

Incidence and Positivity Rates of *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium* and *Trichomonas vaginalis* in a Nationwide Cohort of Male and Female Service Members (2014-2024)

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Introduction

- Sexually transmitted infections (STIs) pose a global public health burden, and may lead to significant sequelae even in asymptomatic patients¹.
- Several studies have shown higher rates of STIs among female soldiers compared to their male counterparts^{2,3}.
- In the Israel Defense Forces (IDF), servicemen receive free medical care and is a representative sample of both the male and female national population.

Aim

- Assess the incidence and positivity rates of polymerase chain reaction (PCR) tested STIs in a nationwide contemporary cohort of male and female soldiers.**

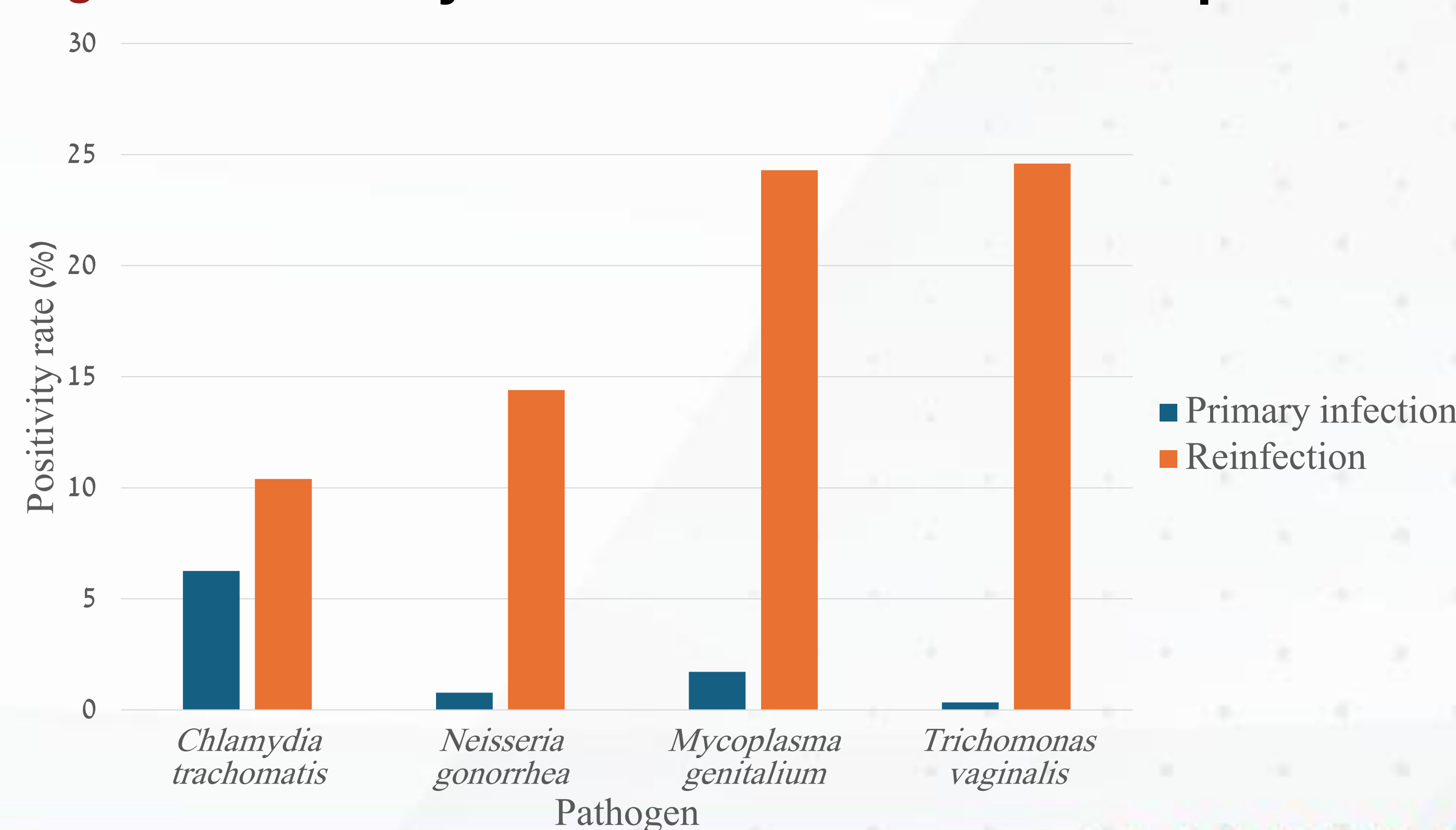
Methods

- In a retrospective cohort study, using electronic health records, we included male and female soldiers aged 18 to 24 from the IDF (2011-2024).
- We used laboratory data to identify male and female soldiers tested for STIs.
- STIs were tested with a standard PCR-based panel which included *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma genitalium* and *Trichomonas vaginalis*.
- A cutoff of 30 days from the first infection was used to describe reinfection.
- We determined incidence and positivity rates of each STI among those tested positive for at least one pathogen.
- Analysis was performed for the whole cohort and by sex.

Results

- Of the study population (N=819,271, 45% females), 81,207 (9.9%) were tested for STIs at least once, with 6,721 (8.3%) being positive for at least 1 pathogen, with similar positivity rates among males and females (46.9% vs 53.1%)
- Chlamydia trachomatis* was found to be the most common STI (N=5,086), followed by *Mycoplasma genitalium* (N=1,387), *Neisseria gonorrhoeae* (N=627) and *Trichomonas vaginalis* (N=278). The trends for each disease over time is shown in figure 1.
- Chlamydia trachomatis*, *Mycoplasma genitalium* and *Trichomonas vaginalis* were shown to have higher rates among females (55.3%, 53.7% and 82.6% of cases, respectively), with *Neisseria gonorrhea* showing higher rates among males (81.9% of cases).
- Reinfection rates were shown to be much higher than primary infection rates (figure 2).

Figure 2: Primary and reinfection rates comparison



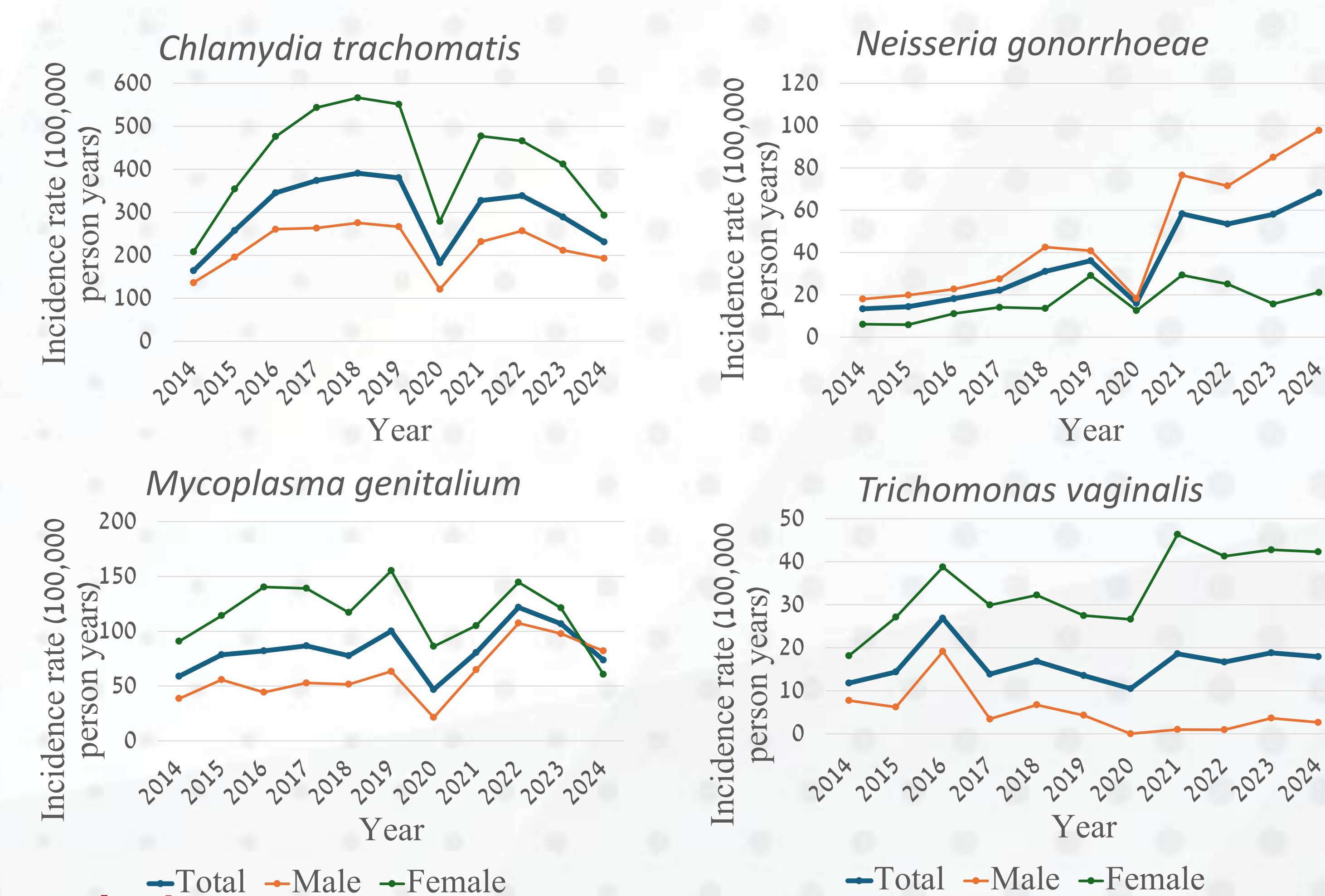
References

- Sexually Transmitted Infections Among Active Component Members of the US Armed Forces, Armed Forces Health Surveillance Division (2024).
- Sexually Transmitted Infections Among US Women and Men: Prevalence and Incidence Estimates, Sex Transm Dis (2018)
- Chlamydia trachomatis* Infections in Female Soldiers, Israel. Emerg infect Dis (2003)

Abbreviations

STI, Sexually transmitted infection;
IDF, Israel Defense Forces

Figure 1: STIs incidence rates among both genders, male and female



Conclusion

- Among female soldiers, *Chlamydia trachomatis* was the most common STI pathogen.
- Reinfection rates of STIs remain high, indicating the importance of retesting for identifying new cases.
- Although limited by a retrospective design, these findings provide guidance for empiric treatment and future prevention efforts.

Disclaimer: This study was conducted by the listed researchers. Statements and opinions published in this abstract are solely those of the individual abstract authors and not the Israel Defense Forces (IDF). This study did not receive external funding or support. All authors had access to the data utilized in this study. The views expressed in this poster are those of the author(s) and do not necessarily reflect the official policy or position of the Defense Health Agency, the Department of War, nor any agencies under the U.S. Government.

