	83
Other	7	7	6	7	5	9	8	11	7	7
NIR/Unknown	42	41	38	9	5	4	4	2	3	25

*2008 risk values are not final - the number of persons in each risk category may increase as the number of unknowns decreases.

MSM = Men having Sex with Men
HET = Heterosexual contact
IDU = Injection Drug Use
NIR = No Identified Risk

7.11 Females testing newly positive for HIV in BC by exposure category, 1999 to 2008

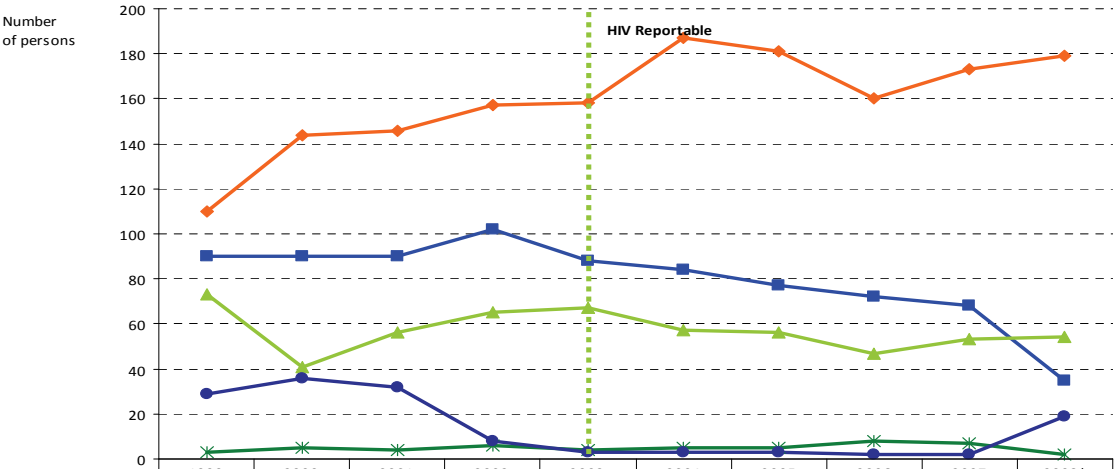


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
IDU	56	47	40	54	46	54	46	41	47	21
HET	37	29	42	24	39	46	27	28	35	28
Other	4	2	2	1	1	4	3	3	0	5
NIR/Unknown	13	5	3	1	2	1	1	0	1	6

*2008 risk values are not yet final - the number of persons in each risk category may increase as the number of unknowns decreases.

IDU = Injection Drug Use HET = Heterosexual contact
NIR = No Identified Risk

7.12 Males testing newly positive for HIV in BC by exposure category, 1999 to 2008

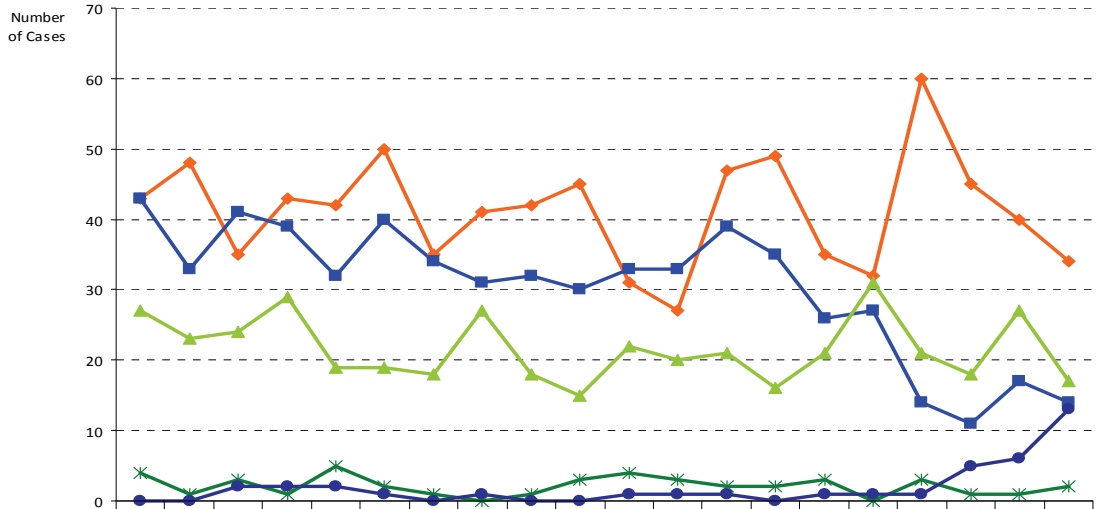


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
MSM	110	144	146	157	158	187	181	160	173	179
IDU	90	90	90	102	88	84	77	72	68	35
HET	73	41	56	65	67	57	56	47	53	54
Other	3	5	4	6	4	5	5	8	7	2
NIR/Unknown	29	36	32	8	3	3	3	2	2	19

*2008 risk values are not yet final - the number of persons in each risk category may increase as the number of unknowns decreases.

MSM = Men having Sex with Men IDU = Injection Drug Use
HET = Heterosexual contact NIR = No Identified Risk

7.13 Persons testing newly positive for HIV in BC by exposure category, 2004 to 2008 (by quarter)



	2004 Q 1	2004 Q 2	2004 Q 3	2004 Q 4	2005 Q 1	2005 Q 2	2005 Q 3	2005 Q 4	2006 Q 1	2006 Q 2	2006 Q 3	2006 Q 4	2007 Q 1	2007 Q 2	2007 Q 3	2007 Q 4	2008 Q 1	2008 Q 2	2008 Q 3	2008 Q 4
MSM	43	48	35	43	42	50	35	41	42	45	31	27	47	49	35	32	60	45	40	34
IDU	43	33	41	39	32	40	34	31	32	30	33	33	39	35	26	27	14	11	17	14
HET	27	23	24	29	19	19	18	27	18	15	22	20	21	16	21	31	21	18	27	17
Other	4	1	3	1	5	2	1	0	1	3	4	3	2	2	3	0	3	1	1	2
NIR/UNK	0	0	2	2	2	1	0	1	0	0	1	1	1	0	1	1	1	5	6	13

7.D Persons testing newly positive for HIV in BC by exposure category and by health authority, 1999 to 2008

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
IHA	MSM	3	4	4	6	10	4	6	7	3	10
	IDU	7	14	14	5	10	9	6	8	10	6
	HET	7	6	8	2	7	5	8	1	4	9
	Other	2	1	0	0	0	1	0	1	0	1
	NIR/UNK	0	2	4	0	1	0	0	0	0	1
FHA	MSM	10	20	13	17	27	40	25	23	29	30
	IDU	43	39	32	45	25	35	35	23	17	8
	HET	27	19	28	33	40	32	23	24	33	24
	Other	0	2	1	4	1	1	4	2	1	3
	NIR/UNK	5	14	13	2	3	1	1	0	1	4
VCHA	MSM	73	98	106	113	103	109	125	104	123	119
	IDU	85	79	72	79	63	55	56	47	45	21
	HET	58	33	43	41	45	42	28	33	38	35
	Other	4	3	4	3	4	5	3	3	1	2
	NIR/UNK	30	19	19	6	1	1	1	1	0	15
VIHA	MSM	11	7	6	9	3	15	10	8	6	18
	IDU	22	16	26	30	35	36	21	32	33	11
	HET	12	10	14	11	10	20	14	7	10	9
	Other	1	1	1	0	0	0	0	3	4	0
	NIR/UNK	6	6	2	1	0	0	0	1	0	0
NHA	MSM	1	0	0	0	1	1	1	2	0	2
	IDU	2	4	5	9	16	20	19	16	22	9
	HET	5	3	4	2	4	3	7	9	4	6
	Other	0	0	0	0	0	2	0	2	1	1
	NIR/UNK	1	0	0	0	0	0	1	0	1	5

HIV in Pregnancy

In this annual report we present data from two information sources to describe HIV infection among pregnant women in BC. As in previous reports, we present data from prenatal HIV testing; however, in this report data from the Oak Tree Clinic is also included. The Oak Tree Clinic provides antenatal care directly or indirectly for pregnant women with HIV infection in BC.

There are important differences between these data sources that need to be understood in order to interpret the data correctly:

- ***Prenatal HIV tests*** are assigned to the year in which the HIV test was performed, and this data includes **all** pregnant women *(including women who do and do not have a live birth).* This data comes from laboratory and surveillance data, which have established limitations to data quality (see Technical Appendix).

- ***Data provided by the Oak Tree Clinic*** includes pregnant women accessing care **who have a live birth,** and year is assigned based on the year of birth. This data comes from clinical data abstraction for women for whom the Clinic provides direct or indirect antenatal HIV care (estimated at close to complete coverage of all pregnant women with HIV infection in BC).

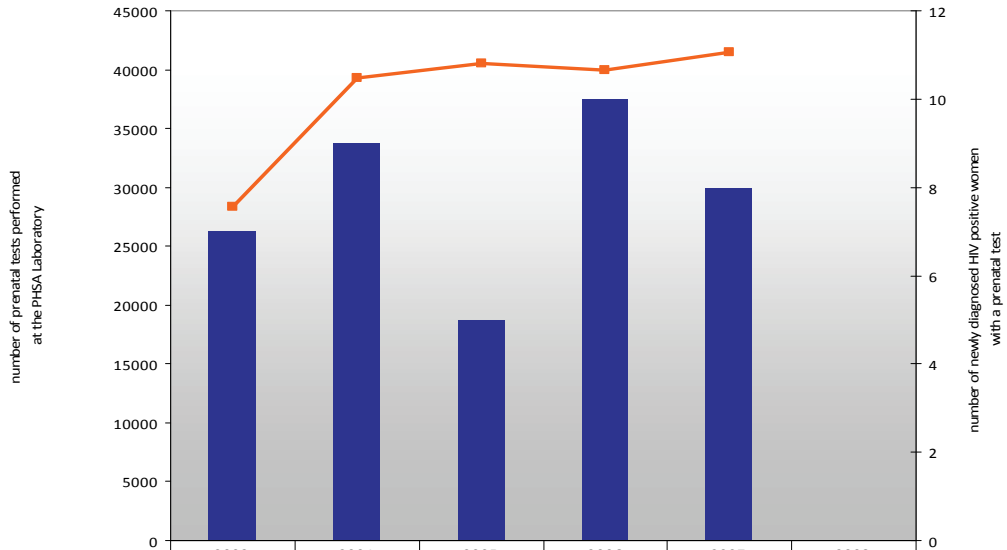
For these reasons, these two data sources are not directly comparable. However, taken together these data provide a more comprehensive overview of HIV in pregnancy in British Columbia.

Prenatal HIV Testing

Prenatal HIV test volume is not yet available for 2008. The total number of prenatal HIV tests conducted by the PHSA laboratory increased in 2004 and has remained relatively steady at approximately 40,000 tests per year. The increase in 2004 was due to improved identification of prenatal HIV tests through a revised laboratory requisition form. In 2005, the most recent year for which accurate denominator data are available, uptake of prenatal HIV testing among pregnant women in BC was an estimated 87%.

Between 2003 and 2008 in HIV surveillance data, 39 women were newly diagnosed as HIV positive through prenatal screening (i.e., "Prenatal testing" indicated as the reason for testing during follow-up of new positive HIV tests). No new diagnoses are known to have occurred as part of prenatal screening in 2008.

7.14 Number of prenatal HIV tests* and women newly diagnosed HIV positive as part of a prenatal test panel in BC, 2003 to 2008



	2003	2004	2005	2006	2007	2008
Newly diagnosed HIV positive women with a prenatal test	7	9	5	10	8	0
Total # prenatal tests	28391	39286	40525	39959	41438	n/a

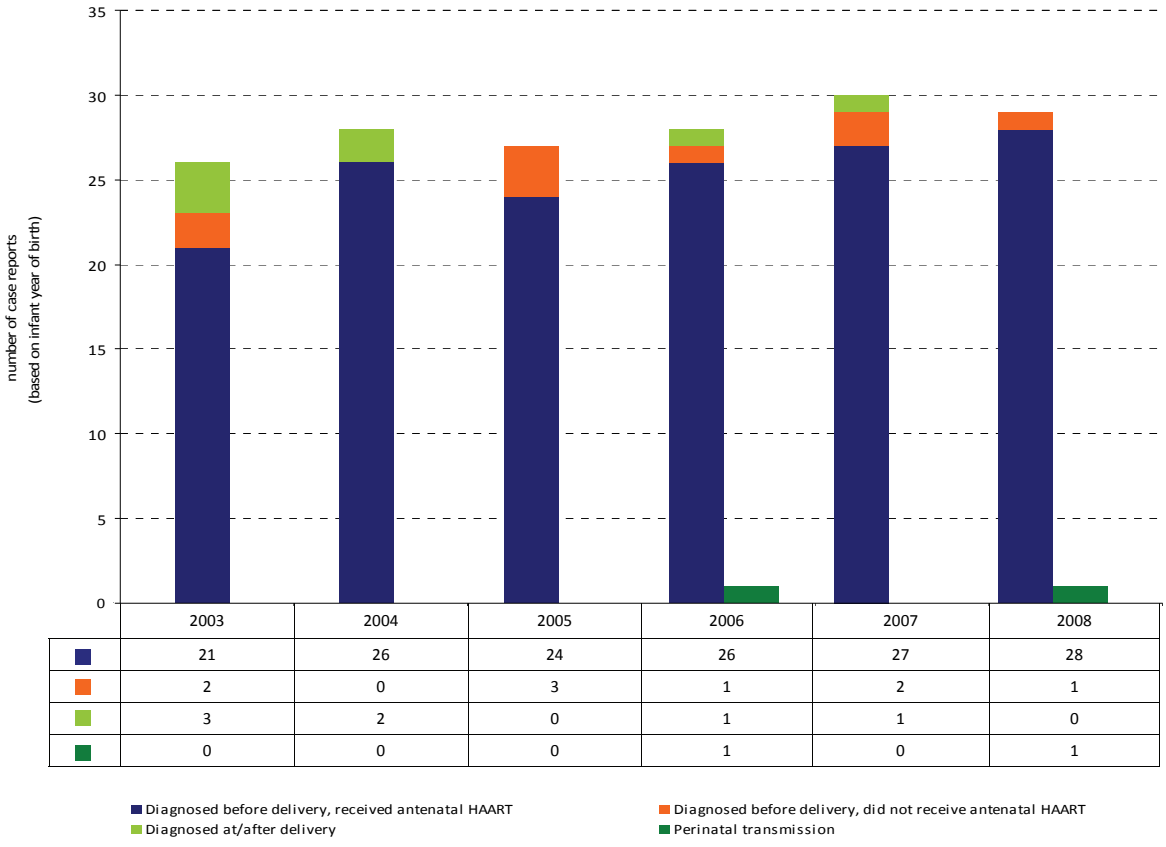
* 2008 prenatal test data was not available at the time of publication

Data Provided by the Oak Tree Clinic

The Oak Tree Clinic (OTC) at Children's & Women's Health Centre of British Columbia directly or indirectly provides antenatal care for pregnant women with HIV infection and their children, including antenatal highly active antiretroviral therapy (HAART) for prevention of mother to child transmission of HIV.

In the absence of antenatal HAART, the transmission rate of HIV to infants born to HIV positive women is estimated at 25%. Between 2003 and 2008, 168 HIV positive pregnant women having live births accessed care at OTC, ranging from 26 to 30 women per year. The majority of women were diagnosed with HIV before conception or delivery (161/168, 95.8%). Of these 161 women, 152 (94.4%) received antenatal HAART prior to delivery and HIV was not diagnosed in any infants born to these women (i.e., transmission rate 0% among women accessing antenatal HAART). However, perinatally acquired HIV infection was diagnosed in two infants born to women who did not receive antenatal HAART prior to delivery.

7.15 Number of HIV positive pregnant women having live births and accessing care at Oak Tree Clinic, 2003 to 2008 (based on infant year of birth)



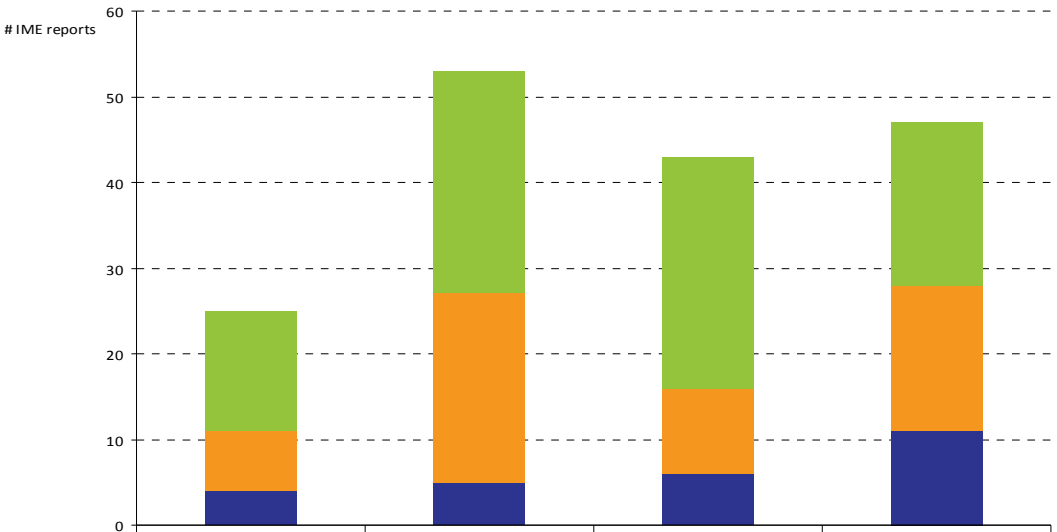
	2003	2004	2005	2006	2007	2008
	21	26	24	26	27	28
	2	0	3	1	2	1
	3	2	0	1	1	0
	0	0	0	1	0	1

Immigration of Individuals with HIV

In 2002, Citizenship and Immigration Canada (CIC) included HIV testing as part of the immigration medical examination (IME) required for all immigration applications, Convention refugees, and refugee claimants. As of September 2004, CIC notifies STI/HIV Prevention and Control at BCCDC of individuals who undergo an IME outside Canada, test positive for HIV, and indicate BC as their intended province of residence. Individuals who undertake their IME within BC, and test positive for HIV, are reported to the BCCDC by the provincial laboratory through routine surveillance.

The number of HIV positive individuals immigrating into BC varies annually and may reflect global migration patterns. In 2008, a total of 47 HIV positive immigrants arrived in BC, 17 (36.2%) coming from countries where HIV is considered to be endemic.

7.16 Number of immigration-related HIV positive reports from endemic and non-endemic countries, 2005 to 2008

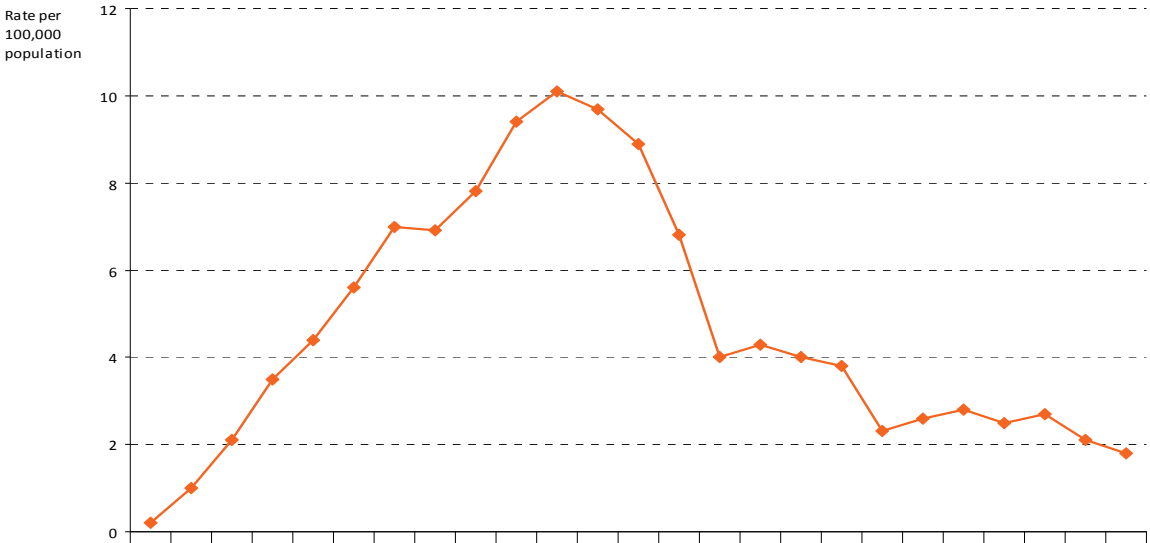


	2005	2006	2007	2008
Non-endemic countries	14	26	27	19
Endemic countries	7	22	10	17
Country unspecified	4	5	6	11

AIDS

Due to expected delays associated with AIDS case reports, this report includes cases through 2007 only. The AIDS rate and new case reports have decreased from a peak in 1993, due primarily to advances in HIV treatment including highly active antiretroviral therapy. The rate of AIDS decreased from 91 (2.1 per 100,000) in 2006 to 78 (1.8 per 100,000) in 2007. The rate of AIDS cases among males was greater than the rate among females, which likely reflects the distribution of HIV between males and females in BC. Rates are variable by HSDA by year; in 2007 the highest rate was recorded in Vancouver HSDA (5.8 per 100,000; 36 cases).

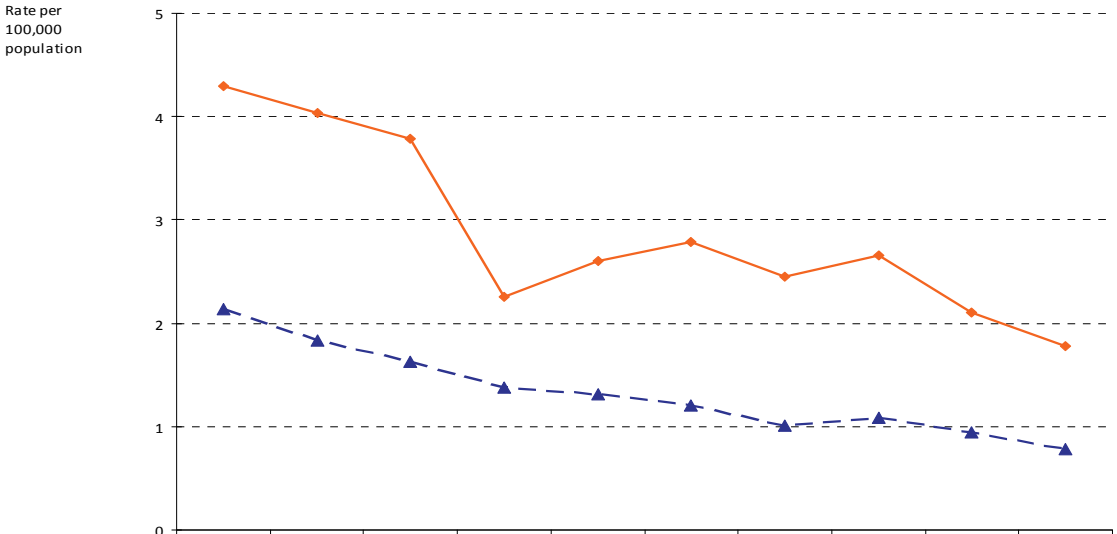
8.1 AIDS case reports and rates in BC, historical trend, 1983 to 2007



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
BC Reports	7	29	62	106	134	175	223	227	263	325	359	355	338	265	158	171	162	153	92	107	116	103	113	91	78
BC Rate	0.2	1.0	2.1	3.5	4.4	5.6	7.0	6.9	7.8	9.4	10.1	9.7	8.9	6.8	4.0	4.3	4.0	3.8	2.3	2.6	2.8	2.5	2.7	2.1	1.8

* 2008 AIDS numbers are not yet available due to delayed reporting.

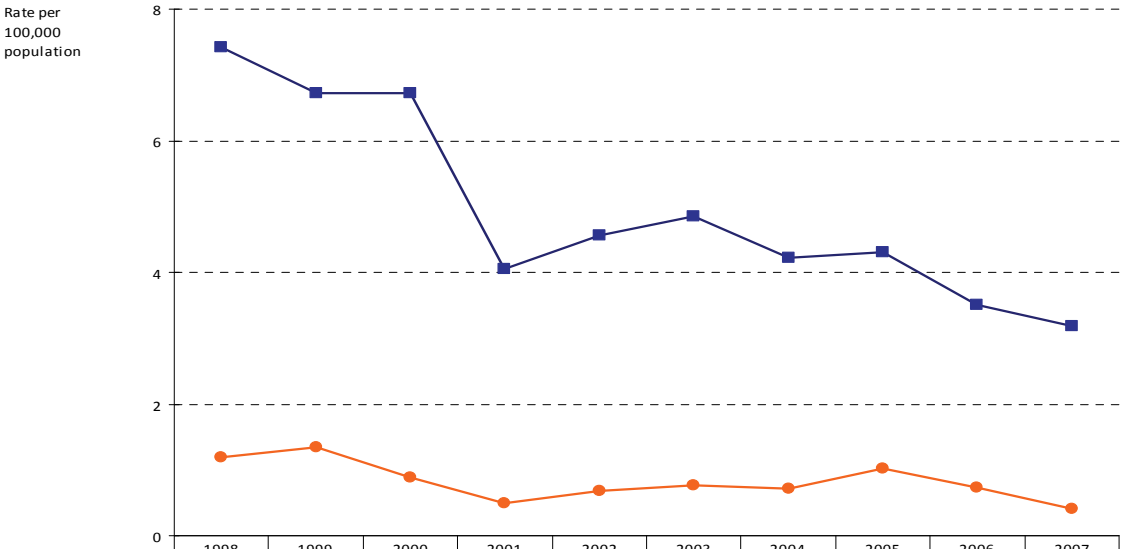
8.2 AIDS case reports and rates in BC, 1998 to 2007



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
BC Reports	171	162	153	92	107	116	103	113	91	78
BC Rate	4.3	4.0	3.8	2.3	2.6	2.8	2.5	2.7	2.1	1.8
Canadian Rate	2.1	1.8	1.6	1.4	1.3	1.2	1.0	1.1	0.9	0.8

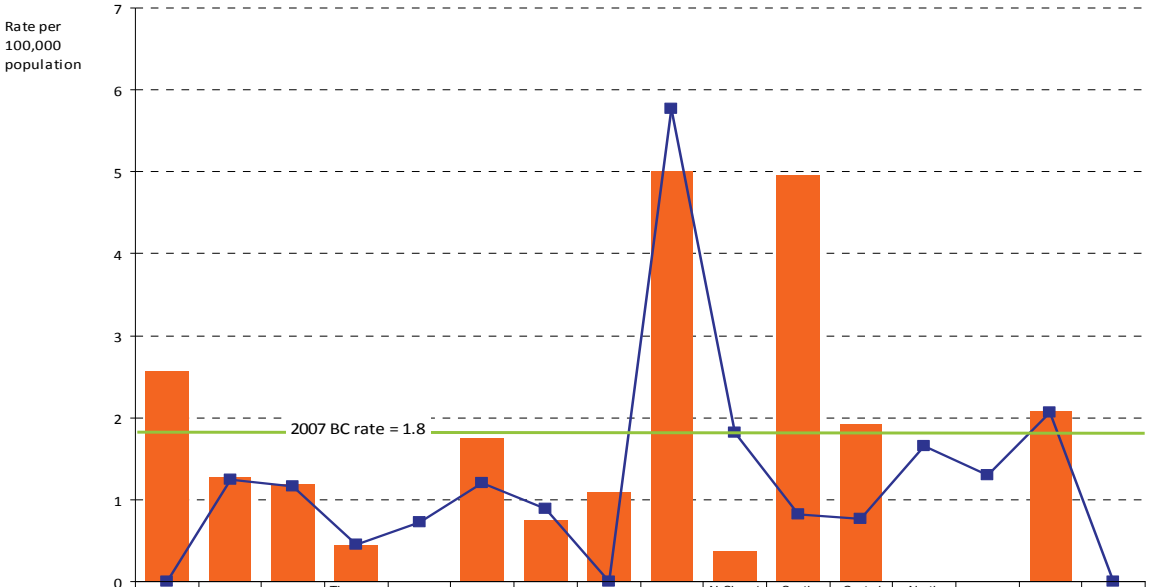
* 2008 AIDS numbers are not yet available due to delayed reporting.

8.3 AIDS case reports and rates in BC by sex, 1998 to 2007



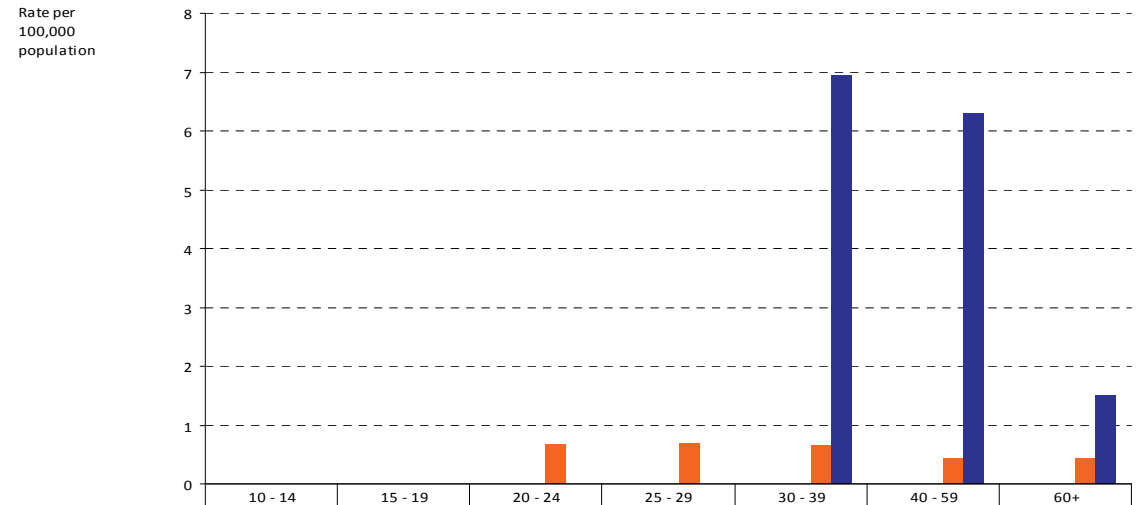
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Reports - Male	147	134	135	82	93	100	88	91	75	69
Reports - Female	24	27	18	10	14	16	15	22	16	9
Rate - Male	7.4	6.7	6.7	4.1	4.6	4.9	4.2	4.3	3.5	3.2
Rate - Female	1.2	1.3	0.9	0.5	0.7	0.8	0.7	1.0	0.7	0.4

8.4 AIDS case reports and rates in BC by health services delivery area, 2006 to 2007



	East Kootenay	Kootenay Boundary	Okanagan	Thompson Cariboo Shuswap	Fraser East	Fraser North	Fraser South	Richmond	Vancouver	N. Shore/ Coast Garibaldi	South Vancouver Island	Central Vancouver Island	North Vancouver Island	Northwest	Northern Interior	Northeast
Reports 2007	0	1	4	1	2	7	6	0	36	5	3	2	2	1	3	0
Rate 2006	2.6	13	12	0.5	0.0	18	0.8	11	5.0	0.4	5.0	19	0.0	0.0	2.1	0.0
Rate 2007	0.0	12	12	0.5	0.7	12	0.9	0.0	5.8	18	0.8	0.8	17	13	2.1	0.0

8.5 AIDS case reports and rates in BC by age group and sex, 2007



	10 - 14	15 - 19	20 - 24	25 - 29	30 - 39	40 - 59	60+
Reports - Female	0	0	1	1	2	3	2
Reports - Male	0	0	0	0	21	42	6
Reports - Trans/Unknown	0	0	0	0	0	0	0
Rates - Females	-	-	0.7	0.7	0.7	0.4	0.4
Rates - Male	-	-	-	-	6.9	6.3	1.5

technical appendix

DATA LIMITATIONS

There are several key limitations to surveillance data which are important to understand in order to interpret surveillance data appropriately:

- The majority of surveillance data presented in this report is extracted from case report forms completed by either health care providers or public health nurses as part of the follow-up process (which includes ensuring appropriate treatment, patient education, and referral to appropriate services). There is an expected reporting delay to receipt of these forms. In this report this primarily affects the reporting of HIV and AIDS data. For HIV data this affects the classification of cases according to exposure category and ethnicity, resulting in a number of cases for the most recent year where this information is unknown. These numbers are not considered final until the following year's annual report.

- Surveillance trends can be affected by factors which do not represent a true increase or decrease in infection rates. For example, trends are influenced by patient or provider testing behaviours, which may result in changes to the number of tests performed each year (e.g., an increasing number of HIV tests are performed each year by the PHSA Laboratory). Changes to laboratory testing may also affect results; for example, the greater acceptability of urine nucleic acid amplification testing for chlamydia and gonorrhea may affect uptake of testing (particularly among males), and these tests have increased sensitivity and capacity for detection compared to other methods such as specimen culture.

- Surveillance data is only reflective of the proportion of the population who test for STI or HIV. Individuals with asymptomatic infection or who have not tested would not be represented in surveillance data.

- Cases are classified by exposure category and ethnicity according to information elicited during following from the case or their health care provider, and under-reporting of this information due to social desirability bias may lead to misclassification.

- HIV is reported as the number of new positive HIV tests, and does not reflect the number of new HIV infections (or HIV incidence) as individuals may test positive years after the time of HIV infection.

- The system of enhanced follow-up for HIV established following the addition of HIV to the reportable diseases list in 2003 has resulted in improved data quality in subsequent years (see text of report for details).

CASE DEFINITIONS FOR REPORTABLE INFECTIONS

Diseases included in this annual report are listed as reportable diseases in the *Communicable Disease Regulation* (Schedule A) of the *Public Health Act.*

Chlamydia

Genital: Detection and confirmation of *C. trachomatis* in anogenital or urinary specimens by appropriate laboratory techniques (e.g. isolation of *C. trachomatis* by culture, demonstration of *C. trachomatis* nucleic acid or antigen).

Extra-genital: Detection and confirmation of *C. trachomatis* in specimens from the conjunctiva, pharynx and other extra-genital sites by appropriate laboratory techniques (e.g. isolation of *C. trachomatis* by culture, demonstration of *C. trachomatis* nucleic acid or antigen).

Perinatally-acquired: Detection and confirmation[1] of *C. trachomatis* in: nasopharyngeal or other respiratory tract specimens from an infant who developed pneumonia in the first 6 months of life, or conjunctival specimens from an infant who developed conjunctivitis in the first month of life.

Gonorrhea

Genital: Detection and confirmation of *N. gonorrhoeae* in anogenital or urinary specimens by appropriate laboratory techniques (e.g., culture, detection of *N. gonorrhoeae* nucleic acid).

Extra-genital: Detection and confirmation of *N. gonorrhoeae* in specimens from the conjunctiva, pharynx, joint, blood and other extra-genital sites by appropriate laboratory techniques (e.g., culture, detection of *N. gonorrhoeae* nucleic acid).

Perinatally-acquired: Detection and confirmation of N. gonorrhoeae infection in the first 4 weeks of life leading to the diagnosis of gonococcal conjunctivitis, scalp abscess, vaginitis, bacteremia, arthritis, meningitis or endocarditis, by an appropriate laboratory technique (e.g., culture, detection of N. gonorrhoeae nucleic acid).

[1]By appropriate laboratory techniques (e.g. isolation of *C. trachomatis* by culture, demonstration of *C. trachomatis* nucleic acid or antigen).

Syphilis

Syphilis is a complex sexually transmitted disease that has a highly variable clinical course. Classification by a clinician with expertise in syphilis may take precedence over the following case definitions developed for surveillance purposes.

Infectious syphilis

Meets the case definition for primary, secondary, or early latent syphilis.

Primary syphilis

Current clinical presentation compatible with primary syphilis (e.g., one or more ulcers/chancres), and one of the following:

- Identification of *T. pallidum* in clinical specimens (e.g., from chancre, regional lymph node) by dark-field microscopy, direct fluorescent antibody, or nucleic acid amplification test (NAAT), or
- Reactive serology (treponemal, regardless of non-treponemal serology reactivity) in individuals with no previous history of syphilis, or
- Significant (e.g., four-fold or greater) increase in titre over the last known non-treponemal test.

Secondary syphilis

Clinical presentation compatible with secondary syphilis (e.g.., rash, fever, malaise, lymphadenopathy, mucus lesions, condyloma lata, alopecia, meningitis, headaches, uveitis, retinitis, recent hearing impairment), and one of the following:

- Identification of *T. pallidum* in clinical specimens (e.g., from chancre, regional lymph node) by dark-field microscopy, direct fluorescent antibody, or nucleic acid amplification test (NAAT), or
- Reactive serology (non-treponemal and treponemal) serology in individuals with no previous history of syphilis, or
- Significant (e.g., four-fold or greater) increase in titre over the last known non-treponemal test.

Early latent syphilis
An individual without symptoms of primary or secondary syphilis, and reactive serology (non-treponemal and treponemal), or four-fold increase in titre over the last known non-treponemal test, and one of the following within the previous 12 months:

- Non-reactive serology, or
- Symptoms suggestive of primary or secondary syphilis, or
- Exposure to a sexual partner with primary, secondary or early latent syphilis, or
- Is a member of (or has had sexual partners in the previous 12 months from) groups at known increased risk of syphilis infection in BC, or
- Has a titre of ≥ 1:16.

Early congenital syphilis
A stillbirth, neonate, or older individual with clinical presentation[2] compatible with congenital syphilis, onset less than two years of age, and one of the following:

- Four-fold higher RPR than maternal titre and positive treponemal confirmatory test, or
- Detection of *T. pallidum* in clinical specimens (e.g., lesions, placenta, umbilical cord, autopsy) through darkfield microscopy, direct fluorescent antibody assay, or PCR, or
- Mother with untreated or inadequately treated syphilis (primary, secondary, early or late latent syphilis) during pregnancy or at birth.

Maternal syphilis
A woman who meets the case definition of infectious syphilis (primary, secondary, early or late latent syphilis), and one of the following:

- Syphilis serology conducted as part of prenatal blood screening, or
- Known to have given birth to an infant (live or stillborn) with congenital syphilis, or
- Clinical presentation with infectious syphilis during pregnancy.

[2]Clinical presentation includes any evidence of congenital syphilis on physical examination (e.g., hepatosplenomegaly), evidence of congenital syphilis on radiographs of long bones, a reactive CSF VDRL, an elevated CSF cell count or protein without other cause. Note that neonates may not display clinical manifestations of congenital syphilis and may meet laboratory criteria only.

Human Immunodeficiency Virus (HIV)

Adults, adolescents and children ≥ 18 months:
Detection of HIV antibody by screening test (i.e., ELISA or Point of Care HIV test) followed by positive confirmatory test (i.e., Western Blot or Nucleic Acid Amplification Test), or detection of HIV nucleic acid (RNA or DNA) or detection of p24 antigen with confirmation by neutralization assay, or isolation of HIV in culture.

Children < 18 months: Detection of HIV DNA by nucleic acid amplification testing on two separate samples collected at different times.

Acquired Immune Deficiency Syndrome (AIDS)

One or more of the specified indicator diseases, and meeting the case definition for HIV infection.

Indicator diseases for adult and pediatric cases

- Bacterial pneumonia (recurrent)*
- Candidiasis (bronchi, trachea or lungs)
- Candidiasis (esophageal)*
- Cervical cancer (invasive)
- Coccidioidomycosis (disseminated or extrapulmonary)
- Cryptococcosis (extrapulmonary)
- Cryptosporidiosis chronic intestinal (> 1 month duration)
- Cytomegalovirus diseases (other than in liver, spleen or nodes)
- Cytomegalovirus retinitis (with loss of vision)*
- Encephalopathy, HIV-related (dementia)
- Herpes simplex: chronic ulcer(s) (> 1 month duration) or bronchitis, pneumonitis or esophagitis
- Histoplasmosis (disseminated or extrapulmonary)
- Isosporiasis, chronic intestinal (> 1 month duration)
- Kaposi's sarcoma*
- Lymphoma, Burkitt's (or equivalent term)
- Lymphoma, immunoblastic (or equivalent term)
- Lymphoma (primary in brain)
- Mycobacterium avium complex or M. kansasii (disseminated or extrapulmonary)*
- Mycobacterium of other species or unidentified species*
- M. tuberculosis (disseminated or extrapulmonary)
- M. tuberculosis (pulmonary)*
- Pneumocvstis iirovecii (formerly Pneumocystis carinii) pneumonia (PCP)*
- Progressive multifocal leukoencephalopathy
- Salmonella septicemia (recurrent)
- Toxoplasmosis of brain*
- Wasting syndrome due to HIV

Indicator diseases that apply only to pediatric cases (< 15 years old):

- Bacterial infections (multiple or recurrent, excluding recurrent bacterial pneumonia)
- Lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia*

*These conditions may be diagnosed presumptively; otherwise, definitive diagnosis is required.

DATA SOURCES

HIV data

All confirmatory laboratory testing for HIV antibodies is done by the Provincial Health Services Authority (PHSA) Laboratory Services located at the BC Centre for Disease Control (BCCDC). BCCDC determines which of these individuals are testing positive for HIV for the first time then informs the appropriate regional designated public health nurse. The designated PHN provides follow-up for these individuals that includes completing surveillance case forms. The completed forms are then forwarded to BCCDC where the collected information is entered into the provincial HIV/AIDS database.

AIDS data

When an individual is diagnosed with an AIDS defining illness, the care provider completes an AIDS Case Report form then forwards it to BCCDC where the information is entered into the provincial database. A twice-yearly review of clinical records maintained by the BC Centre for Excellence in HIV/AIDS is also conducted to identify new diagnoses of AIDS defining illness and the information is entered into the provincial database.

STI data (gonorrhea, chlamydia, infectious syphilis)

When an individual is diagnosed with a reportable STI the care provider completes a case report form (Health 208 form) then forwards it to BCCDC where the information is entered into the provincial STI database. Public health clinics with access to the provincial STI database enter information for newly diagnosed individuals directly.

Pelvic Inflammatory Disease, Ectopic Pregnancy, and Tubal Infertility data

The diagnoses of pelvic inflammatory disease (PID), ectopic pregnancy (EP), and tubal infertility (TI) are captured in the Discharge Abstract Database (DAD) and Medical Services Plan (MSP) payment database maintained by the Ministry of Health Services. The DAD includes data on patient discharges and day surgeries directly from hospitals in British Columbia including all known facilities for acute care and day surgery and most facilities for chronic care and rehabilitation. The MSP database contains data on insured medical services which are available to over 95% of the population of BC; this data includes physician billings for inpatient and outpatient care, claims from supplementary healthcare practitioners, and claims for laboratory services and diagnostic procedure. Data is extracted for women of reproductive age (15-44 years) who have at least one physician billing or hospital discharge per year based on the following International Statistical Classification of Diseases and Related Problems (ICD) codes: PID (ICD-9 614; ICD-10-CA N70, N73), EP (ICD-9 633; ICD-10-CA O00), and TI (ICD-9 628.2; ICD-10-CA N97.1)

Population data

Population data and associated rates were based on the P.E.O.P.L.E. 33 Population Estimates and Projections released by BC STATS, BC Ministry of Labour and Citizens' Services (September 2008).

ADDITIONAL NOTES

Classification of health region

Cases are assigned to health regions (i.e., health authority, health service delivery area (HSDA)) by patient residence. If residence is unknown, the case is assigned to the health region where the individual was tested.

Classification of ethnicity

Cases are classified by ethnicity according to information elicited from the case or health care provider during follow-up:

Aboriginal: includes First Nations, Inuit, Métis.

Arab/West Asian: e.g., Armenian, Egyptian, Iranian, Moroccan, Lebanese, Afghani.

Asian: e.g., Chinese, Japanese, Vietnamese, Cambodian, Indonesian, Filipino, Korean, Laotian

Black: e.g., African, Haitian, Jamaican, Somali

Caucasian (White): e.g., Irish, Scottish, English, Portuguese, Italian, Russian

Hispanic: e.g., Mexican, Central/South American

South Asian: e.g., East Indian, Pakistani, Sri Lankan, Punjabi, Bangladeshi

Other / Mixed ethnicity: Ethnicity is known but is not included in one of the above categories, or case has dual ethnicity.

Unspecified: If information about ethnicity is not elicited from case or health care provider.

HIV – New or previous positive HIV test

If a report of a new positive HIV test is identified in an individual having a history of a previous positive test (i.e., previous positive test result identified in the PHSA Laboratory database, or elicited during case follow-up), this is considered a previous positive HIV test and excluded from surveillance reporting. If no such history is elicited, the report is considered to represent a new positive HIV diagnosis and included in surveillance reporting.

HIV – Endemic country

Individuals are categorized as being from an endemic country according to the Endemic Countries List maintained by the Public Health Agency of Canada. www.phac-aspc.gc.ca/publica/epiu-aepi/epi-1205/app_a-eng.php

HIV – Exposure group hierarchy

Individuals having a new positive HIV test may belong to more than one exposure category (for example, a person may have a history of using injection drugs and heterosexual sex). These individuals are assigned to the exposure category listed first (or highest) in the following hierarchy.

1. **MSM:** Male who reports having male sex partner(s), with or without female sex partners.
2. **IDU**: Person who reports current or prior history of injection drug use.
3. **Blood / blood product recipient:** Person who reports receipt of whole blood or blood product (e.g., packed red cells, plasma, platelets, cryoprecipitate, pooled concentrates of clotting factor).
4. **Heterosexual contact:** Male who reports having female sex partner(s) only, and females who report having male sex partner(s).
5. **Occupational exposure:** Exposure to HIV contaminated blood or body fluids, or concentrated virus in an occupational setting.
6. **Perinatal transmission:** Transmission of HIV from an HIV-infected mother to her child either in utero, during childbirth, or through breastfeeding.
7. **Other risk factor:** Likely route of exposure to HIV is known but cannot be classified into any of the major exposure categories listed here. For example, receipt of semen from an HIV positive donor, or females reporting female sex partner(s) only.
8. **No identified risk (NIR):** Route of exposure to HIV is not identified at the time of completion of case follow-up (e.g., route of exposure not provided by case).
9. **Unknown:** Route of exposure to HIV is unknown.

Note that in this surveillance report, individuals with a new positive HIV test are categorized into five groups: MSM, IDU, Heterosexual, Other (Blood/blood product recipient, occupational exposure, perinatal transmission, other risk factor) and No Identified Risk (NIR)/Unknown.

Infectious Syphilis – Exposure group hierarchy

Infectious syphilis cases may belong to more than one exposure category. These individuals are assigned to the exposure category listed first (or highest) in the following hierarchy.

1. **MSM**: Male who reports having male sex partners), with or without female sex partners.
2. **Street-involved, Sex Trade Worker and Patron**: includes:

a. Sex trade worker (STW): Reports providing sex to another individual in exchange or money, shelter, food, drugs, etc.
b. Patron of STW: Reports payment (with money, shelter, drugs, food, etc.) for sex with a STW.
c. Street-involved: Reports either: i) living on the street or in a single room occupancy hotel (SRO); or ii) attached to the street; or iii) having no fixed address; or iv) transient.

3. Heterosexual: includes

a. Heterosexual contact: Male or Female who reports having sex partner(s) of the opposite gender only.
b. Casual heterosexual contact: Reports having more than one sexual partner of the opposite gender during the stage-specific trace-back period.
c. One partner: Reports one sexual partner of the opposite gender during the stage-specific trace-back period.
d. Partner at risk: Reports a sexual partner having an identified risk (e.g., STW, multiple sexual partners, MSM).

4. Acquired outside of Canada: includes

a. Foreign Acquired: Case currently residing in Canada but likely acquired syphilis outside of Canada (i.e., reports sexual partner(s) in other countries).
b. Immigration: Individual immigrating to Canada, and identified with syphilis through testing done as part of the immigration process.

5. Other/Unknown: includes

a. WSW: Female who reports having female sex partner(s), with or without male sex partners.
b. No Identified Risk: No risk reported.