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EPIDEMIOLOGY REPORT

SEXUALLY TRANSMITTED INFECTIONS: CHLAMYDIA AND GONORRHEA

January 1, 2019 to April 16, 2025

WATERBURY HEALTH DEPARTMENT
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OVERVIEW

This Epidemiological Report provides an analysis of sexually transmitted infection (STI) data for chlamydia and gonorrhea in the City of Waterbury, covering the period of January 1, 2019 to April 15, 2025. It includes annual case counts and trend analyses over time, with a focus on recent incidence rates tracked weekly from January 1, 2024 to the present.

The data source for this analysis is CSV formatted datasets obtained from the local health data portal of the Connecticut Electronic Disease Surveillance System (CTEDSS). The local health data portal provides local health data on selected diseases and syndromes

BRIEF BACKGROUND ON SEXUALLY TRANSMITTED DISEASES

Sexually Transmitted Infections (STIs):

- Sexually transmitted Infections (STIs) are highly prevalent in the United States, with over 19 million cases reported annually. The annual medical costs of STIs are estimated to be around $14 billion [1].
- STIs are most common in individuals aged 15-24, but they impact people from all demographics. Women often face more severe health consequences from these infections **[1].**
- Women may not exhibit symptoms of STIs, putting them at higher risk for serious complications. When symptoms do appear, they can resemble other non-sexually transmitted illnesses. Despite the absence of symptoms, STIs can still be transmitted to partners [1].

Chlamydia and Gonorrhea:

- The Connecticut State Department of Public Health mandates the reporting of five STIs; syphilis, gonorrhea, chlamydia, neonatal herpes, and chancroid. Surveillance activities are conducted on the three most prevalent STIs—syphilis, gonorrhea, and chlamydia. This report presents data on chlamydia and gonorrhea only, as the local health data portal does not provide any data on syphilis for the specified time period.
- Gonorrhea can cause infection in the genitals, rectum, and throat [2].
- Chlamydia can cause permanent damage to a woman's reproductive system [2].
- Symptoms in women: painful or burning sensation during urination, increased vaginal discharge, and bleeding between periods [2,3].
- Symptoms in men: burning sensation when urinating, a white, yellow, or green discharge from the genital part, and, painful or swollen testicles (less common) **[2,3]**.

References:

1. Sexually transmitted Disease Control Program. Connecticut State Department of Public Health. https://portal.ct.gov/dph/test-full- view-page/std/sexually-transmitted-diseases-control-program.
2. Gonorrhea. CDC https://www.cdc.gov/gonorrhea/about/index.html
3. Chlamydia. CDC. https://www.cdc.gov/chlamydia/about/index.html

CHLAMYDIA AND GONORRHEA: JANURAY 1, 2019- APRIL 15, 2025

The following figures show the number of positive cases of chlamydia and gonorrhea that were reported in the City of Waterbury from January 1, 2019 to April 16, 2025. Overall, there were more cases of chlamydia (n=5,048) than gonorrhea (n=1,816).

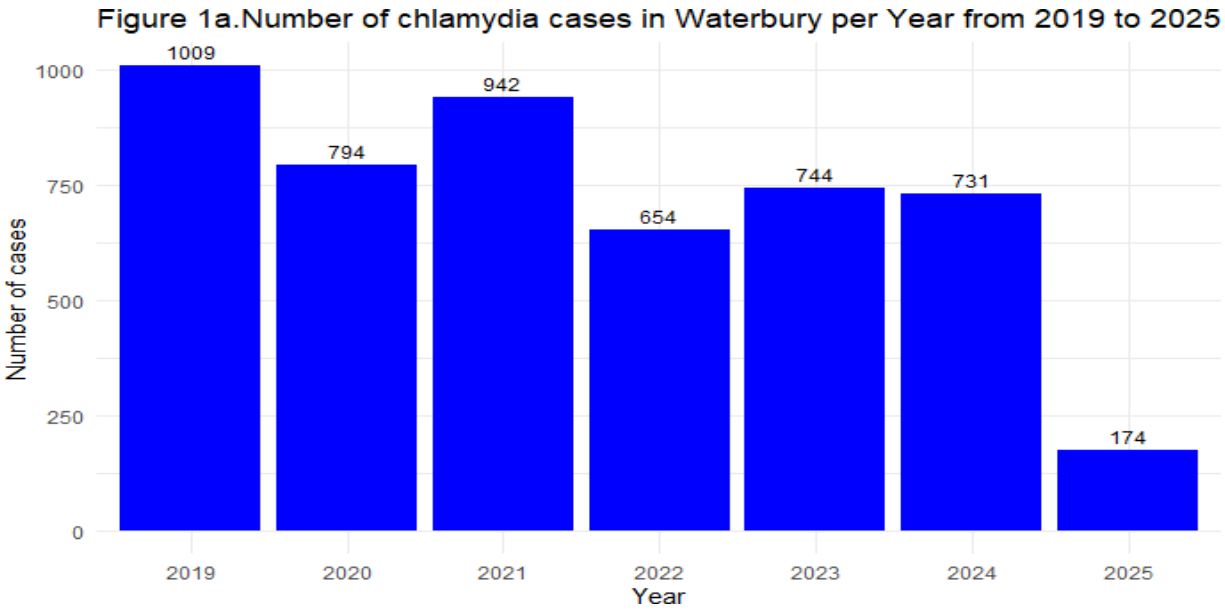


Figure 1a. shows the number of chlamydia cases reported each year. Cases spiked in 2019 and 2021.

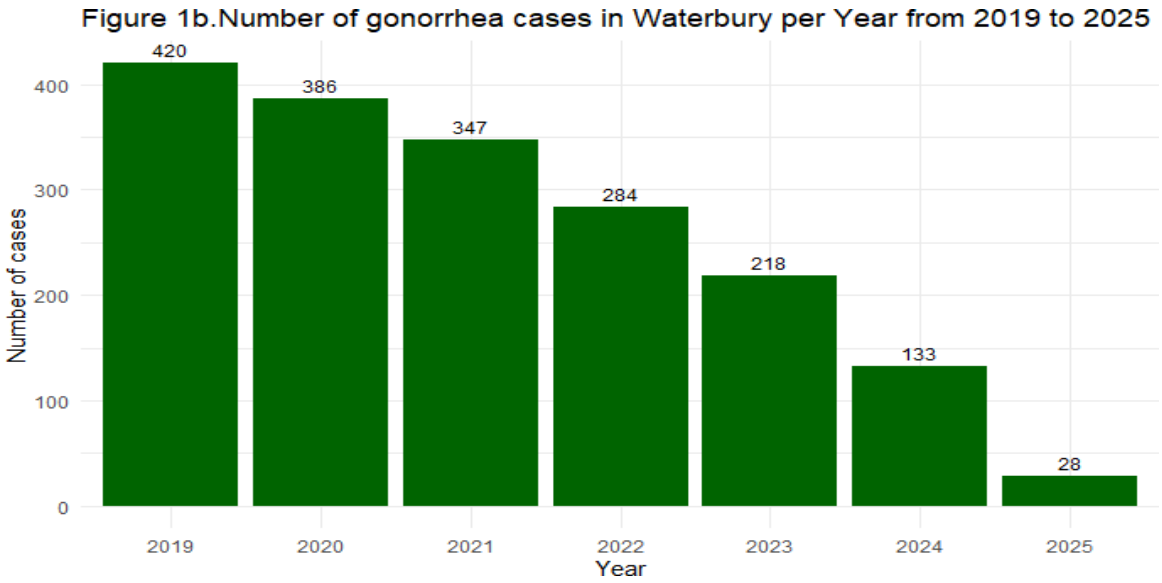


Figure 1b. shows the number of gonorrhea cases reported each year. Cases have been steadily decreasing.

The following figures show trends in chlamydia and gonorrhea cases.

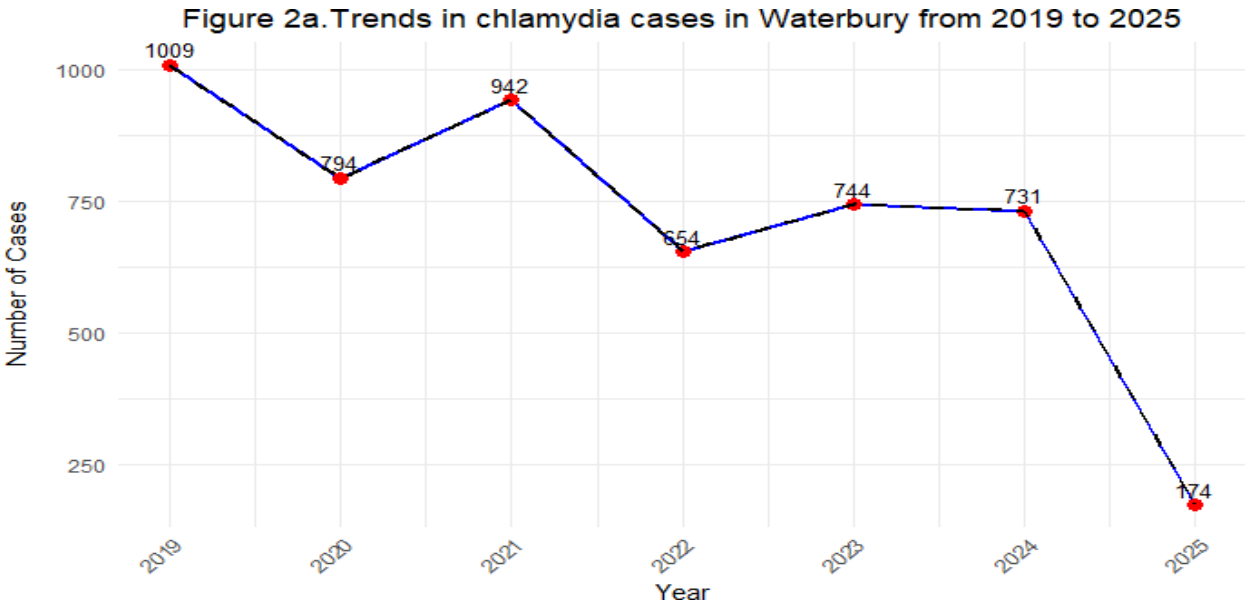


Figure 2a shows alternating peaks and troughs in the number of chlamydia cases over time, which suggests variability in the occurrence of this STI. The variability could be related to seasonal changes, ongoing interventions and treatment strategies. The trend also highlights a sharp decline in chlamydia cases from 2024 to present. The changing pattern in chlamydia cases emphasizes the need for continued monitoring and targeted interventions.

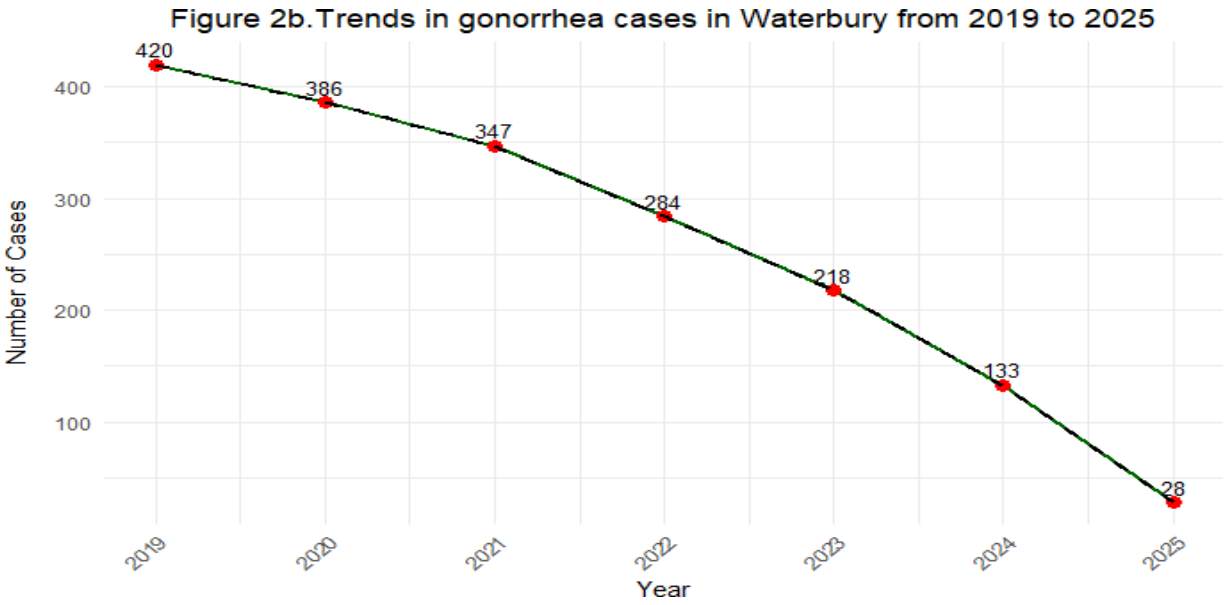


Figure 2b shows a smooth and steady decline in the number of gonorrhea cases reported in Waterbury each year. The decline could be attributed to an increase in awareness and/or targeted interventions among Waterbury communities.

The figures below show differences in trends in chlamydia and gonorrhea cases by sex. Male or female are the commonly reported genders in the STI datasets, and there were a few cases in which gender was unknown.

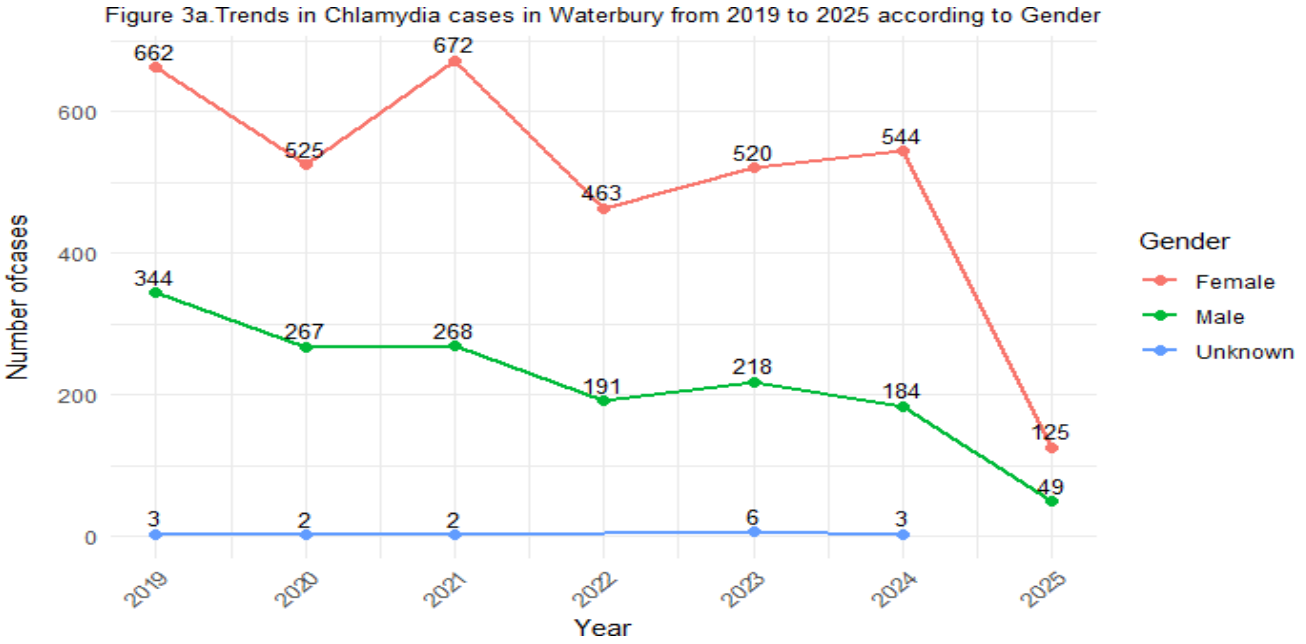
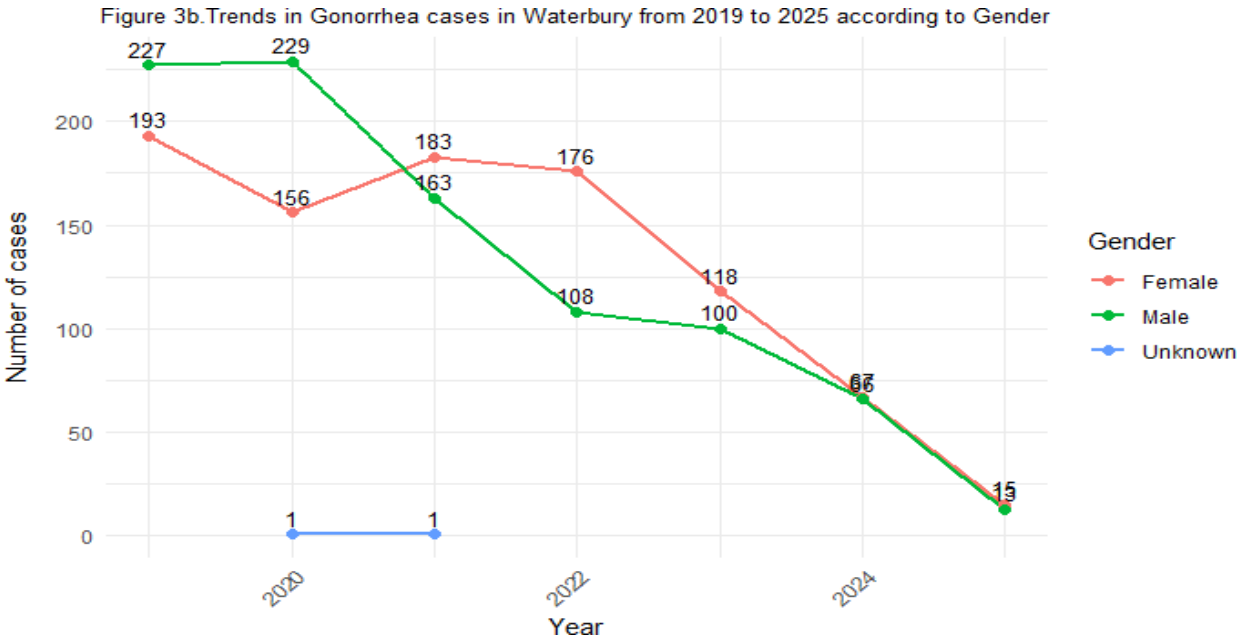


Figure 3a shows that there are more positive cases of chlamydia reported in females compared to males for each year. This trend highlights the need of more interventions focused on chlamydia prevention and control in females.



In contrast, Figure 3b shows that more cases of gonorrhea were reported in males compared to females in 2019 and 2020. The trend shows a decrease in male cases from 2020 to the present, while there was an increase in female cases from 2020 to 2021, followed by a steady decrease.

CHLAMYDIA AND GONORRHEA: JANUARY 1, 2024-APRIL 15, 2025

The following figures show the number of chlamydia and gonorrhea cases in Waterbury from January 1, 2024 to April 15, 2025. There were more cases of chlamydia (n=905) reported from January 1, 2024-April 15, 2025 compared to gonorrhea (n=161), which is consistent with the 2019 to 2025 data trends.

Figure 4a. Monthly Chlamydia Cases from Jan 2024 to April 2025

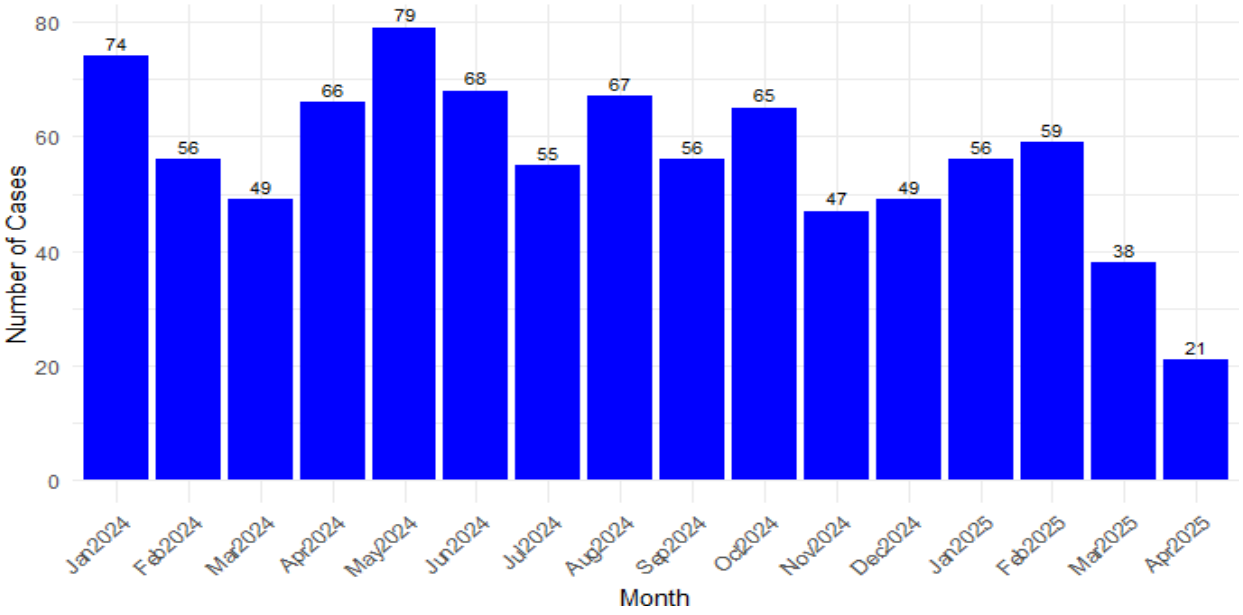
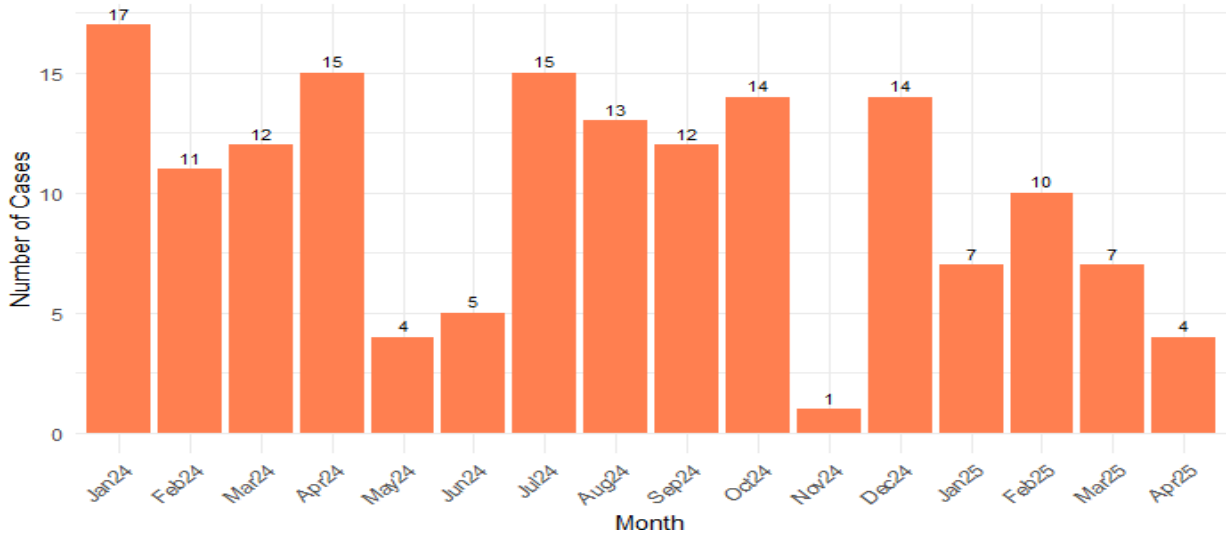


Figure 4b. Monthly Gonorrhea Cases from Jan 2024 to April 2025



The monthly analysis highlights the sharp decrease in number of gonorrhea cases reported during the months of May, June and November of 2024. The number of cases reported in January, February and March of 2025 have declined compared to the number of cases reported during the same months in 2024.

Figures 5a and 5b represent chlamydia and gonorrhea cases reported from January 1, 2024-April 15, 2025 according to age-group and gender. These figures show the majority of both chlamydia and gonorrhea cases are reported among the 20-29 age-group, suggesting that this age group is the most vulnerable to group in terms of sexually transmitted infections.

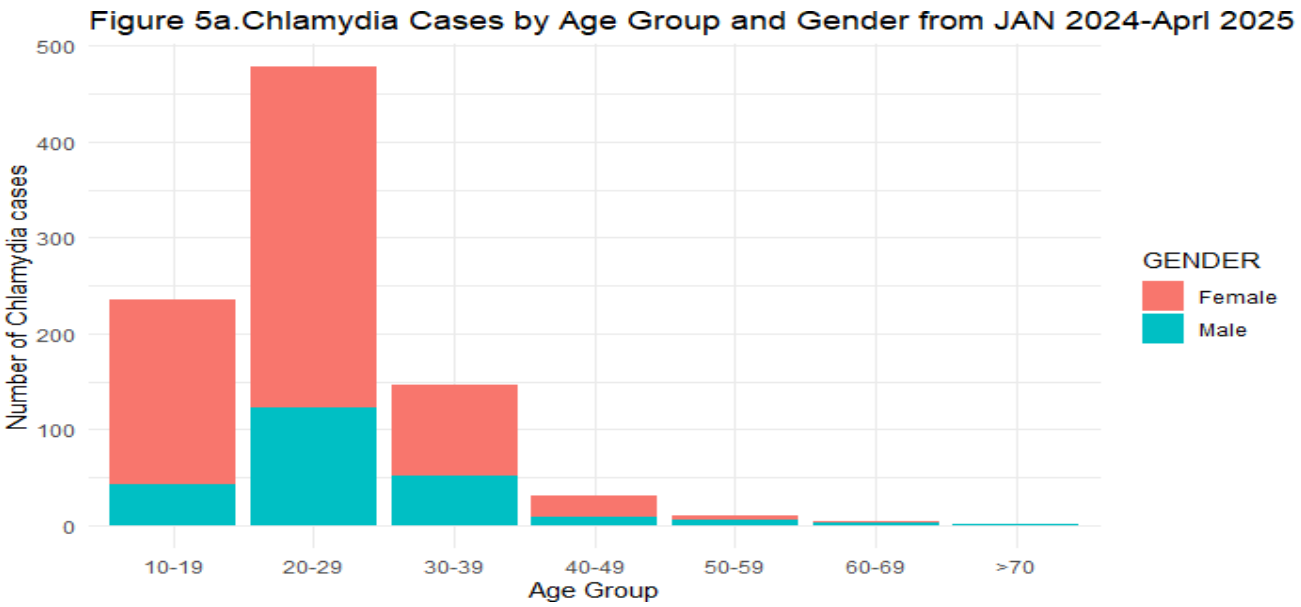


Figure 5a. also highlights that females contribute a higher proportion of chlamydia cases in the 10-19, 20-29, and 30-39 age groups compared to males.

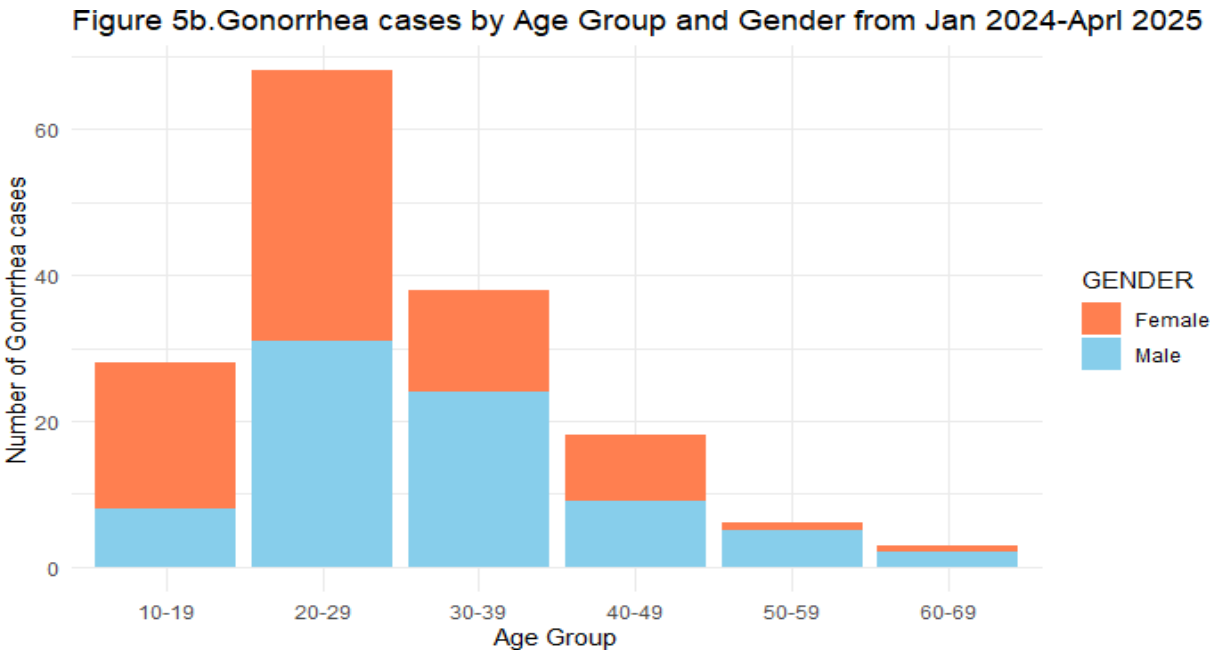


Figure 5b shows that males in the 30-39 age group had more cases of gonorrhea compared to females. Gonorrhea cases are also reported among the older age groups (50-59 and 60-69) in contrast to chlamydia, which more commonly infects younger age groups.

These following figures show the number of chlamydia and gonorrhea cases reported at two-week intervals over the span of January 1, 2024-April 15, 2025.

Figure 6a.BiWeekly Chlamydia Cases from January 2024 to April 2025

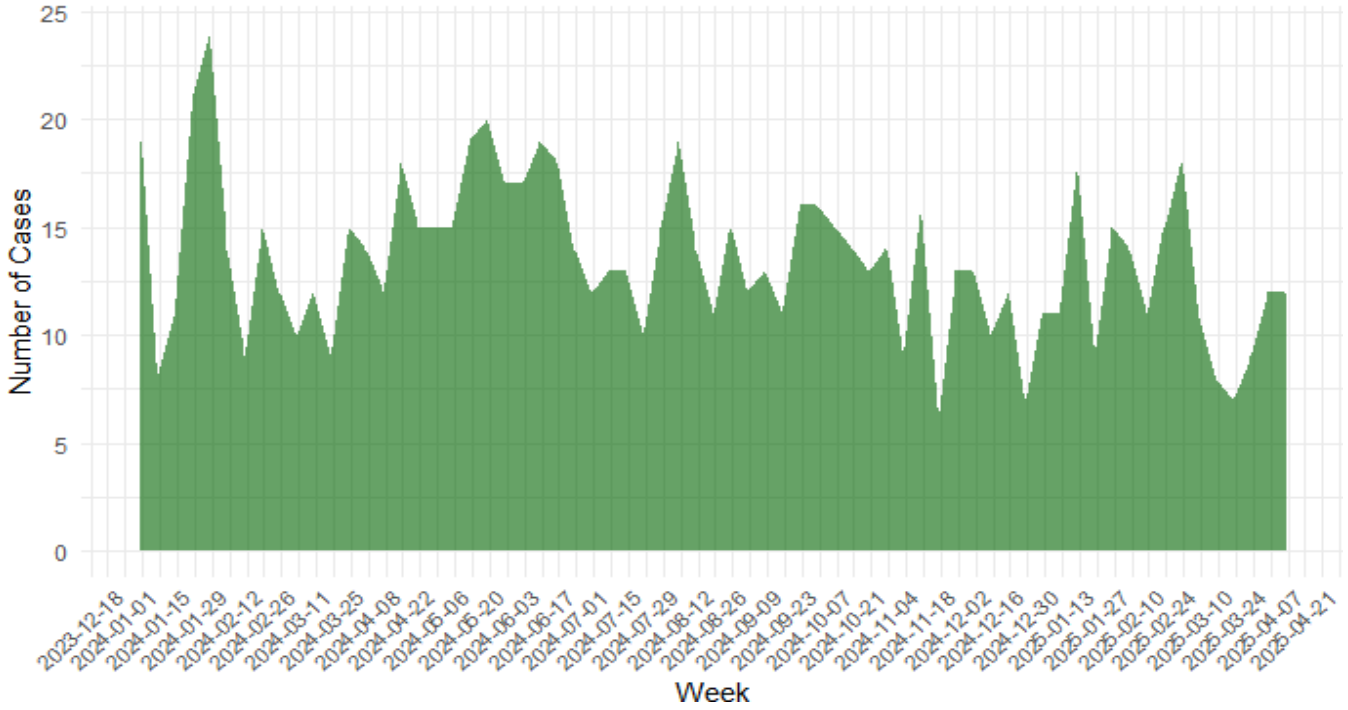


Figure 6b. BiWeekly Gonorrhea Cases from January 2024 to April 2025

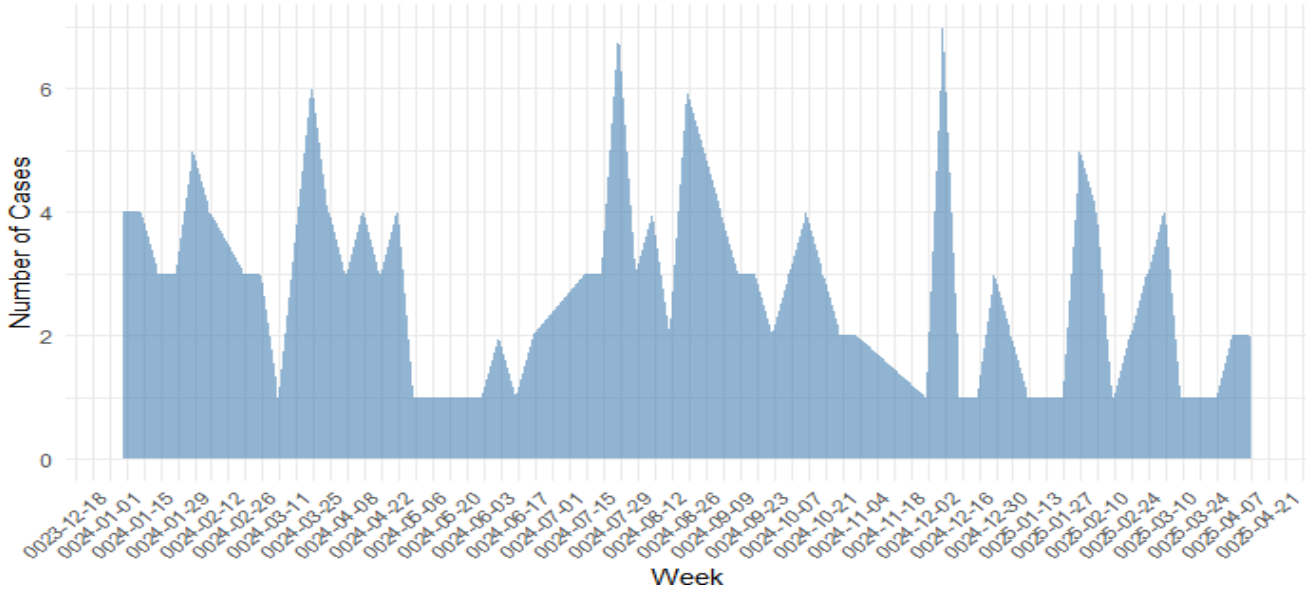


Figure 6b shows more variability in the number of biweekly cases reported for gonorrhea compared to chlamydia (Figure 6a). This supports the continued need for tracking and reporting STI cases to better understand the causes of this variability.

Figures 7a and 7b depict the biweekly incidence rates (defined as the number of new cases of the disease reported every two weeks divided by the total population) per 100,000 population for chlamydia and gonorrhea, respectively.

Figure 7a.Biweekly Chlamydia Incidence Rates from January 2024 to April 2025

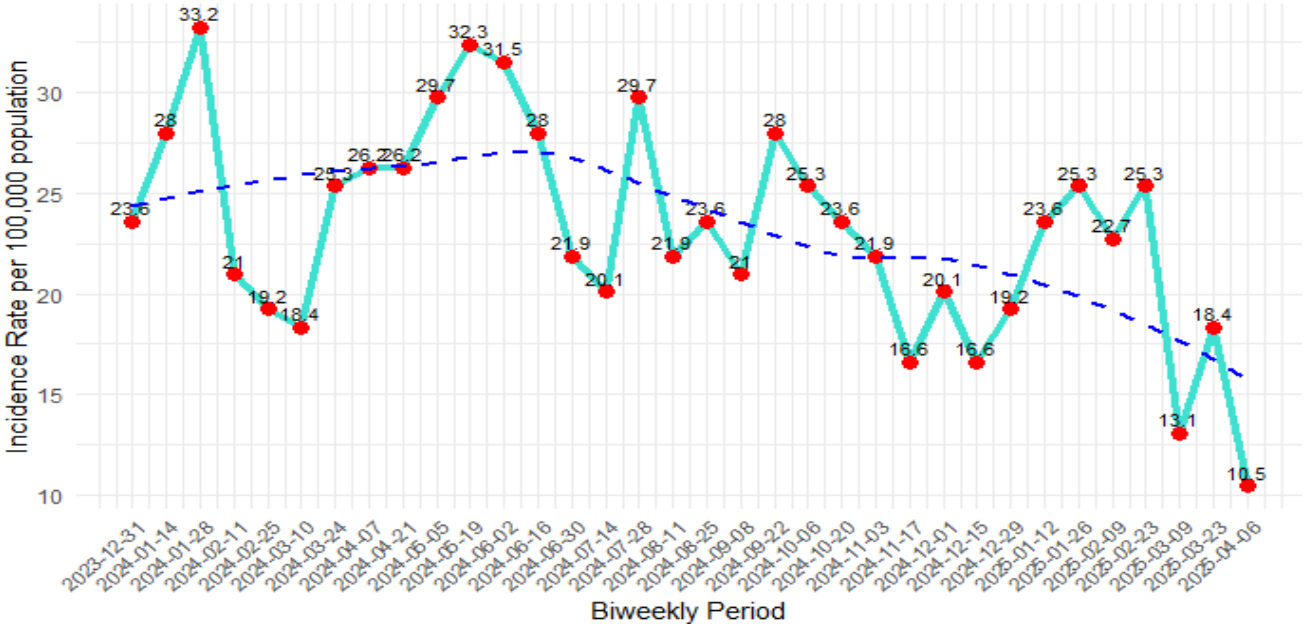
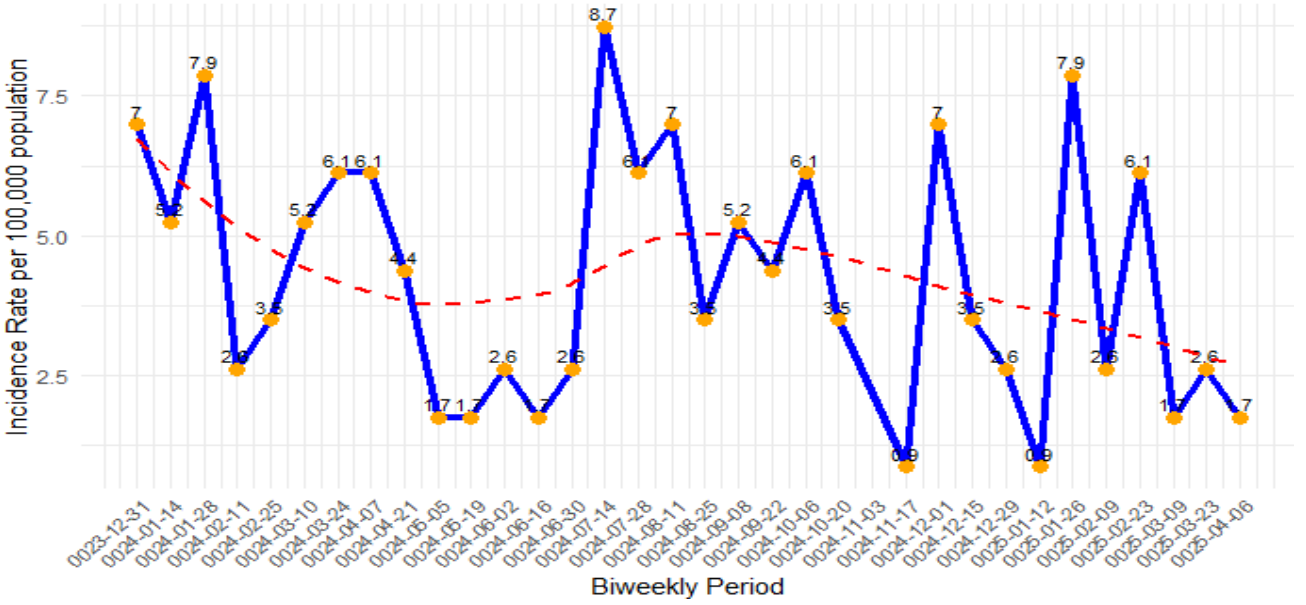


Figure 7a shows that over the past year the incidence rate of chlamydia has dropped from 33.2 during January 2024 to 10.5 in April 2025 (solid turquoise line). The blue trend line also predicts a declining trend in chlamydia incidence rate by 2025.

Figure 7b. Biweekly Gonrrhea Incidence Rates from January 2024 to April 2025



There was also a decrease in the incidence of new gonorrhea cases per 100,00 population to 1.7 in April 2025 from 7.9 in January 2024 (solid blue line). The red trend line also predicts similar decrease in incidence rate of gonorrhea by 2025.

PREVENTION OF STIs

Using latex or polyurethane condoms reliably during all types of sexual activities is highly effective in reducing STI transmission, including chlamydia. Ensuring proper usage, checking expiration, and using compatible lubricants can enhance protection and comfort.

Due to the often-asymptomatic nature of chlamydia, regular STI screenings are crucial for sexually active individuals, especially those under 25 or with multiple partners. Annual testing or more frequent checks if risk factors are present can help in early detection and prevent serious health issues.

Minimizing the number of sexual partners lowers the risk of STI exposure. Engaging in mutually monogamous relationships where both partners are tested enhances protection, along with open discussions about sexual health history.

Honest conversations about STI testing and prevention with partners are essential. Discussing sexual health openly fosters trust and collaboration in maintaining a safe sexual environment. Promote STI testing for new partners to normalize the practice and enhance mutual responsibility for safety.

Douching is not recommended as it can disrupt the vaginal bacterial balance and increase infection risks. Maintaining good hygiene through gentle external cleaning supports the vagina's natural defenses.

Learn about STIs—including symptoms, transmission, and prevention—and share this knowledge with partners to foster mutual understanding and risk awareness. Know how to recognize the symptoms of chlamydia and other STIs, even when asymptomatic, to seek prompt medical attention if needed.

For those at high risk of HIV, PrEP (Pre-Exposure prophylaxis) can significantly reduce infection risk, enhancing overall sexual health management.

Have regular healthcare visits for check-ups and discussions about sexual wellness, alongside STI screenings. Though there's no chlamydia vaccine, vaccines for STIs like HPV and Hepatitis B can be beneficial. Discuss vaccination options with healthcare providers.

Create a support system with trusted friends or family to discuss sexual health openly, encouraging safer practices. Engaging in mindfulness practices can improve decision-making and reduce risky sexual behaviors influenced by stress.

ADDITIONAL RESOURCES

1. Sexually transmitted Infections. CDC. https://www.cdc.gov/sti/index.html
2. STI Factsheet. CDC. https://www.cdc.gov/sti/communication-resources/index.html
3. How to Prevent STIs. CDC . https://www.cdc.gov/sti/prevention/index.html
4. Getting tested for STIs. CDC. https://www.cdc.gov/sti/testing/index.html
5. Sexually Transmitted disease Control Program. Connecticut Ste Department of Public Health. https://portal.ct.gov/dph/test-full-view-page/std/sexually-transmitted-diseases-control-program