
BC Centre for Disease Control
Provincial Health Services Authority
British Columbia
Syphilis Indicators
2024 Q4
Preliminary data and subject to change

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Summary of Trends

Data subject to change as case information is completed.

January to December 2024

Infectious Syphilis in BC

- The provincial 2024 annual incidence of infectious syphilis declined by 6.7% with 34.9 per 100,000 population in comparison to the 2023 annual incidence of 37.4 per 100,000 population.

Severe Outcomes

- In 2024Q4, there were 143 cases of infectious syphilis reported among females 15-49 years old, 14 of whom were diagnosed during prenatal screening.
- Congenital syphilis cases continue to rise since 2019. Between January and December 2024, there were 27 congenital syphilis cases reported (9 confirmed early congenital syphilis cases and 18 probable early congenital syphilis cases), of those confirmed 5 resulted in stillbirth or neonatal loss. .
- Among all infectious syphilis cases diagnosed between January and December 2024, 72 were diagnosed with neurosyphilis, meaning that neurosyphilis cases have increased by 24.1% since 2023 (n=58). Since 2021, the number of infectious neurosyphilis cases reported in BC have been higher than historical levels.

Regional Trends

- In 2024Q4, incidence rates were slightly lower across most health authorities compared to the same quarter last year apart from Island Health Authority. Northern Health Authority reported the highest rate of infectious syphilis at 77.6 per 100,000 people.
- Island Health Authority reported an increase in annual incidence per 100,000 population of infectious syphilis with an annual change of 32.3% (n=286 for 2024 vs n=210 for 2023). The demographic most affected by this increase since 2023 are females with an annual incidence growth of 55.1% compared to 21.7% in males in Island Health.

Demographics

- In 2024, males continue to account for the majority (63.3%) of infectious syphilis cases. Compared to 2023, females and males both showed a slight decrease in cases of 3.6% (n=717 for 2024 vs n=744 for 2024; females) and 4.1% (n=1252 for 2024 vs n=1306 for 2023; males), respectively.
- Of infectious syphilis cases with information (to date) on gender of sexual partner(s) for 2024 (n=1325):

- The majority (62.7%) reported heterosexual partners only. 30.1% were men who report having sex with women only (MSW) and 32.6% were women who report having sex with men only (WSM) only.
- The proportion of infectious syphilis cases reporting MSW/WSM varied across health authorities in BC, from 92.8% in Northern Health to 43.4% in Vancouver Coastal Health.
- Gay, bisexual and other men who have sex with men (gbMSM)—that is, male cases reporting either male partner(s) only or male and female and/or transgender partners —represented 35.9% of infectious syphilis cases among cases with reported information on gender of partner(s). The proportion of infectious syphilis cases reported among gbMSM is lower than historical annual trends over the past decade in BC.

Time to Treatment

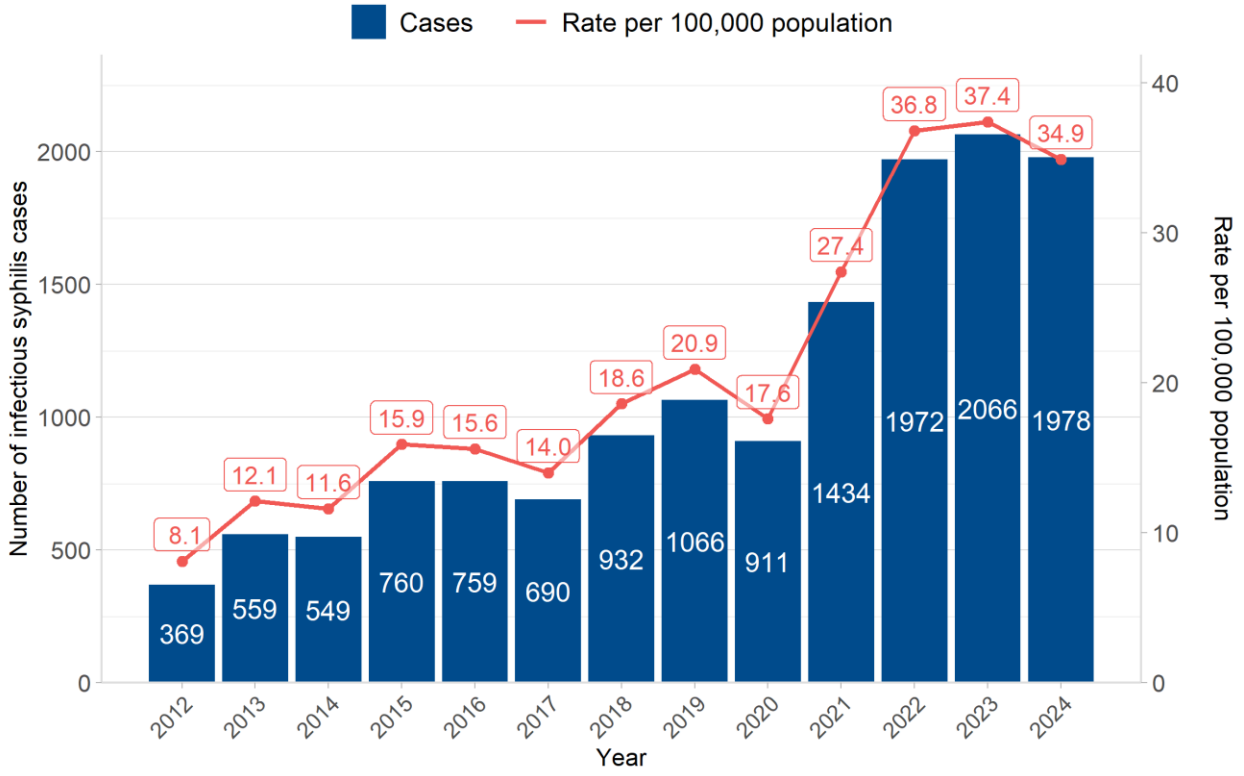
- From January to December 2024, of all reported infectious syphilis cases with information on time to treatment (n=1800), 48.3% received treatment within one week of diagnosis and 92.7% received treatment within 30 days following diagnosis.
  - For 2024Q4 only, of reported infectious syphilis cases with information on time to treatment (n=355), 55.5% received treatment within one week of diagnosis and 97.5% received treatment within 30 days of diagnosis, which is higher than the previous two quarters. Of note, treatment information was not currently available for 20.2% of cases (n=90) in 2024Q4, which is likely to decrease over time as treatment information is updated. In general, the time to treatment in recent quarters has increased when compared to more historical quarters (e.g., prior to 2023Q4).
  - The median time to initial treatment for female infectious syphilis cases is longer than for male cases. In 2024Q4, of infectious syphilis cases with information on time to treatment, 41.7% of females and 61.4% of males received initial treatment within one week of diagnosis and 95.1% of females and 98.4% of males received initial treatment within 30 days of diagnosis.
  - Female-WSM generally have a longer median time to initial treatment than gbMSM and male-MSW (9.5 days vs 7 days for male -MSW and 6 days for gbMSM in Q4.) Additionally, median time to treatment has improved over each quarter in 2024 since a high of 10-days in Q2 to a low of 7-days in Q4 for male-MSW. Female-WSM saw a high of 11-days in Q1 and have since held steady at 9-days with a slight increase in Q4. Roughly ~37% of female-WSM received treatment within 7-days of diagnosis compared to ~65% of gbMSM. These differences reveal a gendered inequity in treatment for syphilis.

Testing Episode Volumes

- Non-prenatal/non-perinatal syphilis testing episode volumes have generally increased over time; overall testing episode volumes in 2024 represented a 7.3% increase compared to 2023. In recent years, percent positivity among females has been higher than compared to historical levels, though remains below that observed among males.

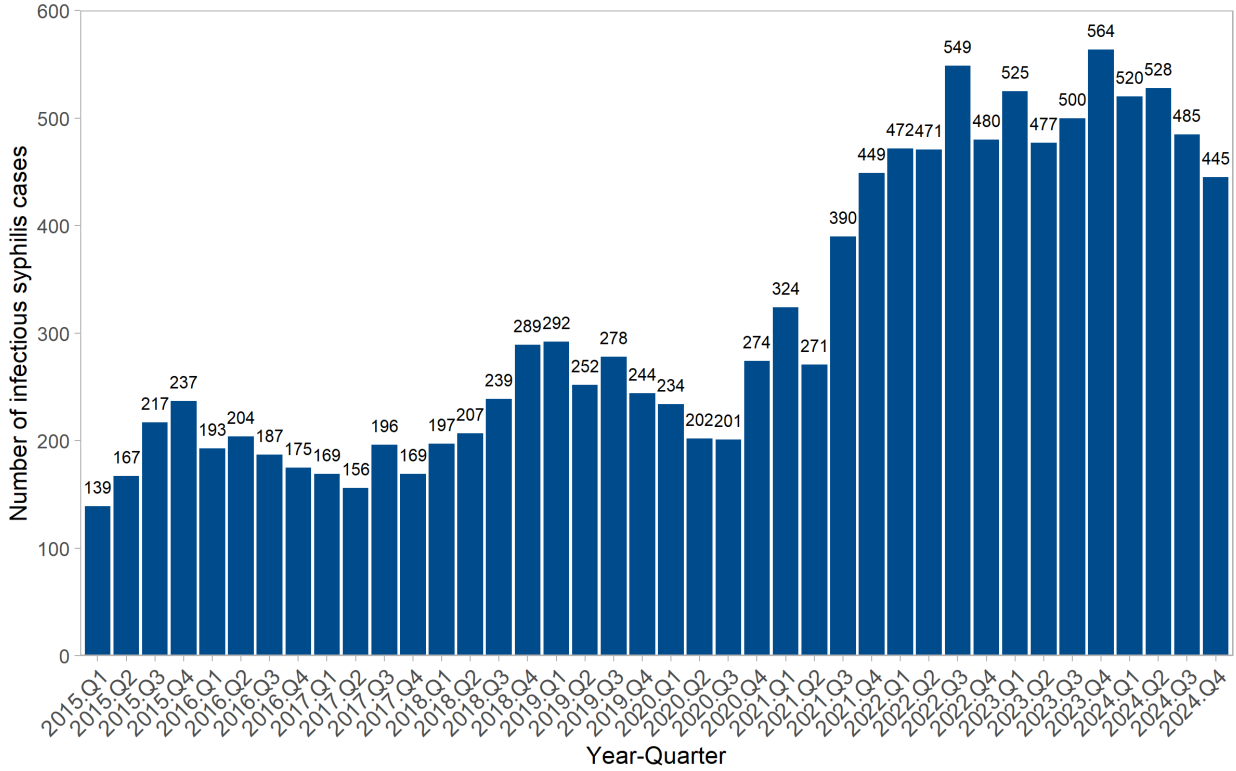
Infectious Syphilis in British Columbia

1. Infectious syphilis case reports in BC, 2012-2024

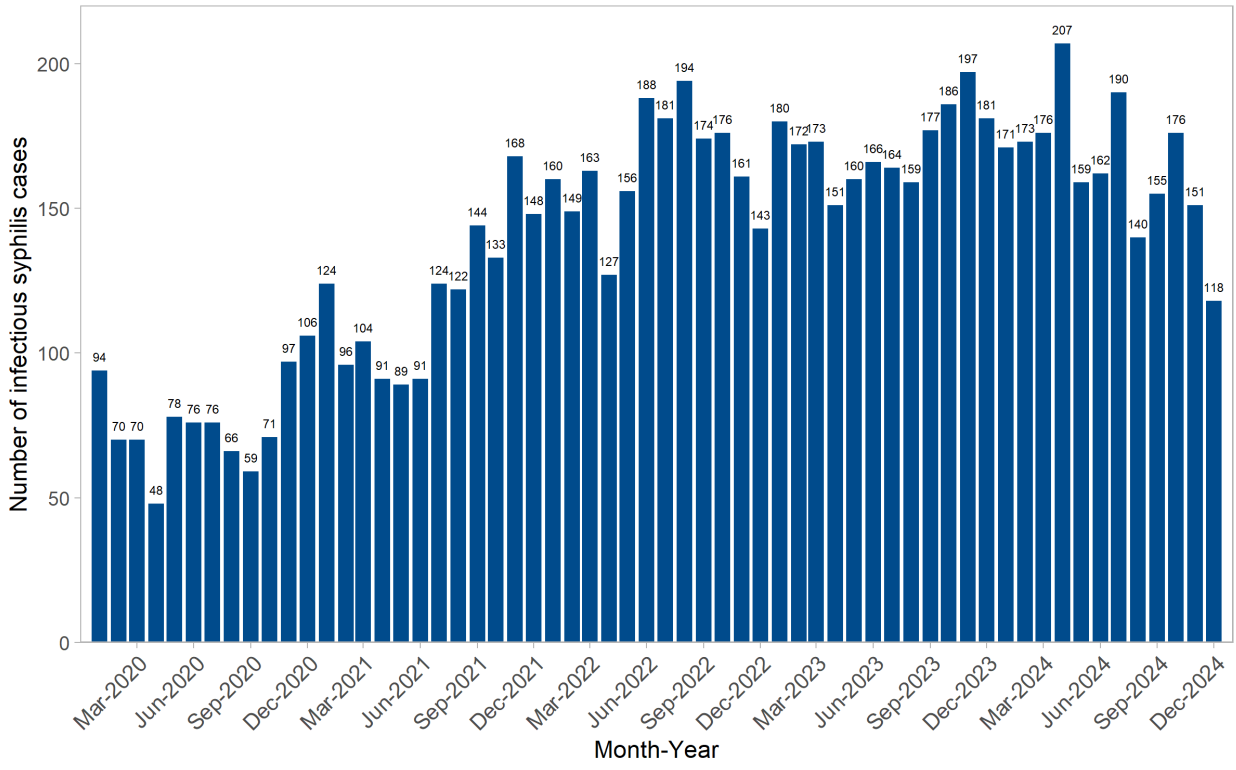


Note: 2018 to 2024 case counts are subject to change. Infectious syphilis case reports exclude congenital syphilis cases.

2. Infectious syphilis case reports in BC by quarter

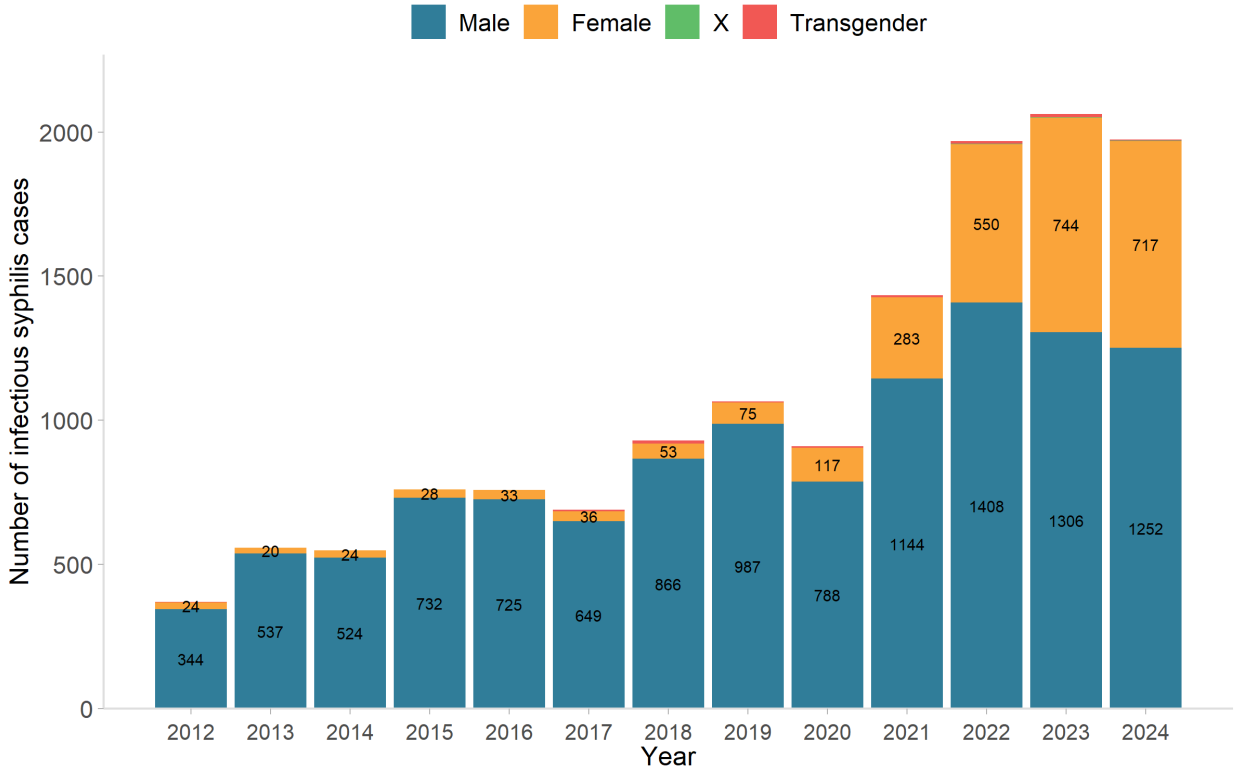


3. Infectious syphilis case reports in BC by month



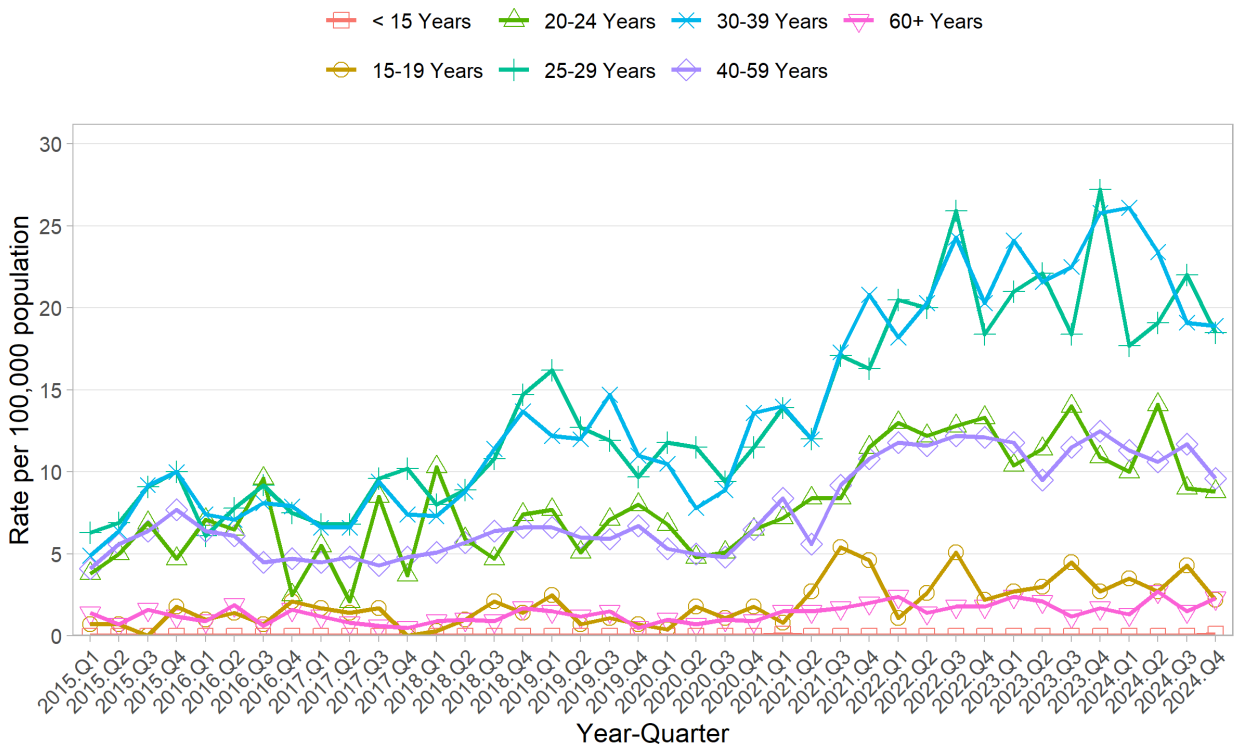
Infectious Syphilis by Sex or Gender and Age Group

4. Infectious syphilis case reports in BC by sex or gender, 2012-2024

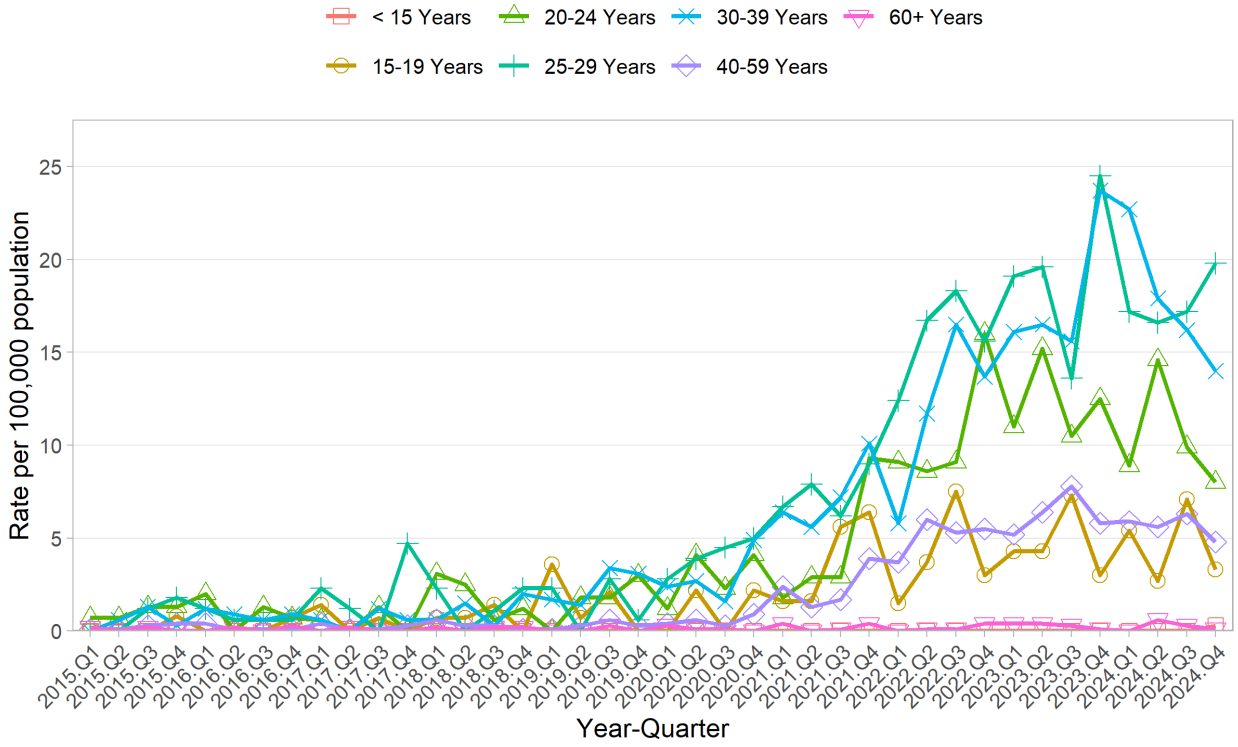


Note: Labels shown for male and female infectious syphilis cases. Collection on transgender as a sex and gender value began in 2018 in the new EMR system.

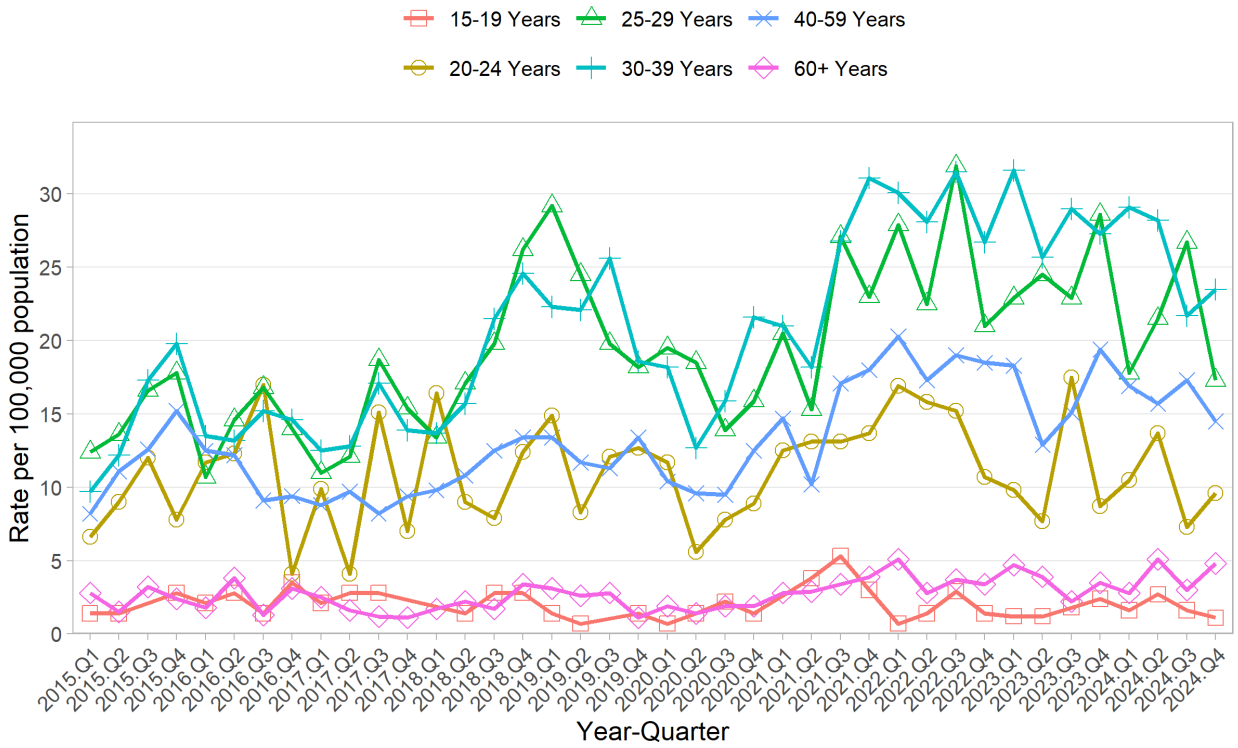
5. Rate of infectious syphilis case reports in BC by age group and by quarter - Total



6. Rate of infectious syphilis case reports in BC by age group and by quarter - Female

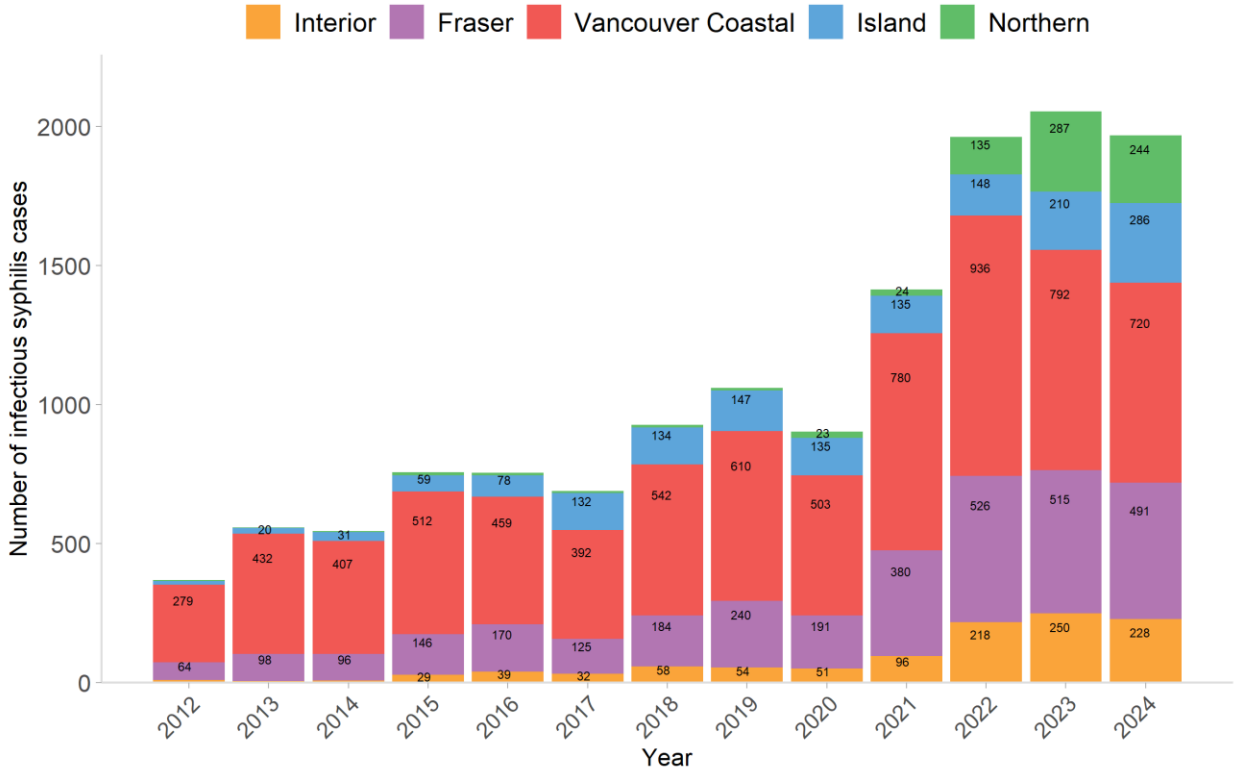


7. Rate of infectious syphilis case reports in BC by age group and by quarter - Male



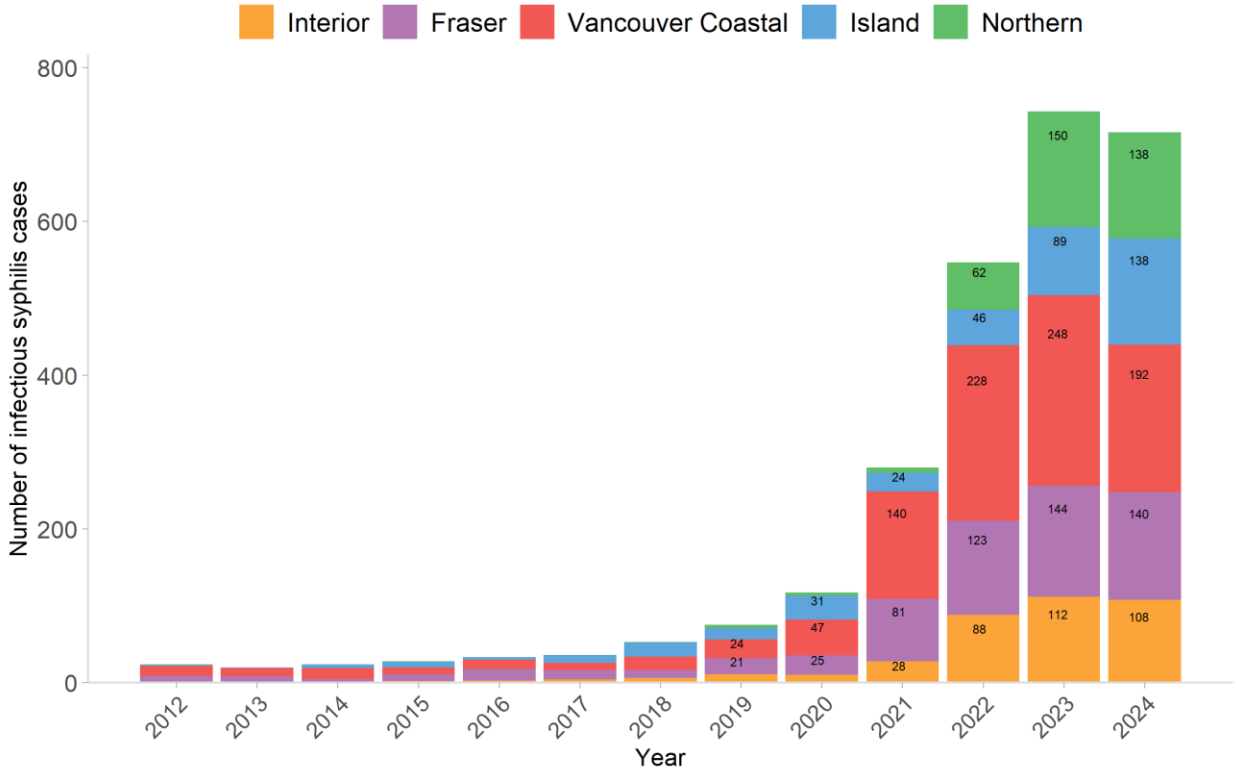
Infectious Syphilis by Regional Health Authority

8. Infectious syphilis case reports in BC by health authority 2012-2024 - Total



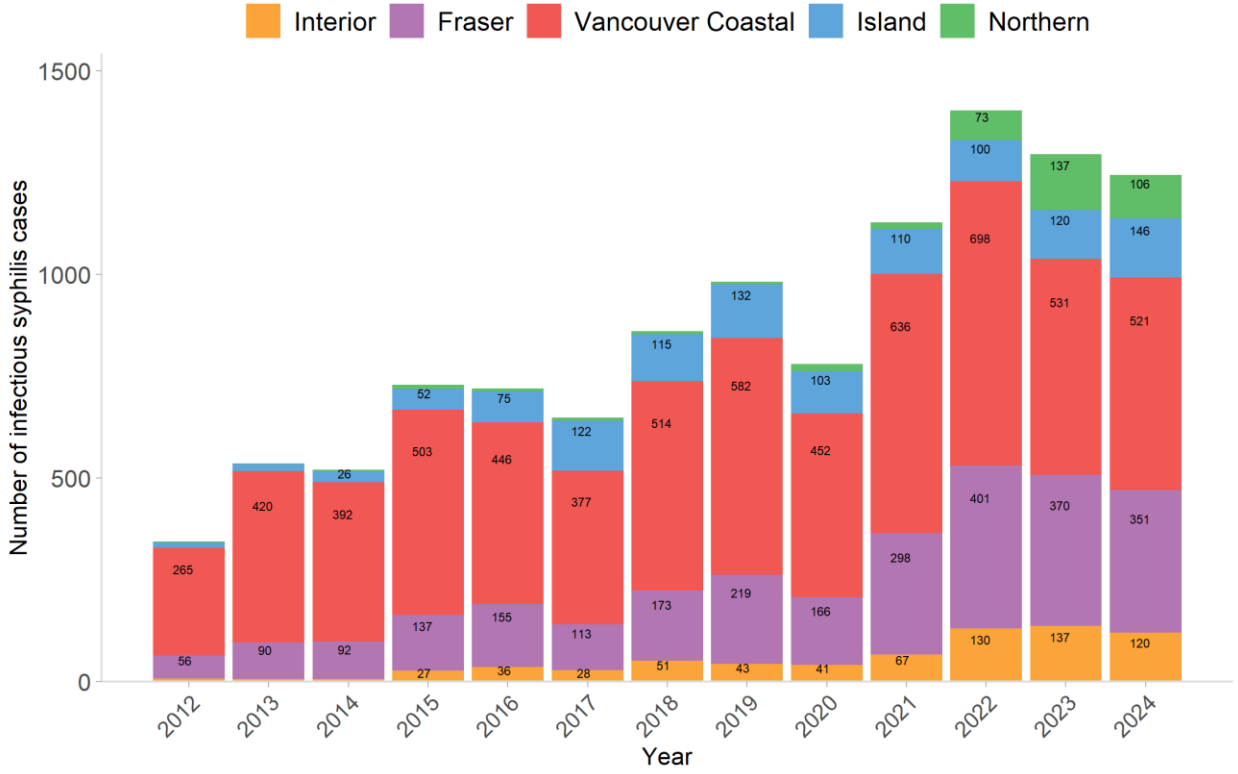
Note: Excludes missing and unknown geography. Counts are shown for case counts >=20.

9. Infectious syphilis case reports in BC by health authority 2012-2024 - Female



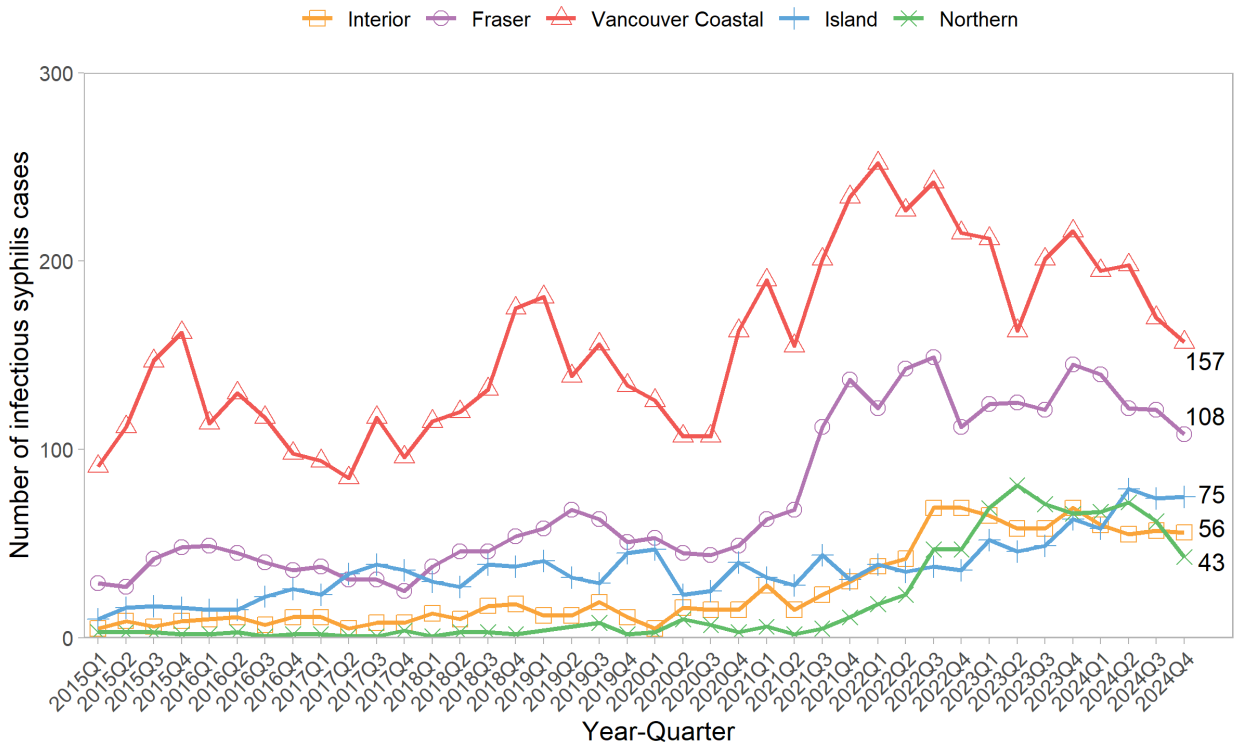
Note: Excludes missing and unknown geography. Counts are shown for case counts >=20.

10. Infectious syphilis case reports in BC by health authority 2012-2024 - Male



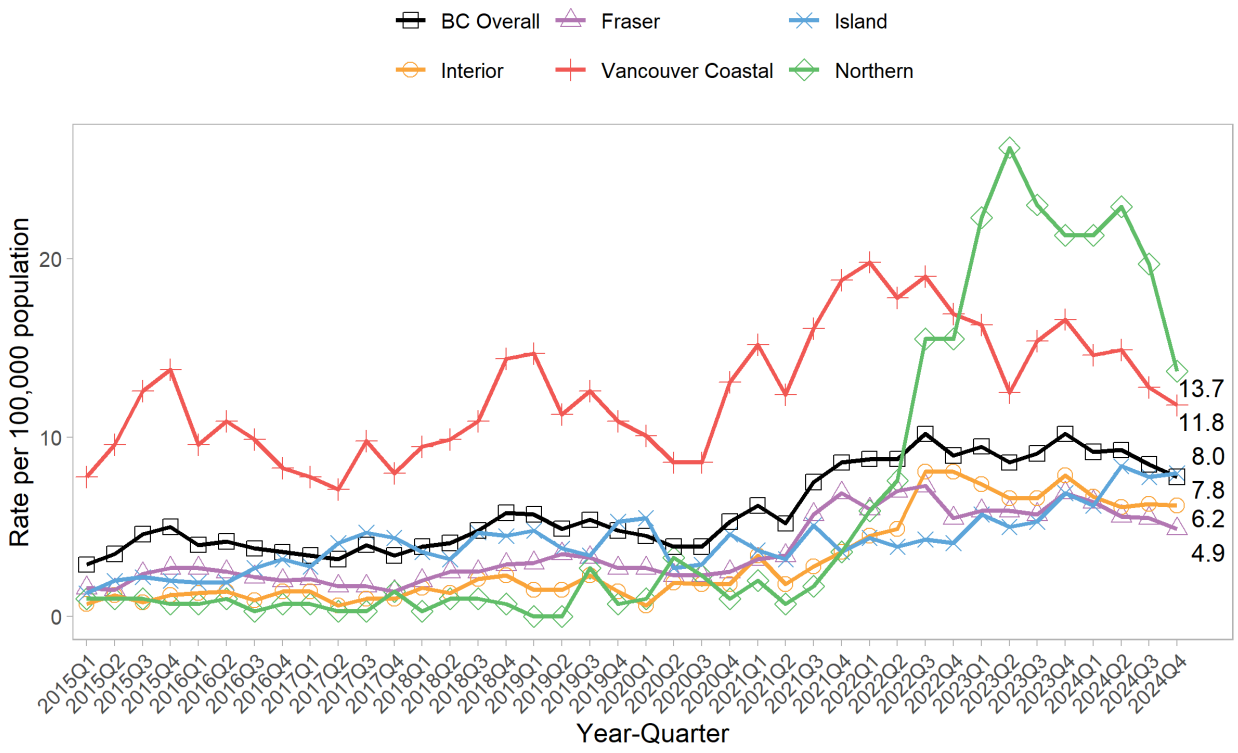
Note: Excludes missing and unknown geography. Counts are shown for case counts >=20.

11. Count of infectious syphilis case reports in BC by health authority and by quarter



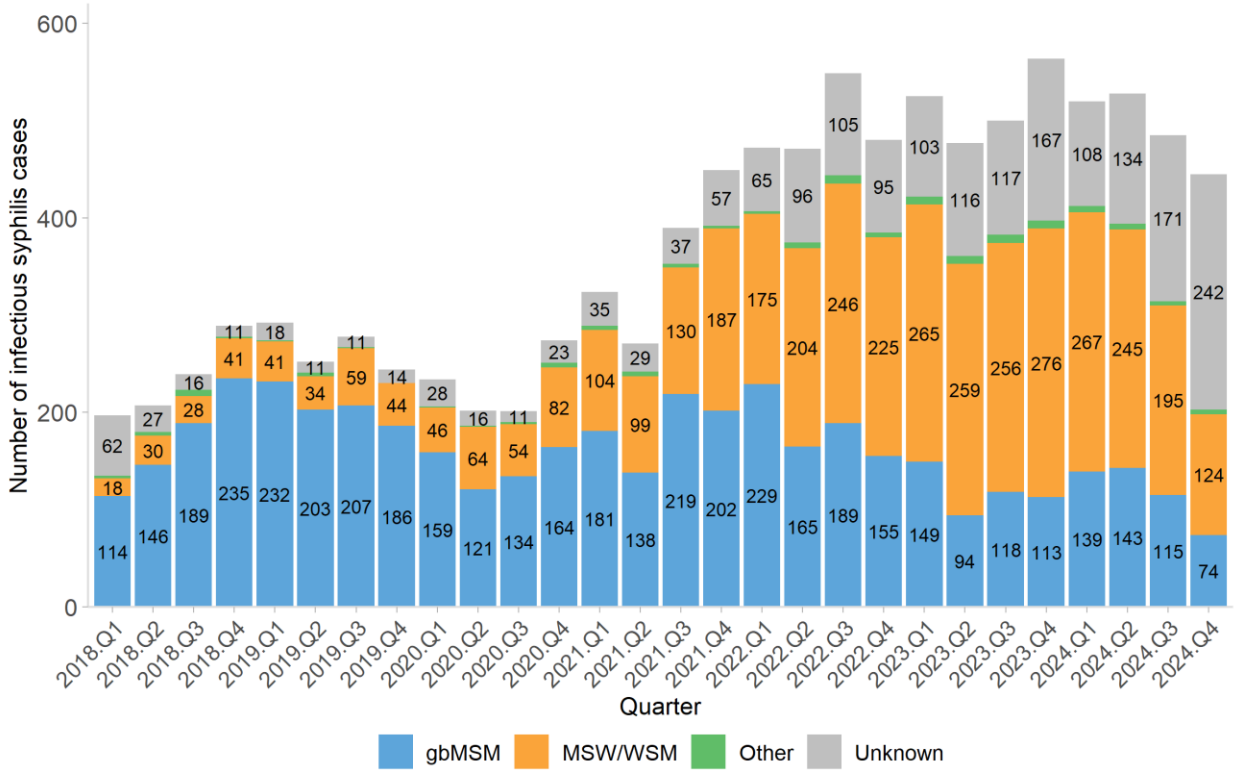
Note: Excludes missing and unknown geography.

12. Rate of infectious syphilis case reports in BC by health authority and by quarter



Infectious Syphilis by Sex/Gender and Gender of Sexual Partner

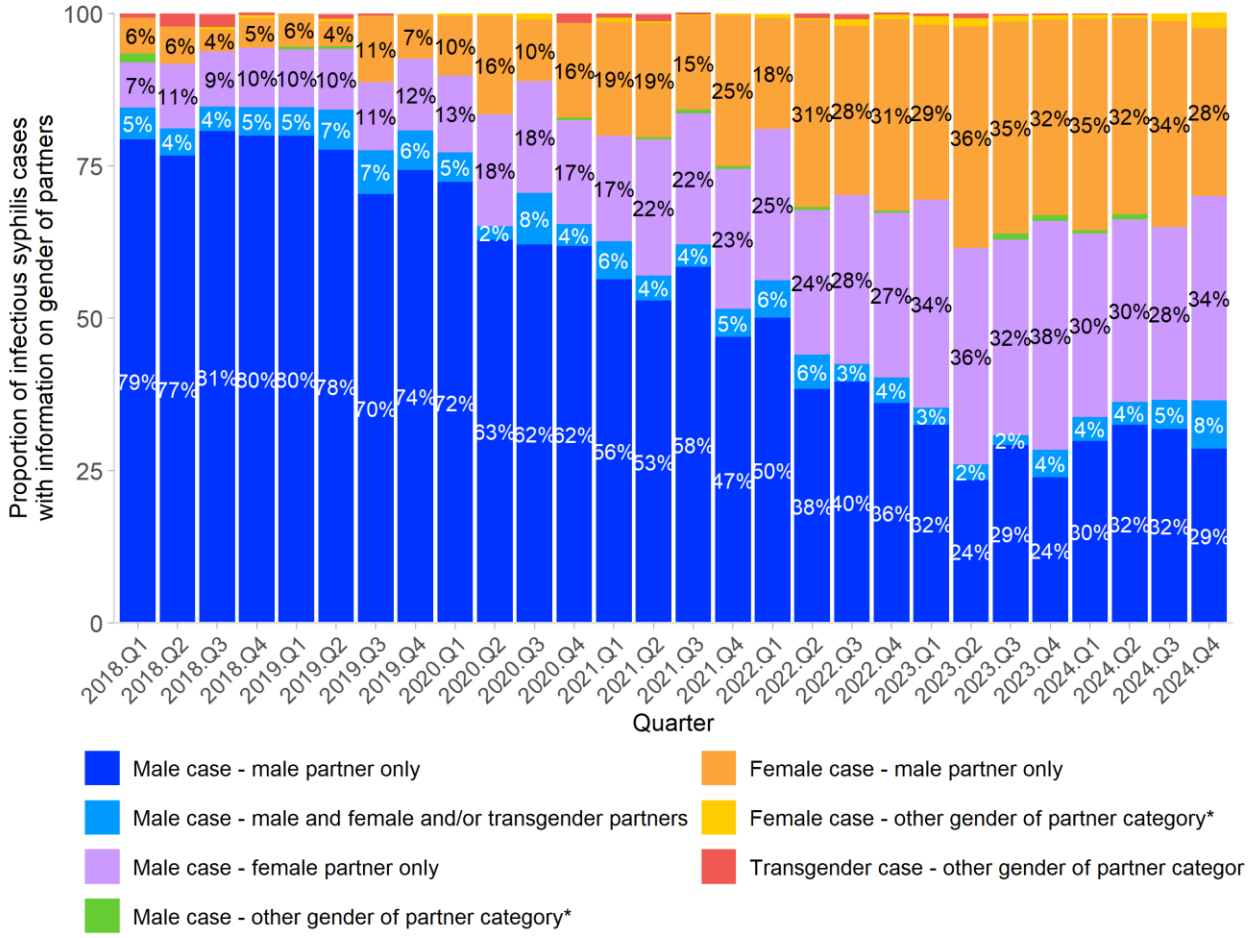
13. Counts of infectious syphilis case reports by aggregated gender of sexual partner categories and by quarter, 2018 to 2024



Note: Gender of sexual partner is based on the "gender of sexual partners" variable values collected in Intrahealth Profile EMR which is structured as male, female, transgender and unknown. Data shown reflect male, female, and transgender responses only.

gbMSM (gay, bisexual, and other men who have sex with men) includes male cases who reported having male partners only, male and female partners, male and transgender partners, or male, female, and transgender partners. **MSW/WSM** (men who have sex with women only/women who have sex with men only) includes male cases who reported having female partners only and female cases who reported having male partners only. **Other** includes all other cases for whom there was information on gender of partner(s): transgender cases with information on gender of sexual partner(s); female and male cases who reported the gender(s) of their sexual partners as transgender only or female and transgender; and female cases who reported the gender(s) of their sexual partners as female, male and female, or male, female and transgender. **Unknown** includes cases for whom there is currently no information on gender of sexual partner.

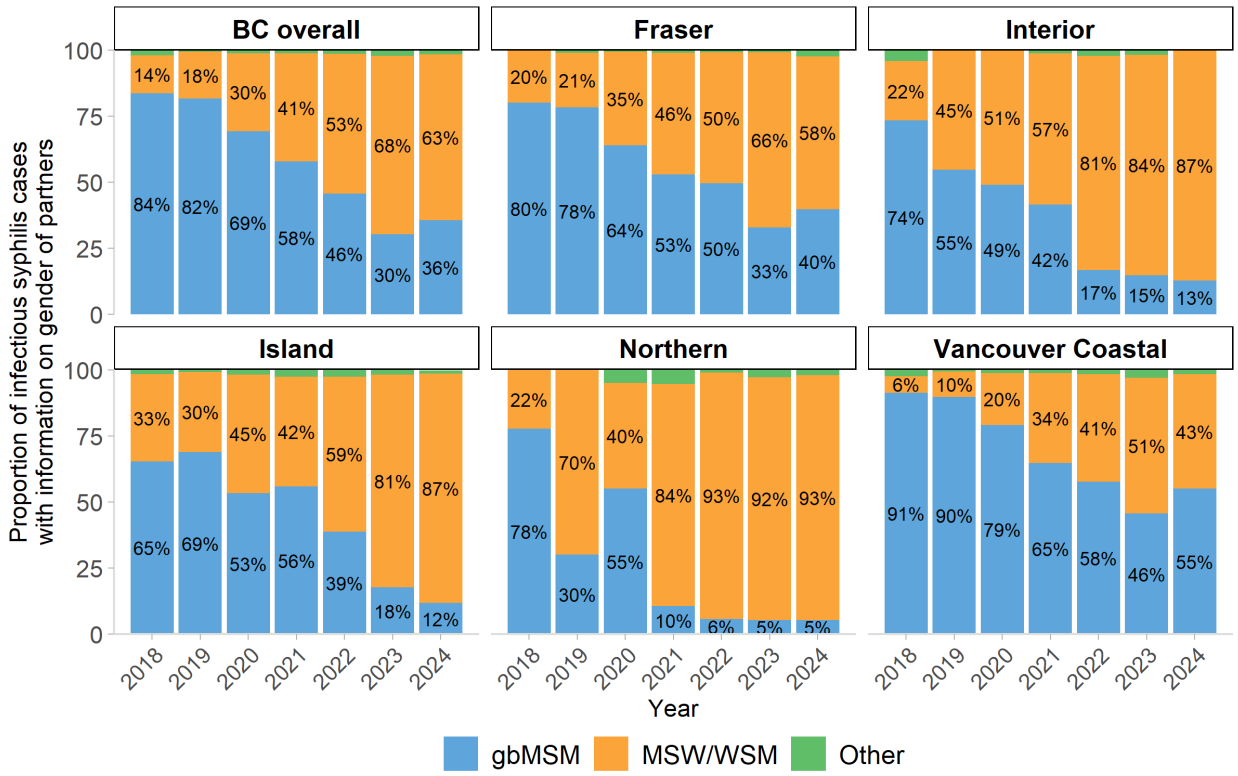
14. Proportion of infectious syphilis cases by reported sex/gender and gender of sexual partner(s), by quarter, 2018 to 2024



Note: Gender of sexual partner is based on the "gender of sexual partners" variable values collected in Intrahealth Profile EMR which is structured as male, female, transgender and unknown. Data shown reflect male, female, and transgender responses only. Cases with missing information on gender of sexual partner are excluded.

*Other gender of partner category includes: transgender cases with information on gender of sexual partner(s); female and male cases who reported the gender(s) of their sexual partners as transgender or female and transgender; and female cases who reported the gender(s) of their sexual partners as female, male and female, or male, female and transgender.

15. Proportion of infectious syphilis case reports by aggregated gender of sexual partner categories for BC overall and by health authority, 2018 to 2024

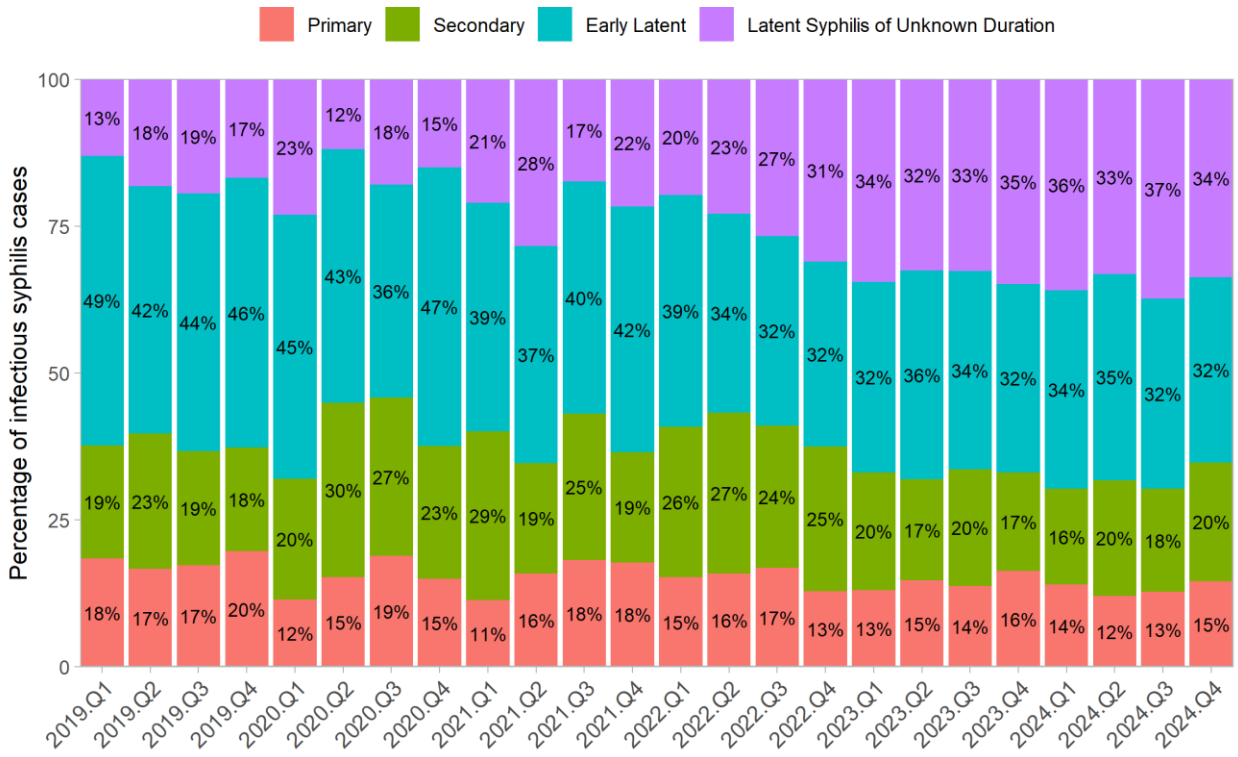


Note: Gender of sexual partner is based on the "gender of sexual partners" variable values collected in Intrahealth Profile EMR which is structured as male, female, transgender and unknown. Data shown reflect male, female, and transgender responses only. Cases with missing information on gender of sexual partner are excluded.

gbMSM (gay, bisexual, and other men who have sex with men) includes male cases who reported having male partners only, male and female partners, male and transgender partners, or male, female, and transgender partners. **MSW/WSM** (men who have sex with women only/women who have sex with men only) includes male cases who reported having female partners only and female cases who reported having male partners only. **Other** includes all other cases for whom there was information on gender of partner(s): transgender cases with information on gender of sexual partner(s); female and male cases who reported the gender(s) of their sexual partners as transgender only or female and transgender; and female cases who reported the gender(s) of their sexual partners as female, male and female, or male, female and transgender.

Infectious Syphilis by Stage of Infection

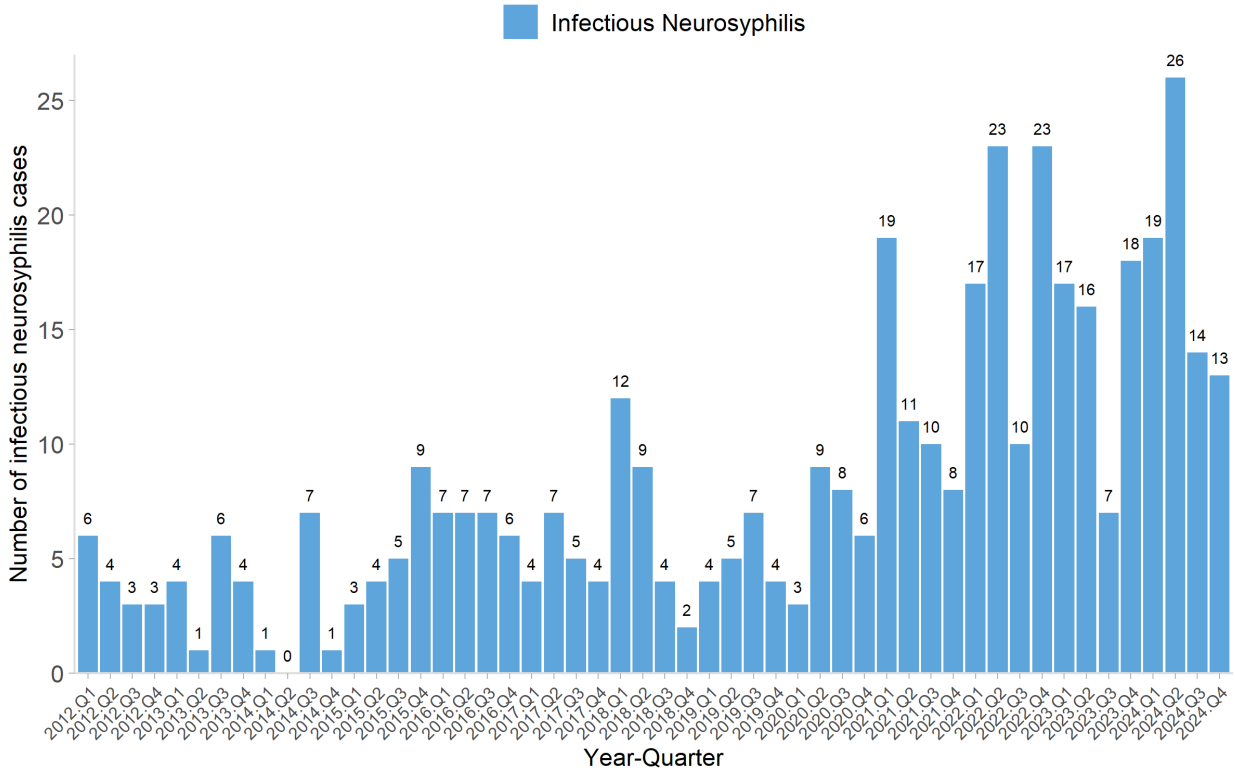
16. Proportion of infectious syphilis case reports in BC by stage of infection and by quarter



Note: Early Latent Probable has been re-labeled as Latent Syphilis of Unknown Duration in the BC case definitions. In surveillance reports prior to 2023Q3, Early Latent and Latent Syphilis of Unknown Duration stages were grouped together for reporting as 'Early Latent'.

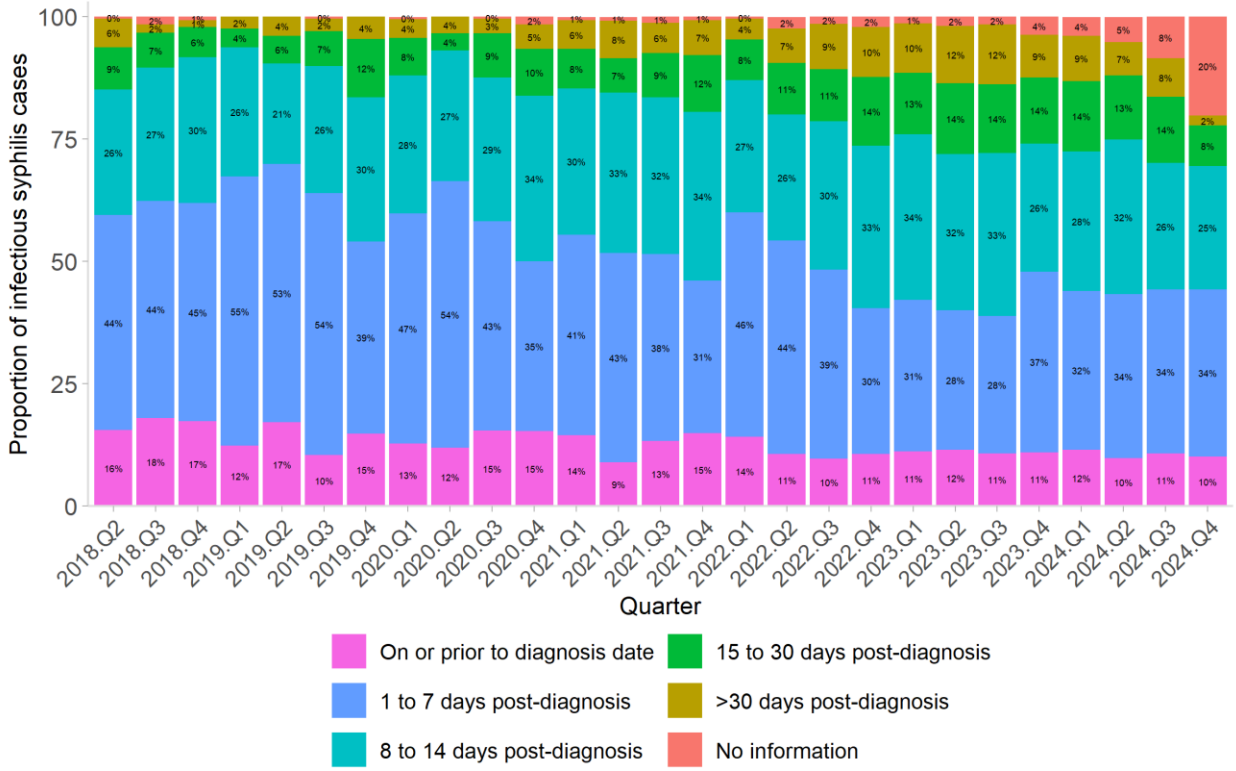
Infectious Neurosyphilis

17. Infectious neurosyphilis case reports in BC by quarter



Time to Treatment

18. Time to initial treatment for infectious syphilis cases in BC, by quarter



Note: This figure presents data on time to receipt of first syphilis treatment rather than time to treatment completion. Infectious syphilis cases without information on treatment may include: individuals for whom follow-up is ongoing, individuals who were not treated, and/or instances where treatment information was not adequately captured within Profile EMR; data remediation is routinely ongoing. Some individuals (e.g., recent partners of individuals diagnosed with infectious syphilis) may be treated empirically, as it can take up to 3 months before syphilis infection is detectable on serology, so treatment may occur prior to diagnosis date.

Information are subject to change as case data are completed. See technical appendix for more details.

19. Time to initial treatment for infectious syphilis cases in BC, by sex/gender and quarter

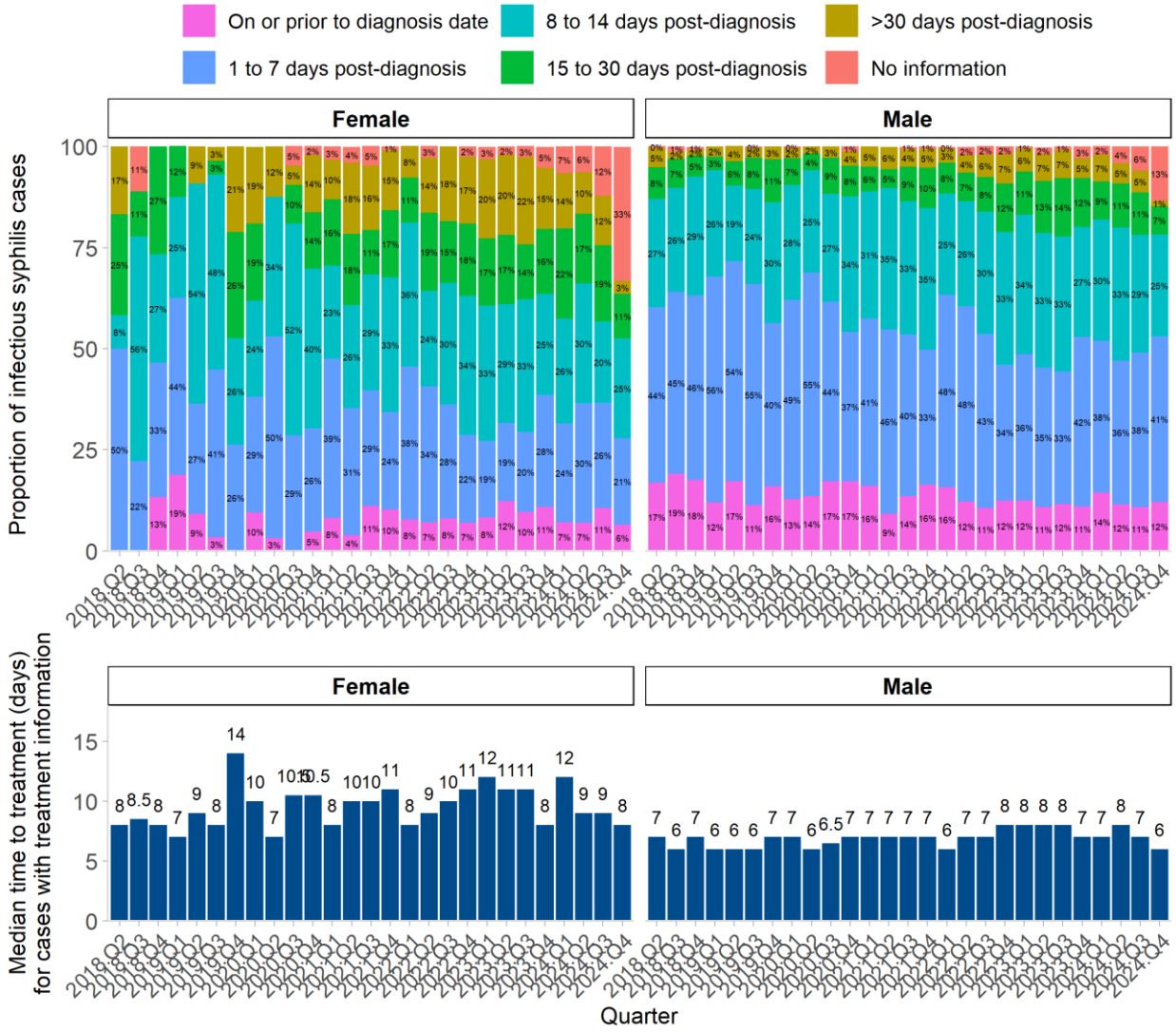
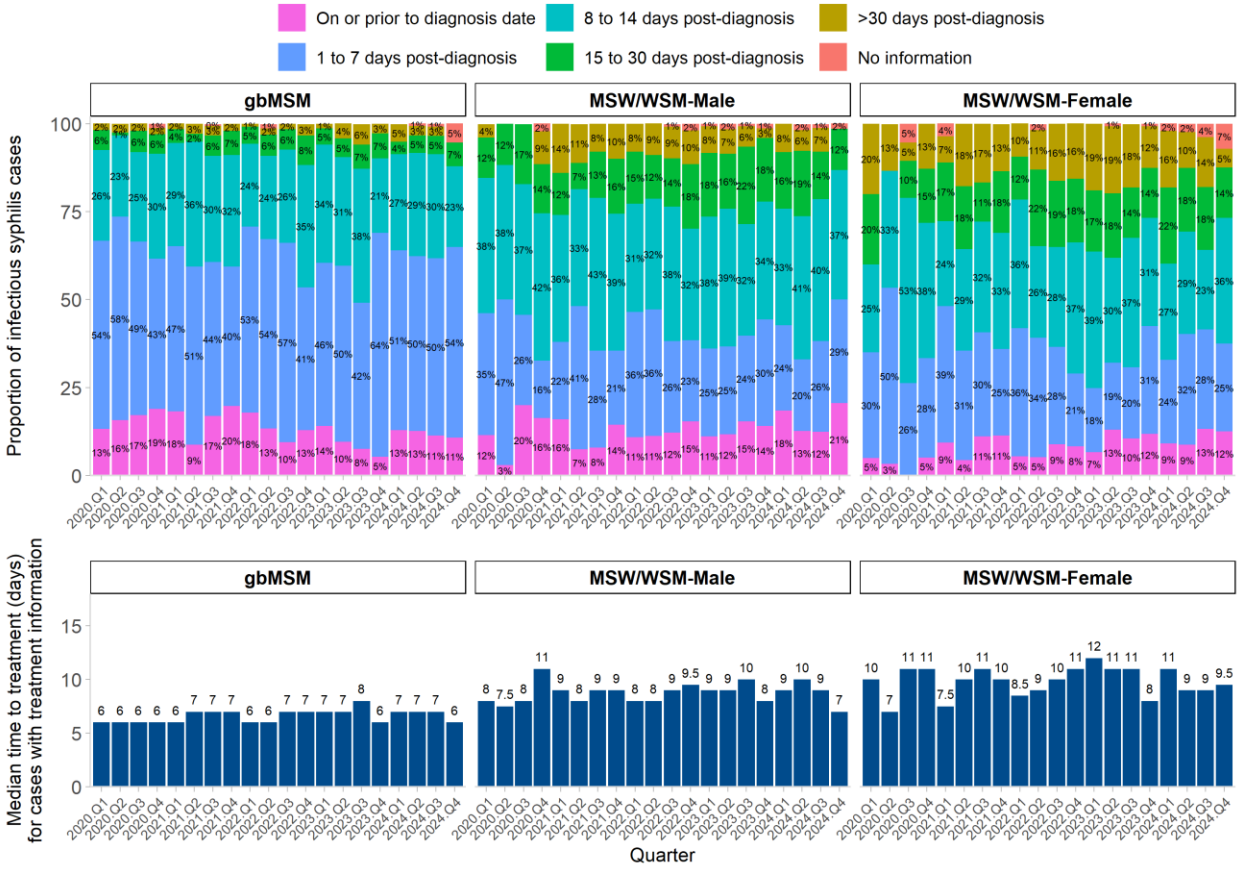


Figure only includes information on female and male due to low case counts for other sex or gender genders.

Note: This figure presents data on time to receipt of first syphilis treatment rather than time to treatment completion. Infectious syphilis cases without information on treatment may include: individuals for whom follow-up is ongoing, individuals who were not treated, and/or instances where treatment information was not adequately captured within Profile EMR; data remediation is routinely ongoing. Some individuals (e.g., recent partners of individuals diagnosed with infectious syphilis) may be treated empirically, as it can take up to 3 months before syphilis infection is detectable on serology, so treatment may occur prior to diagnosis date.

Information are subject to change as case data are completed. See technical appendix for more details.

20. Time to initial treatment for infectious syphilis cases in BC, by aggregate gender of sexual partner categories and gender, by quarter



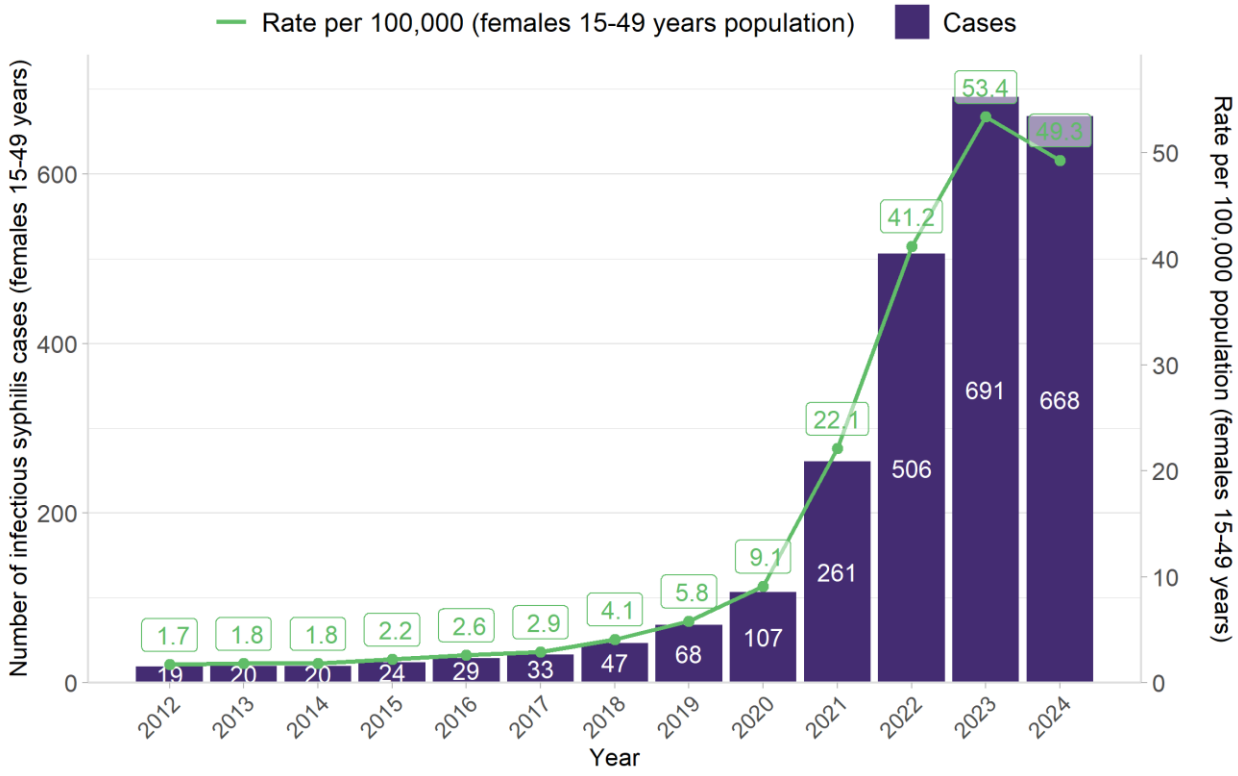
Note: Gender of sexual partner is based on the "gender of sexual partners" variable values collected in Intrahealth Profile EMR which is structured as male, female, transgender and unknown. **gbMSM** (gay, bisexual, and other men who have sex with men) includes male cases who reported having male partners only, male and female partners, male and transgender partners, or male, female, and transgender partners. **MSW/WSM** (men who have sex with women only/women who have sex with men only) includes male cases who reported having female partners only and female cases who reported having male partners only. Figure only includes information on aggregate gbMSM and MSW/WSM gender of partner categories due to low counts for other cases with information on gender of partner.

This figure presents data on time to receipt of first syphilis treatment rather than time to treatment completion. Infectious syphilis cases without information on treatment may include: individuals for whom follow-up is ongoing, individuals who were not treated, and/or instances where treatment information was not adequately captured within Profile EMR; data remediation is routinely ongoing. Some individuals (e.g., recent partners of individuals diagnosed with infectious syphilis) may be treated empirically, as it can take up to 3 months before syphilis infection is detectable on serology, so treatment may occur prior to diagnosis date.

Information are subject to change as case data are completed. See technical appendix for more details.

Infectious Syphilis among Females 15-49 years

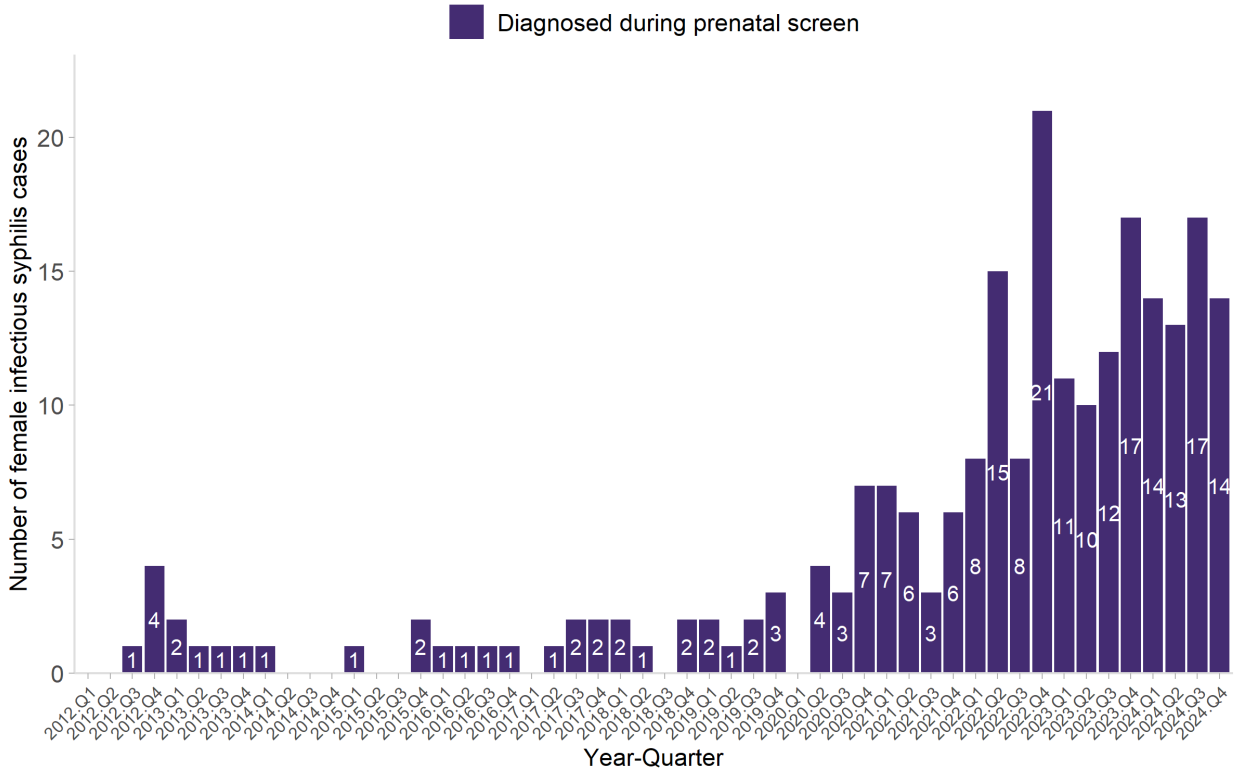
21. Infectious syphilis case reports in BC among females 15-49 years, 2012-2024



Note: The rate per 100,000 population uses the BC population data of people of female sex aged 15-49 years.

Infectious Syphilis Diagnosed During Prenatal Screening

22. Infectious syphilis case reports in BC among females 15-49 years diagnosed during prenatal screening by quarter

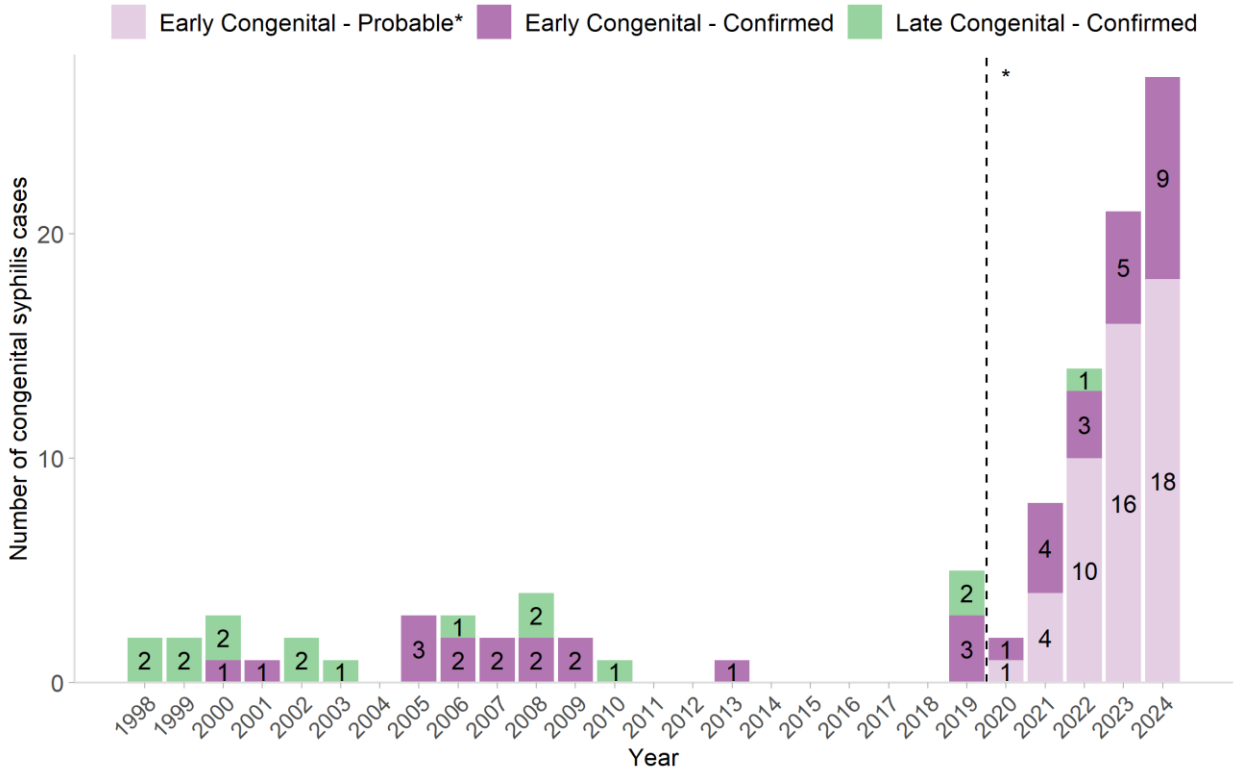


Note: Includes maternal infectious syphilis cases aged 15-49 years from STI-IS (cases prior to March 13, 2018) and female infectious syphilis cases aged 15-49 years who were indicated as being pregnant at their time of diagnosis in Intrahealth Profile EMR (cases from March 13, 2018 onwards).

Congenital Syphilis

23. Congenital syphilis case reports in BC by stage, 1998-2024

Cases of congenital syphilis reported in the figure below are those that meet the BC case definitions. It is important to note that the burden and impact of syphilis on fetal and infant health extends beyond the cases shown (e.g., fetal loss prior to 20 weeks' gestation, infants without or having inconclusive serology findings, infants who are followed up and treated empirically for congenital syphilis but do not meet the case definitions).

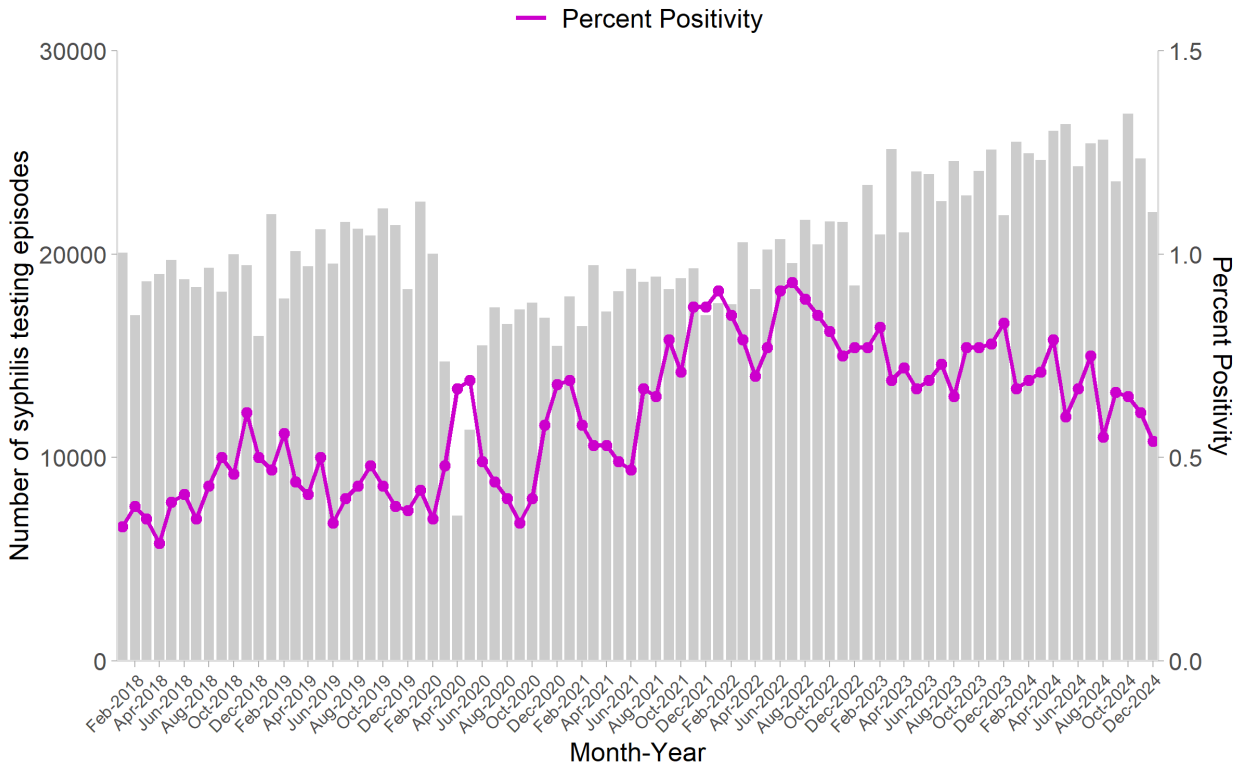


*Note: BC developed a new case definition for probable congenital syphilis in March 2023. A retrospective review to 2020 was completed to identify cases that met the new probable congenital syphilis case definition. As a result, there are no probable congenital syphilis cases reported prior to 2020; trends should be interpreted with caution.

- Between 2019 and 2024, 10 cases of confirmed early congenital syphilis resulted in either **stillbirth** (death of a fetus that occurs at ≥20 weeks' gestation or ≥500 g birth weight in which, after the expulsion or extraction from mother/birthing parent, there is no breathing, beating of the heart, pulsation of the umbilical cord, or unmistakable movement of voluntary muscle) or **early neonatal loss** (death of infant within 7 days of live birth).

Syphilis Testing Episodes

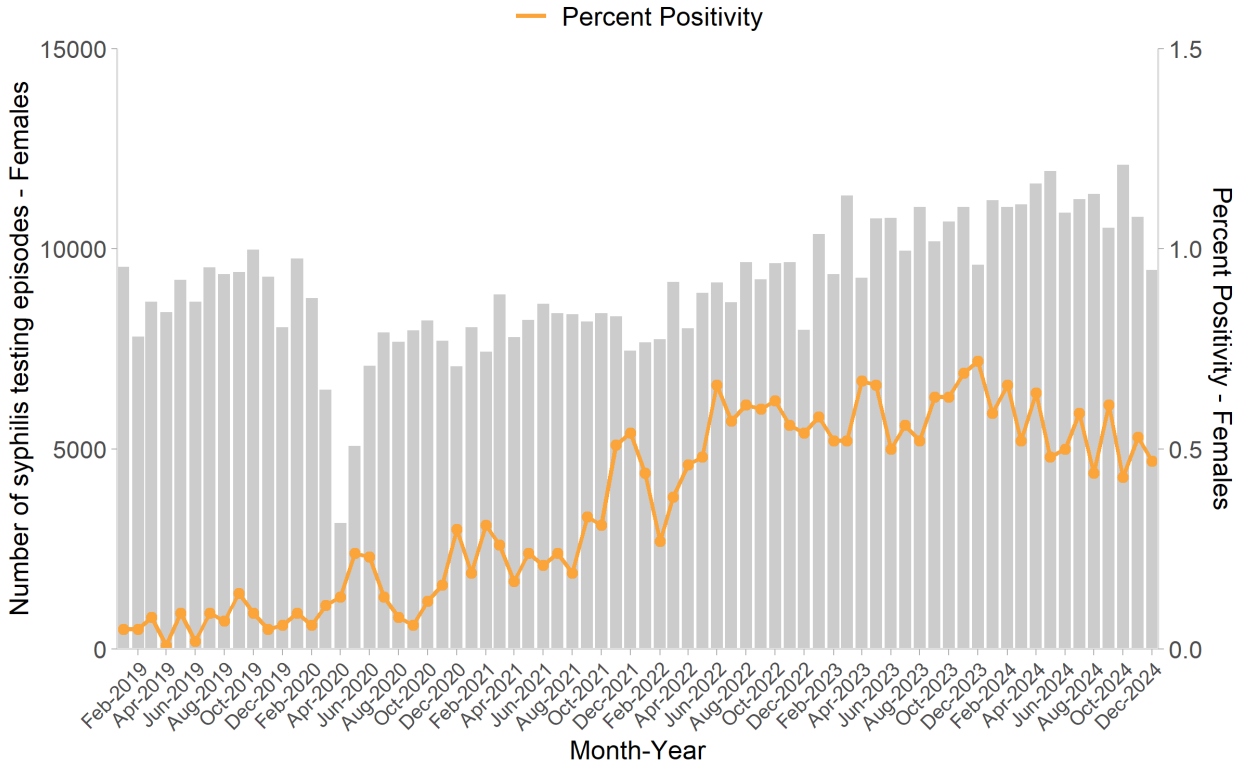
24. Syphilis non-prenatal testing episodes* and percent positivity in BC by month - Total



*Testing episode = 30-day window (see technical appendix for further details)

Note: Percent positivity is calculated as the number of infectious syphilis cases over the number of syphilis testing episodes.

25. Syphilis non-prenatal testing episodes* and percent positivity in BC by month - Female

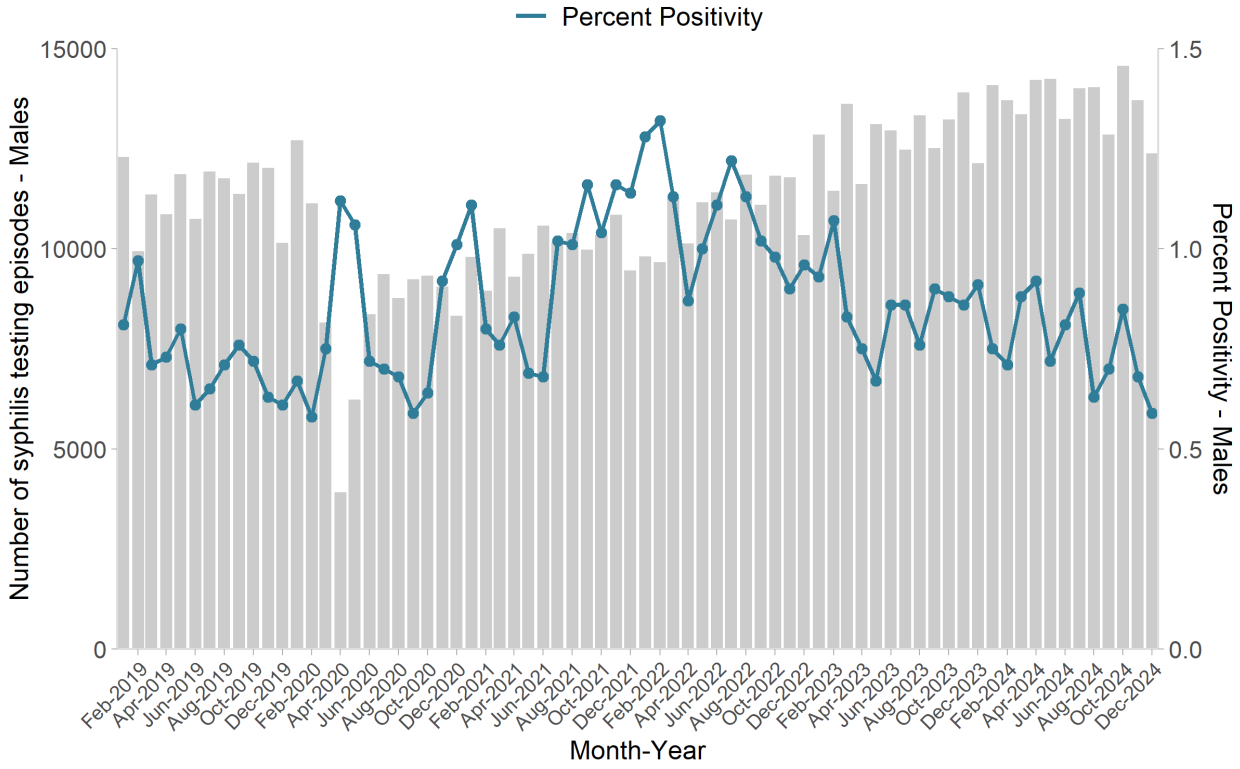


*Testing episode = 30-day window (see technical appendix for further details).

Note: Percent positivity is calculated as the number of infectious syphilis cases over the number of syphilis testing episodes.

-The number of female syphilis non-prenatal testing episodes is based on sex reported on the laboratory requisition. The number of female infectious syphilis cases is based on sex/gender variable values collected in Intrahealth Profile EMR.

26. Syphilis non-prenatal testing episodes* and percent positivity in BC by month - Male



*Testing episode = 30-day window (see technical appendix for further details).

Note: Percent positivity is calculated as the number of infectious syphilis cases over the number of syphilis testing episodes.

-The number of male syphilis non-prenatal testing episodes is based on sex reported on the laboratory requisition. The number of male infectious syphilis cases is based on sex/gender variable values collected in Intrahealth Profile EMR.

Technical Appendix

British Columbia Syphilis Case Definitions

http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/syphilis

Data Sources

Case data: This report contains preliminary data on Infectious Syphilis. The STI-IS was sunsetted and a new electronic medical record system (EMR) went live on March 13, 2018. The report contains data from the following sources:

- Cases reported up to March 12, 2018: Data extracted from the BCCDC Public Health Reporting Data Warehouse (PHRDW) STIBBI Mart (source system STIIS);
- Cases reported after March 12, 2018: Data extracted from Intrahealth Profile EMR*.

*During the ongoing system transition, there will be slight changes in counts and categorization of some cases, reflecting differences in algorithms and data structure between the data sources.

***Please note that the case data used to create the 2024Q4 infectious syphilis report were extracted from Intrahealth Profile EMR on January 19, 2025.

Gender and sex values: The reporting of sex and gender are conflated in the current STI case reporting systems:

- In Intrahealth Profile EMR (used from March 13, 2018 onwards), depending on what information is available per client, information collected on sex (options: male, female, X, or unknown) via laboratory serology requisitions or information collected on "gender" (typically a mix of sex and gender options) via clinic intake forms is entered into a field labelled "Administrative Sex" (options: female, male, intersex, transgender, X, or unknown). This field then subsequently auto-populates another field in the STI case reporting form labelled "Gender".
- In the historical STI Information System (STIIS; used prior to March 13, 2018), information on sex/gender was similarly collected using male, female, transgender, or unknown as options for reporting within a single question field.

While the majority of the information collected on sex/gender seem to reflect sex values, to prevent the erasure of the reporting of transgender as a gender value from our case data, we have included all reported sex/gender values as entered into the STI case reporting systems. For interpreting the reported information on sex/gender, please note that whether information on sex or gender was collected will vary between cases, and sex is likely best considered to be unknown for those cases reporting as transgender. Further, as only information on sex is collected via laboratory requisitions, individuals who may identify as transgender are likely under-reported in our data.

To calculate rates per 100,000 population by sex/gender, the denominator uses BC Stats population data, which is available by male and female sex.

We acknowledge that the gender values reported do not reflect the full spectrum of gender identity and continue to work towards improving the data collection and reporting of sex and gender.

Treatment data: Treatment information for each case is extracted only from the same Intrahealth Profile EMR form as that which holds the respective infectious syphilis diagnosis. Treatments that are recorded in a separate EMR form/diagnosis are not currently reflected in this report.

Testing data: Data were extracted from the BCCDC PHRDW STIBBI Mart on January 19, 2025. This report contains **non-prenatal and non-perinatal** testing data for syphilis.

- A test episode considers all tests conducted for an individual in a 30-day period as a single test episode (as follow-up or simultaneous test may be required to clarify test results within this period, for example). Therefore, test episodes may be an underestimation of health system access/usage for syphilis testing.
- The geo-location algorithm for testing prioritizes ordering provider address, followed by the client's address if the former is missing. In the data source (PHRDW STIBBI Mart) used for this report, client geographic region is based on the address of the client, as recorded in the lab information system (LIS) at the time of the test. There is no historical snapshot of client addresses from LIS in PHRDW STIBBI Mart; therefore, when client addresses change in the LIS, the new address is retrospectively updated on all tests on record in PHRDW STIBBI Mart for that client. As a result of this, tests in this report may change over time to another geographic region if there is no ordering provider address and a client has moved to a different region after testing and their address was then subsequently updated in LIS.

Please note: We have noticed small fluctuations in testing volumes over time. The CPS surveillance team is currently working with the BCCDC PHRDW team in investigating the source issue within STIBBI Mart. These fluctuations are very small and therefore do not impact the indicators shown in this report, however, please interpret these data with caution.

Denominator data file: This report uses two data sources released by BC Stats (updated February 2024) to calculate rates: 1) P.E.O.P.L.E. Population Projections for 2024 rates and 2) Population Estimates for all previous years.

Calculations

-**Projected case counts/rates** are calculated by applying the average number of reported cases per month YTD through to the remaining months of the current year. This calculation method assumes that the average number of reported cases per month YTD will remain constant.

-**Time to treatment** is calculated based on the difference (in days) between the surveillance/diagnosis date (i.e., date of specimen collection or, if not available, date of lab test) and earliest recorded treatment date with an appropriate medication (e.g., Benzathine penicillin G (Bicillin LA) 2.4 million units in a single dose (administered in divided doses of 1.2 million units given IM into each hip/buttock at the same visit); or Doxycycline 100mg PO bid x 28 days).