

STI Trends Reported in Wellington-Dufferin-Guelph: 2023

To: Chair and Members of the Board of Health

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Recommendations

It is recommended that the Board of Health receive this report for information.

Key Points

- Chlamydial infection and latent syphilis have continued to increase since 2021, both locally in Wellington-Dufferin-Guelph (WDG) and province-wide in Ontario.
- Local rates of gonorrhea and infectious syphilis were lower in 2023 than in 2022.
- The resumption of medical and public health services over the past two years has enabled a more accurate assessment of trends in the incidence of STIs in Ontario and in WDG.
- WDGPB Sexual Health Services target priority populations to ensure they have access to the care, assessment, treatment, and education to prevent and address sexually transmitted infections.

Background

The Ontario Health Protection and Promotion Act Regulation requires that certain Diseases of Public Health Significance (DoPHS) are reported to public health units when diagnosed. Among these DoPHS are several sexually transmitted infections

(STIs). Once a report of an STI is received by Wellington-Dufferin-Guelph Public Health (WDGPH), staff contact the case for the purpose of gathering information on how the infection might have been acquired and counselling the client on minimizing the risk of transmission and reinfection. In this way, the risk of wider spread of the STI within the population might be mitigated. Using data gathered from cases, the health unit also monitors the incidence and trends of reportable STIs within the local population.

This report will summarize numbers and trends of STIs in WDG over the past two years, discuss any observed changes in trends over this time and indicate WDGPH's response or actions to the changes.

Summary of STI Surveillance Information: 2022 and 2023

The table below shows crude incidence rates and numbers of cases of sexually transmitted DoPHS reported to WDGPH over the past two years (2022 and 2023):

Sexually Transmitted Disease of Public Health Significance	Number of Cases: WDG 2023	Number of Cases: WDG 2022
Chlamydial Infection	766	670
Gonorrhea	117	122
Syphilis - Infectious	18	32
Syphilis - Non-Infectious	14	11
Syphilis - Early Congenital	0	0
HIV/AIDS	10	8
Monkeypox (Mpox)	0	6

Discussion

Chlamydial Infection:

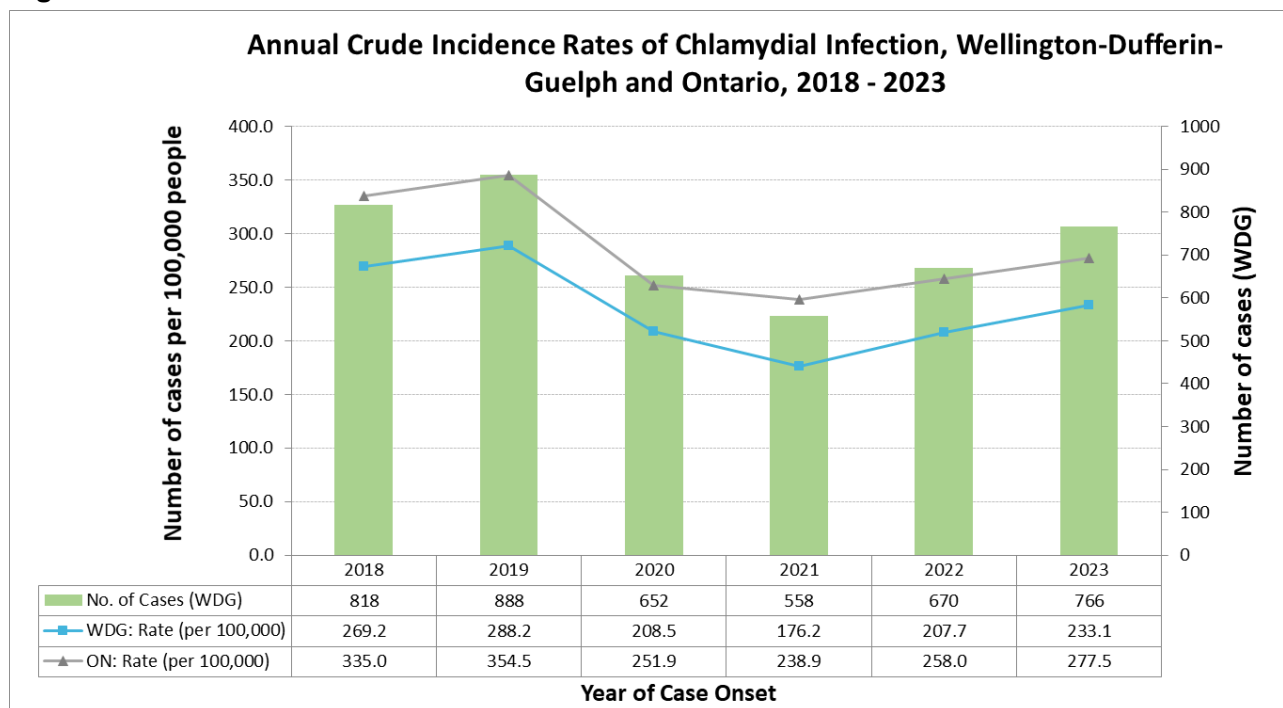
Chlamydia trachomatis is a bacterium that is spread through vaginal, anal, or oral sex.¹ Complications include pelvic infections, which can cause infertility or chronic pelvic pain.²

Key findings from local 2023 data were:

- There has been a steady year-to-year increase in cases of laboratory confirmed chlamydial infection (Figure 1). Nevertheless, the rate of reported chlamydial infections in WDG in 2023 was below that seen in 2019, before the start of the pandemic.

- Throughout the past six years, WDG rates have remained lower than provincial rates (Figure 1).
- In 2023, about 63% of cases occurred in females, and about 37% in males. This is a similar trend seen in past years.
- With a similar ranking to recent years, incidence was highest in 20-29-year-olds (117 cases per 10,000 people in this age group), followed by the 15-19-year age group (99 cases per 10,000 people); much lower incidence rates occurred in the 30-49-year and 50-64-year age groups (18 and 4 cases per 10,000, respectively).

Figure 1:



Annual rates of reported chlamydial infections in all regions of Canada have been increasing for several years, with the exception of the COVID-19 pandemic years.³ The higher rates in females than in males is also consistent with demographic trends seen over the past several years; women are more likely to be screened for STIs than males, so asymptomatic infections in women are more likely to be detected.² The age distribution of cases seen in WDG in 2023 is also consistent with wider regional reports; for example, in 2022, cases occurred at higher rates in the 15- to 24-year-olds in Ontario than in other age groups.⁴

The risk factors most frequently reported by 2023 cases of chlamydial infection followed up by WDGPH, other than 'no condom used' and in descending order, were:

- sex with opposite sex;
- more than one sexual partner in the past six months; and
- new partner in past two months.

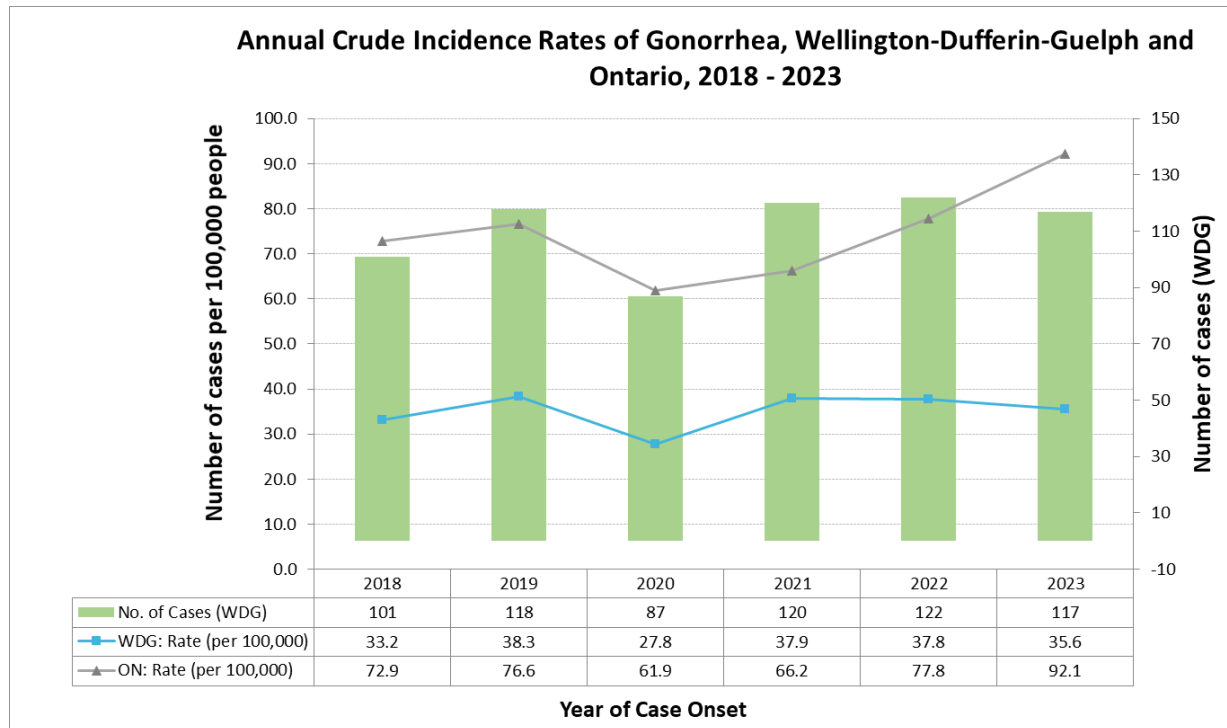
Gonorrhea:

Gonorrhea is an infection caused by the bacterium *Neisseria gonorrhoeae*. Like *Chlamydia trachomatis*, this bacterium is spread through vaginal, anal, or oral sex. Like chlamydia, gonorrhea can progress to pelvic infection or cause infertility.⁷

Key findings from local 2023 data were:

- In WDG, there was a slight decrease in the incidence of laboratory-confirmed gonorrhea in 2023 (Figure 2), in contrast to what occurred in Ontario overall; there was an increase in 2023 in the annual incidence of this STI at the provincial level.
- The local incidence of gonorrhea remained well below the provincial rate in 2023 (Figure 2).
- A disproportionate amount of cases of gonorrhea were reported in males than females (63% and 37% of cases, respectively).
- In 2023, the incidence of gonorrhea in 20-29-year-olds was approximately twice that in either the 15-19- or 30-49-year age groups. However, the incidence of reported cases in each of the latter two age groups has steadily increased over the past three years, while simultaneously declining in the 20-29-year age group.

Figure 2:



Annual rates of reported gonorrhea in WDG, Ontario and Canada all showed a generally increasing trend before the COVID-19 pandemic.³ At the provincial level, this annual increase has continued, apart from 2020, the first year of the pandemic (Figure 1). However, in WDG, although the incidence of this STI rebounded in 2021 to that seen in 2019, there has been no apparent increase since then (Figure 1).

Most cases of gonorrhea reported in WDG in 2023 occurred in males, with the difference being more marked in 2023: The tendency for more cases to be males is consistent with trends reported nationally for gonorrhea.⁵ Males are more likely than females to have symptoms associated with the infection, and therefore to seek health care and be tested. Furthermore, in some regions of North America, higher gonorrhea rates have been reported in communities of men who have sex with men (MSM).³

The age distribution of cases in 2023 was like that seen in 2022, with the highest incidence in the 20-29-year population. This over-representation of younger adults is consistent with reports from other regions of Canada.^{3,6}

Syphilis:

Syphilis is an infection caused by the bacterium *Treponema pallidum* and spread through vaginal, anal, or oral sex. During the infectious stage, syphilis can also be transmitted “vertically” from an infected mother to her child during pregnancy or birth, causing congenital syphilis in the child. Syphilis infections progress through multiple stages, each with its own symptoms. Later stages of syphilis can affect the brain, heart, or other organs.⁷

Key findings from local data were:

- In contrast to the change seen from 2021 to 2022, there was a noticeable decrease in the number of reported cases of infectious syphilis in both WDG and Ontario overall in 2023 (Figure 3a).
- On the other hand, the incidence of latent (non-infectious) syphilis increased in 2023 both locally and at the provincial level, continuing the trend seen since the first year of the COVID-19 pandemic (Figure 3b).
- Annual incidence rates of infectious syphilis in WDG continued to be much lower than provincial rates of the disease (Figure 3a).
- The vast majority (77%) of infectious syphilis cases reported to WDGPH continue to occur in males, a reflection of the circulation of the disease in the MSM community.³ Almost three times as many of the male cases in WDG in 2023 reported sex with same sex as reported sex with the opposite sex.
- In 2023, the age distribution of infectious syphilis cases in WDG was again shifted more toward older age groups than the distributions seen for chlamydial infection and gonorrhea; in 2023, the incidence rate among 30-39-year-olds was highest, followed closely by 20-29-year-olds. A much lower incidence occurred among 50-54-year-olds, and an even lower incidence in 15-19-year-olds.
- There were more male than female cases of non-infectious (latent) syphilis cases reported in 2023, with approximately 57% of the cases being male.
- As in previous years, the age distribution of latent syphilis cases reported in WDG in 2023 could not be reliably assessed due to the low number of cases relative to infectious syphilis.
- No confirmed cases of early congenital syphilis were reported in WDG in 2023. Province-wide, the number of cases reported went from 25 in 2022 to 13 in 2023.

Figure 3a:

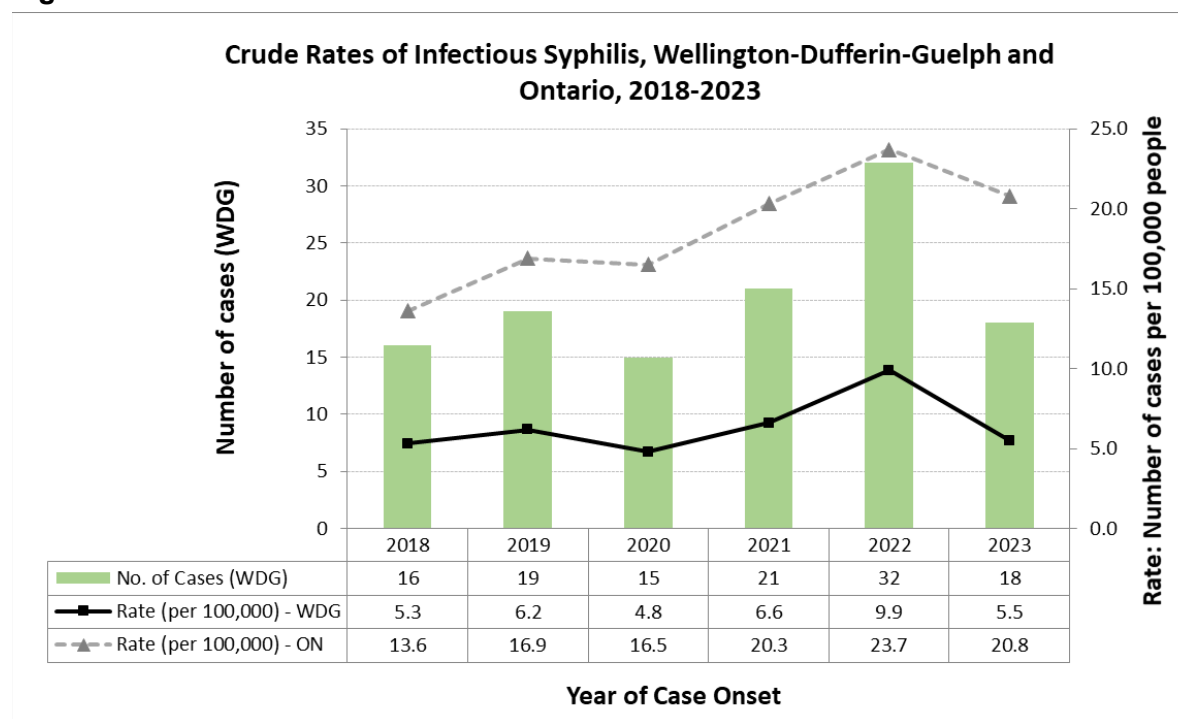
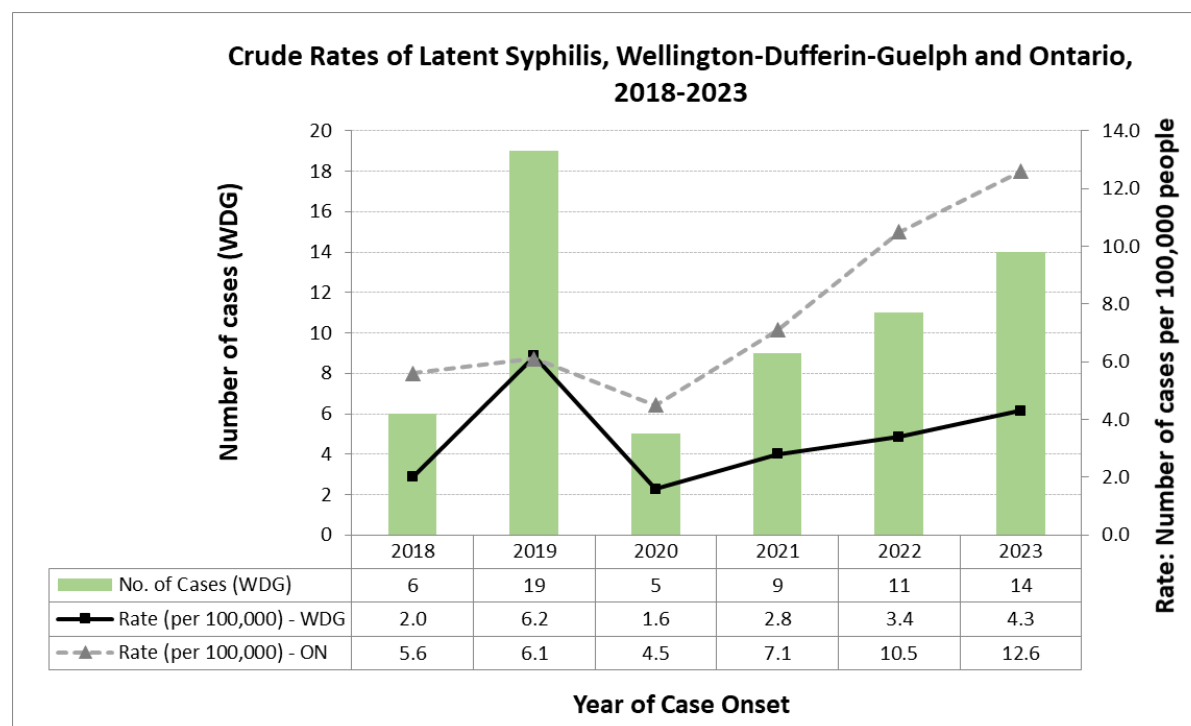


Figure 3b:



As has been the case in recent years, infectious syphilis was the third most reported STI in WDG in 2023.

As reported last year, the increasing incidence of infectious syphilis being seen in several regions of North America has led to some concern about increasing spill-over of the disease into the infant population. The number of cases reported in Ontario in 2022 showed a large increase compared to pre-pandemic years and was more than three times the number in 2021. However, in Ontario, far fewer cases of early congenital syphilis were diagnosed in 2023 than in 2022 – decreasing from 25 cases to 13 cases. This probably also reflected the decreasing incidence of infectious syphilis that occurred in 2023. As in previous years, none of the cases of congenital syphilis reported in the province occurred in WDG.

The three risk factors most frequently reported by cases of syphilis in 2023, besides ‘no condom used’ in descending order, were:

- sex with opposite sex, sex with same sex; and
- more than one sexual partner in the past six months.

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS):

Acquired immune deficiency syndrome (AIDS) is a relatively rare viral disease caused by human immunodeficiency virus (HIV) infection. The highest likelihood of transmission of the infection is associated with sexual intercourse, but contamination of mucous membranes or open wounds with the blood or body fluids of an infected person, or transfusion of their blood into a healthy recipient, are also possible routes of infection. The infection is most spread through unprotected sex and sharing HIV-contaminated needles or syringes.⁸

In 2023, ten cases of HIV/AIDS were reported in WDG, a slight increase in incidence from 2022 when there were eight cases reported in the area. Because of the low numbers of cases in this disease reported each year, it is difficult to assess whether this change represents a true or meaningful trend.

Only slightly more than half of the HIV/AIDS cases in 2023 were male - a change from 2022 when a higher proportion of reported cases occurred in males.

In 2023, over half of the HIV/AIDS cases reported in WDG were aged over forty years, an older age distribution than in 2022 when most of the cases were under thirty-five years of age.

Mpox (Monkeypox):

In contrast to 2022, when an outbreak of Mpox (previously known as Monkeypox) occurred worldwide, mostly among the MSM community, and six confirmed cases were reported in WDG, no cases were reported locally in 2023. There was also a marked reduction of incidence in Ontario overall, from 4.6 cases per 100,000 people in 2022 to 0.2 cases per 100,000 people in 2023.

Before the 2022 outbreak, the transmission of this disease was primarily due to contact with infected wild animals; however, the main mode of transmission in the 2022 outbreak was sexual contact, which is now recognized as a risk factor.⁹ The reduction of incidence of reported cases seen in Ontario and in WDG in 2023 could probably be due, at least in part, to acquired partial immunity from vaccination and/or infection resulting in milder clinical severity of cases.¹⁰ Nevertheless, the outbreak continues worldwide, with the World Health Organization (WHO) reporting that, as of the end of 2023, numbers of reported cases were lowest in the Western Pacific, Africa and South-East Asia. In 2022 more extensive transmission, mostly via the sexual route, was still occurring in Europe and the Americas (developed countries).¹¹ Very little spillover of transmission from the MSM population into the wider population of these regions has been reported to date; 97.1% (1355 of 1396) of new cases in late 2023 reported sexual contact as the likely mode of transmission.¹¹ This is not unexpected, as non-sexual transmission of the virus circulating in the current outbreak appears to be less efficient than sexual transmission.¹²

WDGPH Sexual Health Program in 2024

Clinical Services restarted all programs in 2023 post pandemic. At present all clinics are now open throughout the WDG region and clients can receive timely access to a range of STI testing, reproductive health, and pregnancy services. Additionally, the WDGPH sexual health program continues to provide case management for all positive cases of gonorrhea, chlamydia, and syphilis in the WDG area, and actively participate in community outreach.

The sexual health program identifies priority populations to be all clients who do not have access to a primary care provider. Additionally, staff provide care to individuals who do not have a valid Ontario Health Card (OHIP) or are enrolled in the Ontario Disability Support Program (ODSP).

In 2023, WDGPB onboarded two physicians to provide care in sexual health clinics. Although Public Health Nurses (PHNs) provide education and testing for asymptomatic STI cases under medical directives, symptomatic cases can be complex and require assessment by a physician.

If an individual tests positive for a STI, clinical staff will connect with the individual or their physician and ensure proper treatment for the specific STI occurs, while providing education for the client on safe sexual practices and ensuring that all contacts of the case also receive appropriate treatment. The WDGPB STI case management team also actively engages with community physicians to educate them on current first-line treatment of STIs and provides clients with treatment, free of cost.

Additionally, WDGPB provided a weekly sexual health clinic at the local AIDS/HIV clinic, ARCH. This clinic provided STI testing and treatment and promoted healthy sexuality and safer sexual practices in the MSM and LGBTIQ+ populations. Although the ARCH agency has now closed (as of March 31, 2024), WDGPB continues to work with the Guelph Community Health Center to provide access to STI testing for this population.

Reproductive health continues to evolve, and oral contraception is no longer considered the first option. At present, intrauterine devices (IUDs) and birth control implants are considered the leading reproductive health products. WDGPB through sexual health clinics provide multiple options to clients. In addition to promoting reproductive health options that reduce pregnancy, these clinics consistently promote education on condom use, since this is the only proven contraception method that reduces the risk of STI transmission.

To promote equity, WDGPB provides reproductive products at cost or through the OHIP+ program which allows clients to access reproductive health products free of cost. Clients of any age can access STI treatment options free of charge from WDGPB. Clinics are open on multiple days of the week and during evening hours to provide varied access to clients.

As well as providing sexual health clinics for the community, WDGPB actively participates in outreach events throughout the region. In 2023, WDGPB attended both the Guelph and Orangeville Pride events and twice collaborated with the University of Guelph in a “STI Blitz”. While attending these events, WDGPB focused on promoting and educating clients on healthy sexuality, safer sexual practices and STI testing.

Health Equity Implications

The information provided in this report shows that some sections of the local population are affected by STIs more than others, with higher incidence of the infections in particular age groups, and with cases of infectious syphilis disproportionately affecting the MSM community.

Public Health can attempt to address these inequities by targeting educational activities and provision of resources at the sections of the population at higher-risk for sexual practices associated with the transmission of STIs and with higher incidence rates of lab-confirmed STIs as reflected by surveillance data.

Conclusion

Assessment of 2023 data showed that the annual incidence rates of confirmed chlamydial infection and latent syphilis have continued to increase since 2021, both locally in WDG and province-wide in Ontario. However, local rates of gonorrhea and infectious syphilis were lower in 2023 than in 2022.

The decreased incidence in infectious syphilis seen locally and provincially in 2023 is encouraging, and the lower numbers of congenital syphilis seen in Ontario is likely to reflect this. However, rates of latent (non-infectious) syphilis continued to increase in 2023.

The resumption of medical and public health services over the past two years has enabled a more accurate assessment of trends in the incidence of STIs in Ontario and in WDG. Continued surveillance of these trends will allow for appropriate responses from Public Health to attempt to mitigate the transmission of STIs in the region.

Ontario Public Health Standards

Foundational Standards

- ☒ Population Health Assessment
- ☒ Health Equity
- ☐ Effective Public Health Practice
- ☐ Emergency Management

Program Standards

- ☐ Chronic Disease Prevention and Well-Being
- ☐ Food Safety
- ☐ Healthy Environments
- ☐ Healthy Growth and Development
- ☐ Immunization
- ☒ Infectious and Communicable Diseases Prevention and Control
- ☐ Safe Water
- ☐ School Health
- ☐ Substance Use and Injury Prevention

2024-2028 WDGPH Strategic Goals

More details about these strategic goals can be found in [WDGPH's 2024-2028 Strategic Plan](#).

- ☒ Improve health outcomes
- ☐ Focus on children's health
- ☐ Build strong partnerships
- ☒ Innovate our programs and services
- ☒ Lead the way toward a sustainable Public Health system

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Data Sources:

Data cited in this report for WDG were extracted directly from the Integrated Public Health Information System (iPHIS) via Cognos Report Net (CRN), except for numbers and rates for comparison between WDG and Ontario, which were extracted from iPHIS via Infectious Disease Query (Public Health Ontario).