



Sexually Transmitted Infections

An Introductory Fact Sheet

May 2023

This factsheet provides basic information on sexually transmitted infections (STIs), and a snapshot on the global status of STIs in the context of HIV prevention and global health equity.

Overview:

HIV and other sexually transmitted infections (STIs) are inextricably linked. Strategies for an integrated response are essential to reverse the impact of these health threats. Greater investment in interventions to diagnose and prevent STIs is overdue. With novel STI vaccines and diagnostics in the pipeline, advocacy for investment in these tools is needed. A global response that integrates and scales up existing interventions for HIV and STIs, the development of additional options, and promotes sexual health remains a longstanding priority for AVAC.

Resources

[STIWatch.org](https://www.stiwatch.org)

[The Choice Agenda](#)

[Global roadmap for vaccines development against STIs](#)

What is an STI?

Sexually transmitted infections are generally spread from person to person during vaginal, anal, and oral sex. STIs include more than 30 different bacteria, viruses, and parasites. Common STIs include chlamydia, genital herpes, gonorrhea, hepatitis B, human papillomavirus, syphilis, and trichomonas.

STIs and HIV

STIs disproportionately affect the same communities and populations as HIV, including low- and middle- income countries and communities, young people, and key populations (i.e., sex workers, gay men and other men who have sex with men, transgender individuals, incarcerated people and people who use drugs). Incidence of HIV and STIs rise and fall based on the same social and economic factors that create barriers to accessing healthcare. And HIV and STIs exacerbate each other—STIs increase vulnerability to HIV acquisition, and HIV exploits STIs, worsening HIV morbidity. It is imperative to better understand the relationship between HIV and other STIs, improve STI screening programs to inform treatment and prevention strategies, accelerate the development of vaccines and diagnostics for STIs, and ultimately end the HIV and STI epidemics.

Integrating STI and HIV services is crucial to an effective response and to lowering HIV and STI rates. For example, providing both STI and HIV screening services allows people to get tested and treated for multiple infections at once that could be missed when seeking testing and treatment services for only one of these infections.

STI Key Facts

WHO estimates that more than 1 million new STI cases occur every day. Incidence of some STIs has been increasing rapidly over the last decade in many countries.

- In 2020, the WHO estimated 374 million new cases of either chlamydia, gonorrhea, syphilis, and trichomoniasis.

- Global data from this time period is limited, but data from the US shows syphilis infections declined in the 1980s and 1990s by as much as 80 percent, attributed to increased condom use tied to the rise of HIV, and the availability of effective antibiotic treatment options.
- Since the 1990s syphilis rates have increased globally, with many countries, including the US, seeing more than 200 percent increase in congenital syphilis cases.
- In 2016, about 491.5 million people were living with HSV-2, which accounts for about 13 percent of the world's population aged 15-49 years.
- Most people who have an STI don't have any symptoms, which is why it is important to get tested on a regular basis.
- For those who do experience symptoms, they can include discomfort when urinating, abnormal genital discharge, or swollen genitalia.
- Gonorrhea develops resistance to treatment especially quickly. Treatment options are limited and research and development to expand effective options is urgently needed.
- STIs can lead to pelvic inflammatory disease, infertility, adverse pregnancy outcomes, cancers and other diseases, undermining sexual and reproductive health at the population level.
- STIs can be stigmatizing, impacting one's mental health.

The Status of STI Vaccines and Diagnostics

Vaccines Currently Available

Vaccines currently exist for two STIs, human papillomavirus (HPV) and hepatitis B. The WHO recommends hepatitis B vaccination for all infants. It requires three doses over an 18-month period, with the first dose administered within 24 hours of birth. WHO estimates the global coverage at 42 percent, but coverage estimates are only 17 percent across the African region.

HPV vaccination is a two-dose regimen, for everyone, if dosing starts before age 15, as recommended by WHO, and can be given as early as 9 years of age. If dosing starts later, three doses are needed for full protection, with efficacy at 90 percent or higher. Studies from 2022, have shown a one-dose HPV vaccine to be highly effective in preventing cervical cancer. With this data, WHO recommendations were updated to include a one-or two-dose regimen for girls and women aged 9 to 20 years and a two-dose regimen for women older than 21.

According to WHO tracking, many countries have not yet introduced the vaccine due to financial constraints. In countries that have introduced the HPV vaccine, many saw decreases in coverage rates due to limited access to the vaccine during the COVID-19 pandemic, limited supply, and concerns about vaccine safety. The WHO estimates global coverage with the first dose of HPV among girls is estimated at 15 percent, down from 20 percent in 2019. Updated one-dose recommendations offer promise in reducing HPV-related vaccination costs and improving vaccination rates.

Advocacy to demand the scale up of existing vaccines is urgently needed.

Vaccines in the Pipeline

Several vaccines to prevent chlamydia, gonorrhea, and syphilis are in pre-clinical and clinical trials. In addition, gonorrhea vaccine development took a leap forward in 2017 after studies showed that a vaccine for one type of meningitis, meningococcal serogroup B, provided protection against gonorrhea. This is because *Neisseria meningitidis* (one type of meningitis) and *Neisseria gonorrhoeae* (gonorrhea) share between 80 percent and 90 percent of their genetic sequence. Several studies are ongoing to better understand the potential protection of meningococcal b vaccination against gonorrhea.

Investment in the development of STI vaccines, including chlamydia, gonorrhea, and syphilis is urgently needed. Go to STIWatch.org to track STI vaccine research and development.

Diagnostics

Several tests exist to detect and diagnose STIs. These include the Nucleic Acid Amplification Test (NAAT), which detects genetic material; serologic tests that can identify antibodies from blood samples; and microscopy, which analyze biologic fluids or tissues by microscope. NAATs are considered the gold standard to detect chlamydia and gonorrhea but are not in widespread use in many countries and communities where health resources are constrained. More must be done to expand the R & D pipeline and to support implementation of affordable and accurate, point-of-care diagnostics (POC). POC reduces the interval between testing and treatment by allowing patients to provide a sample and receive test results in one visit.

Diagnostic R&D must also prioritize the development of better testing for syphilis as current testing technology is unable to distinguish between untreated active syphilis and previously treated infections.

See STIWatch.org for more information on the R&D pipeline for STI prevention.

About AVAC

AVAC is an international non-profit organization that leverages its independent voice and global partnerships to accelerate ethical development and equitable delivery of effective HIV prevention options, as part of a comprehensive and integrated pathway to global health equity. Follow AVAC on Twitter [@HIVpxresearch](https://twitter.com/HIVpxresearch); find more at www.avac.org, www.prepwatch.org, and www.stiwatch.org.