



OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH

Sexually Transmitted Infection Prevention

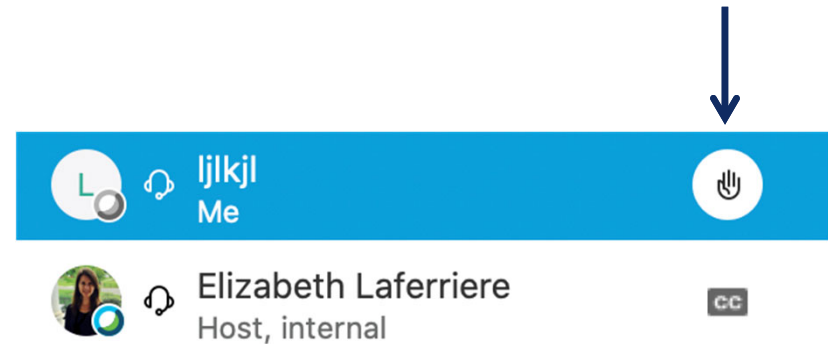
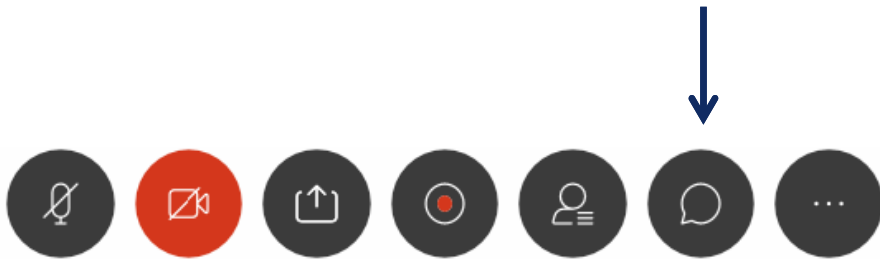
included in

Teen Pregnancy Prevention Programs



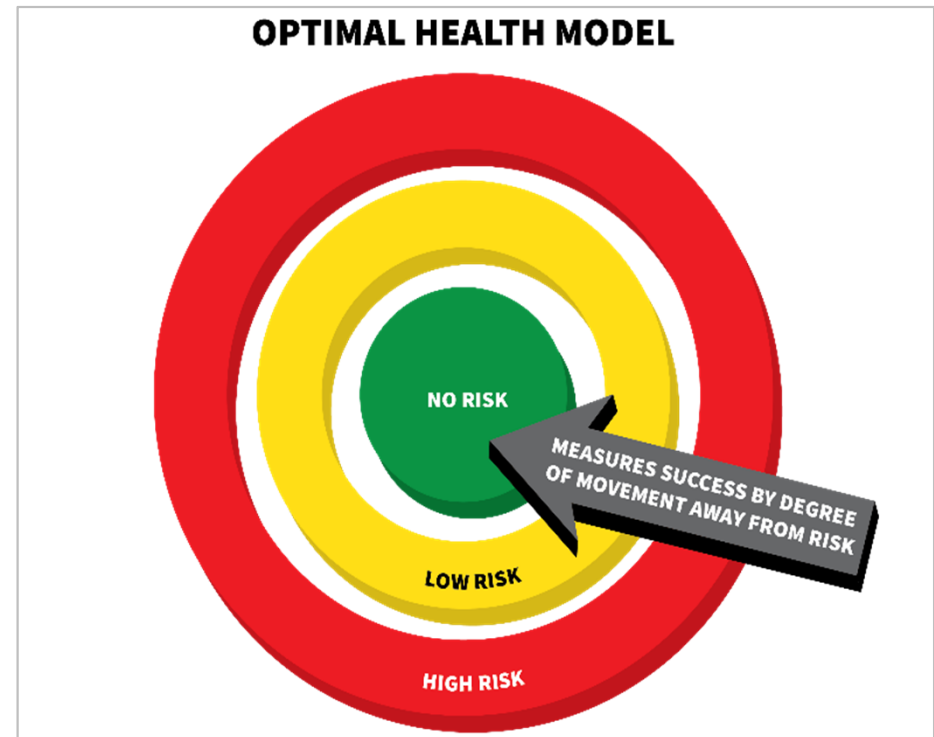
Housekeeping

- Today's session is being recorded
- The recording and slides will be posted to MAX this week
- Please mute your line
- Ask a question by (1) sending a chat or (2) "raising your hand" to ask it live



Optimal Health as a Public Health Approach

- ***Within the public health space*** – optimal health has been defined as encompassing physical, emotional, social, spiritual, and intellectual health
- A purposeful, consistent, and broad application of the optimal health model puts compassion at the core of an intentional focus on health equality for every segment of the population.

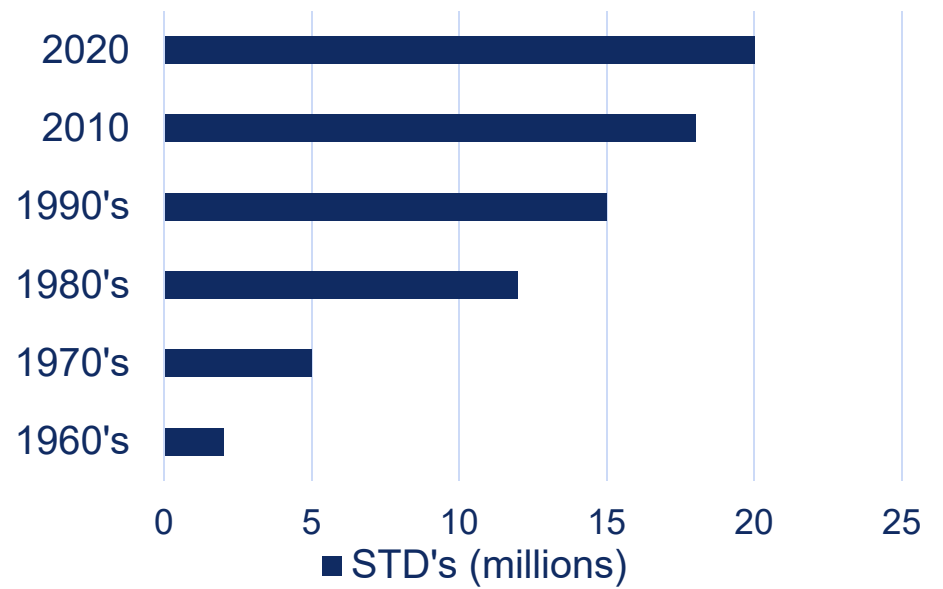
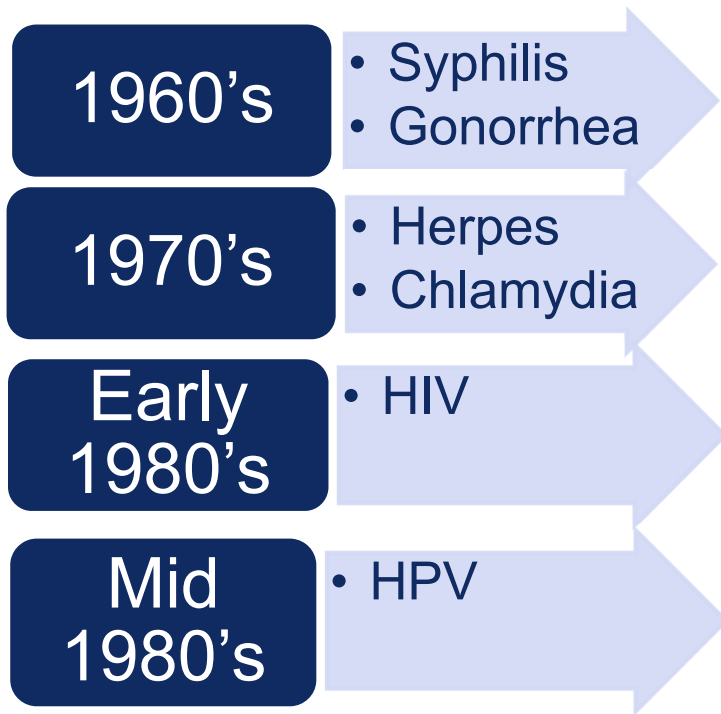


Sexually Transmitted Infections

- Before the 1960's, there were only 2 organisms causing STIs that were of public health importance
- How many different organisms are spread sexually today?
- Most common STI?
- Least common STI?



History of STIs in the US

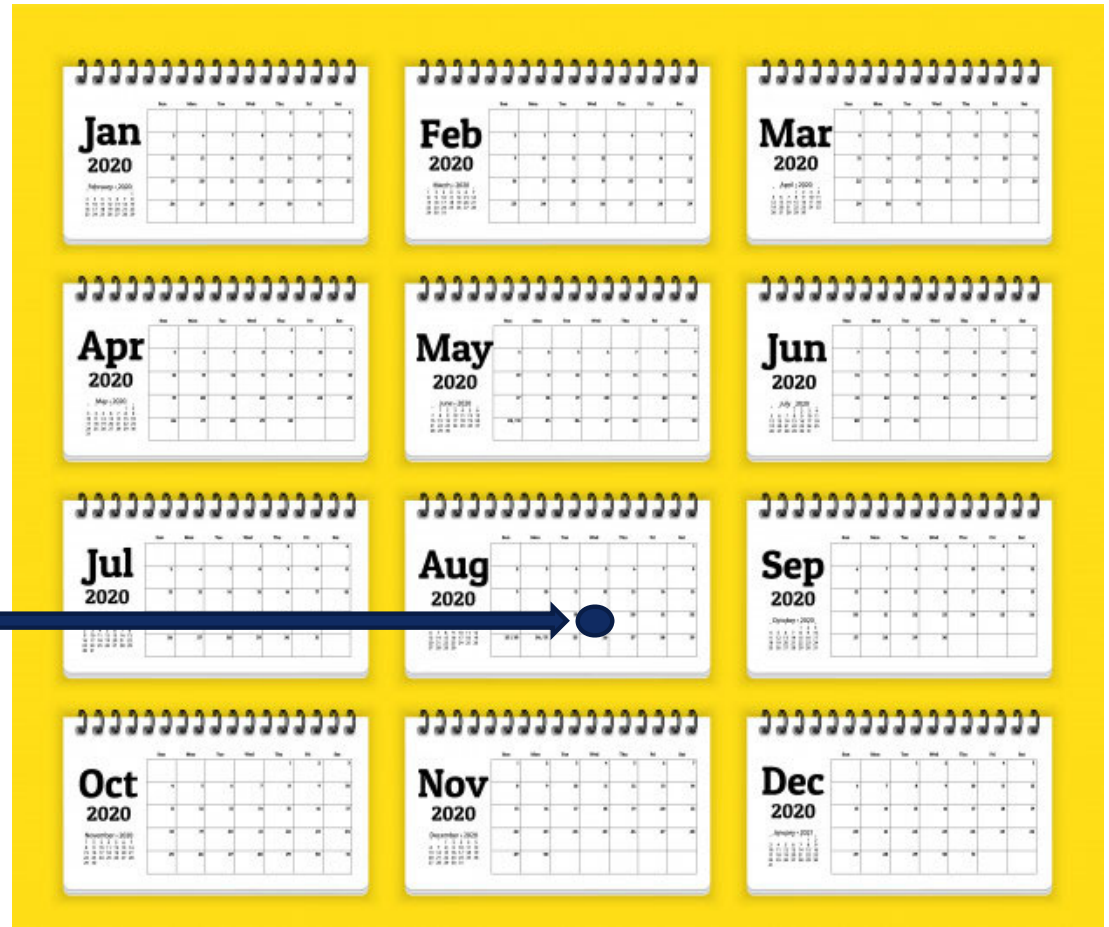


Incidence of STIs in US

The CDC estimates that ~ 20 million people get a sexually transmitted infection every year

55,000 every day

STIs account for nearly **\$16 billion** in direct medical costs annually



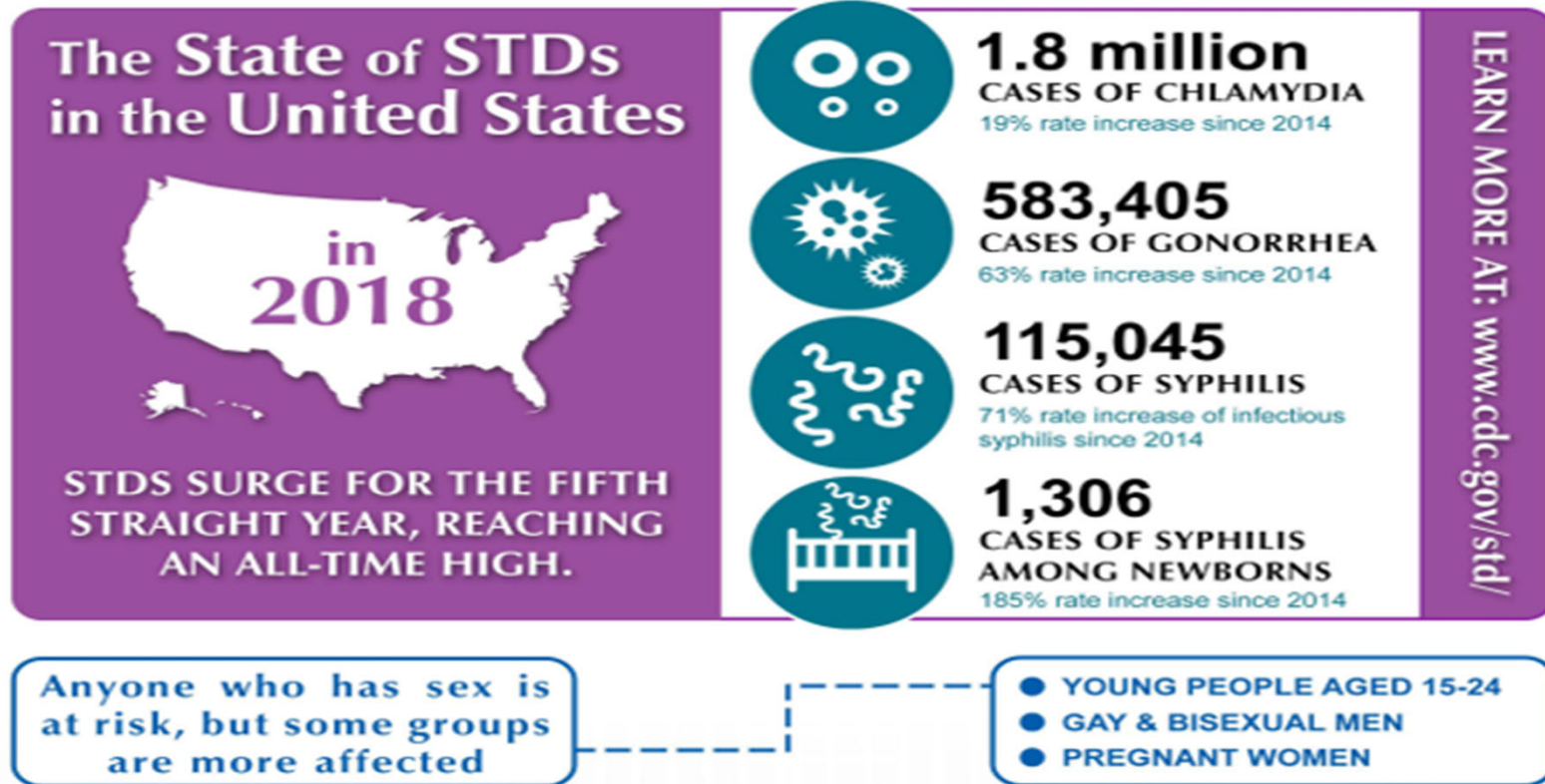
<https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm>



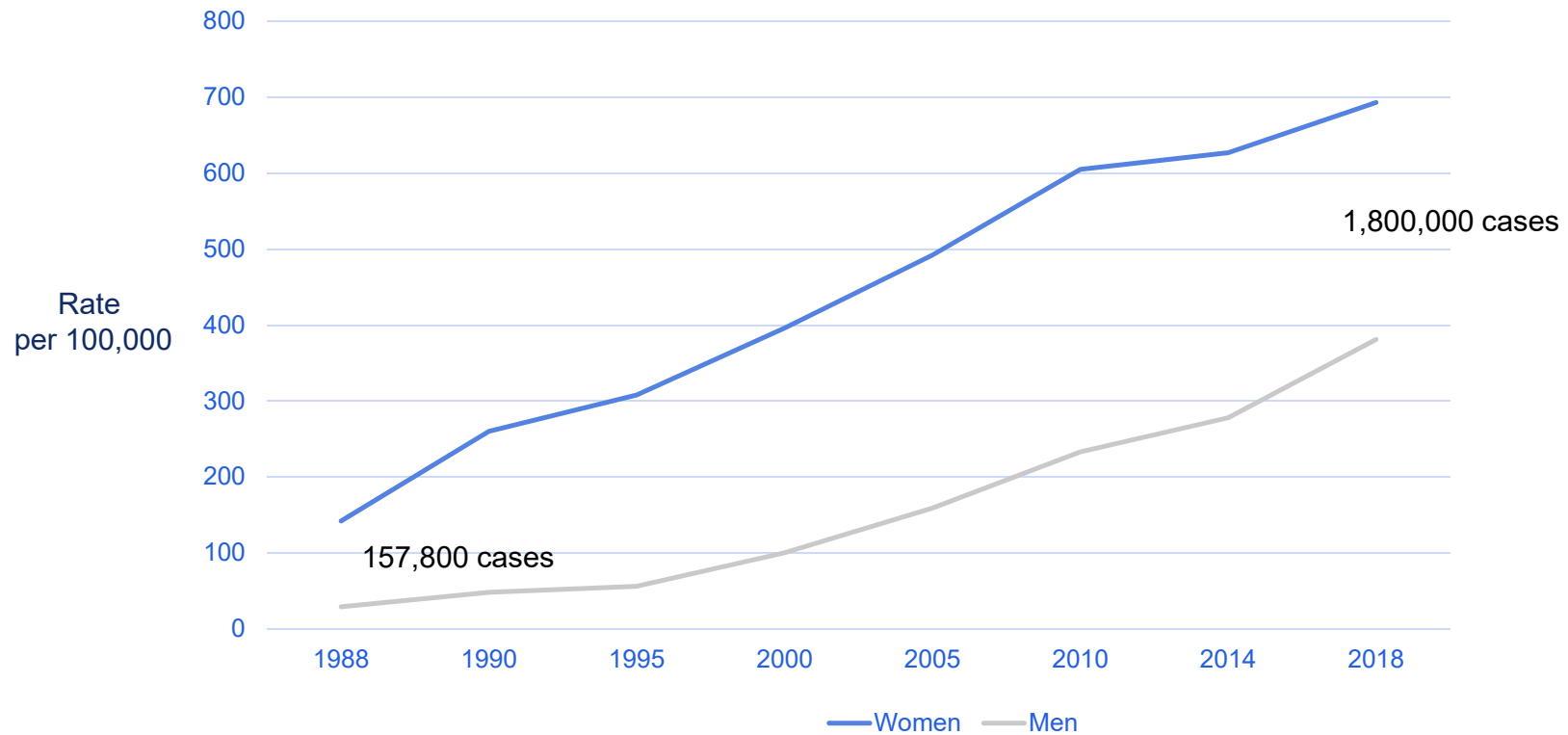
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Sexually Transmitted Disease Surveillance 2018



Chlamydia – Rates of Reported Cases by Sex, United States 1988-2018



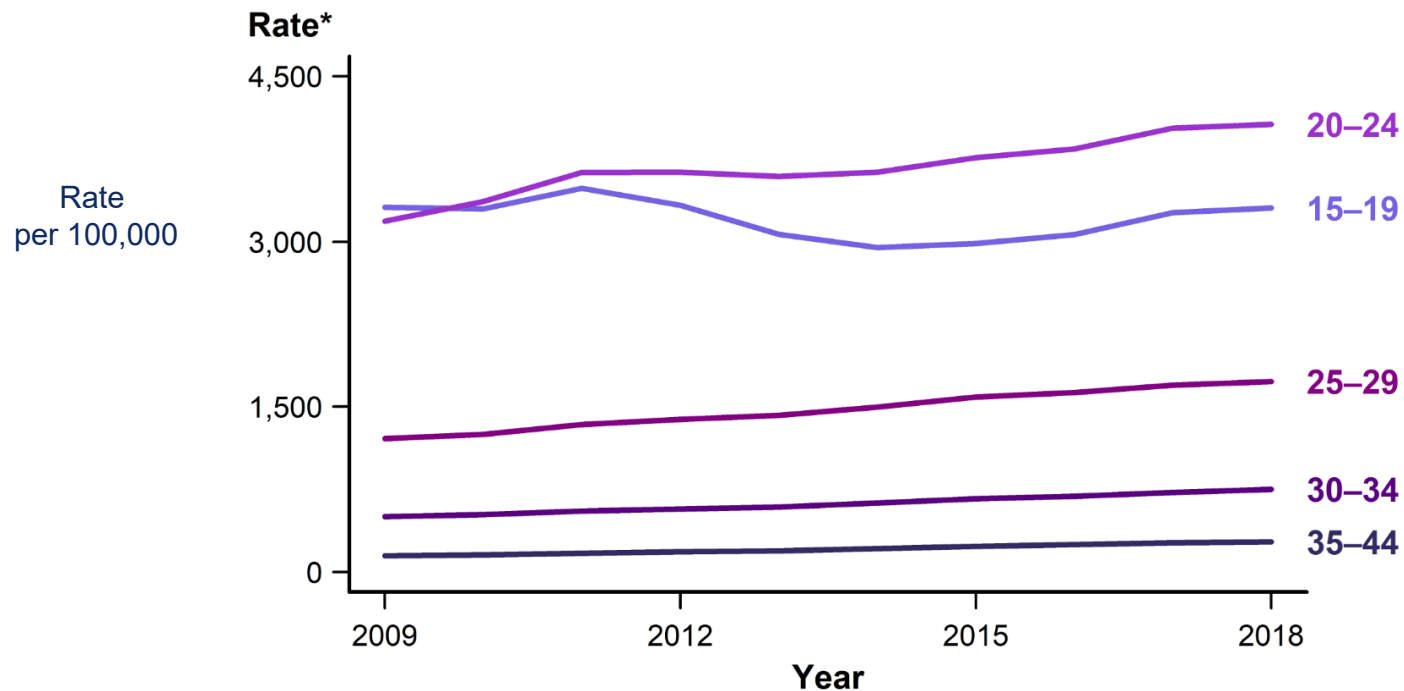
Sexually Transmitted Disease Surveillance 2018, www.cdc.gov



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Chlamydia — Rates of Reported Cases Among Females Aged 15–44 Years by Age Group, United States, 2009–2018



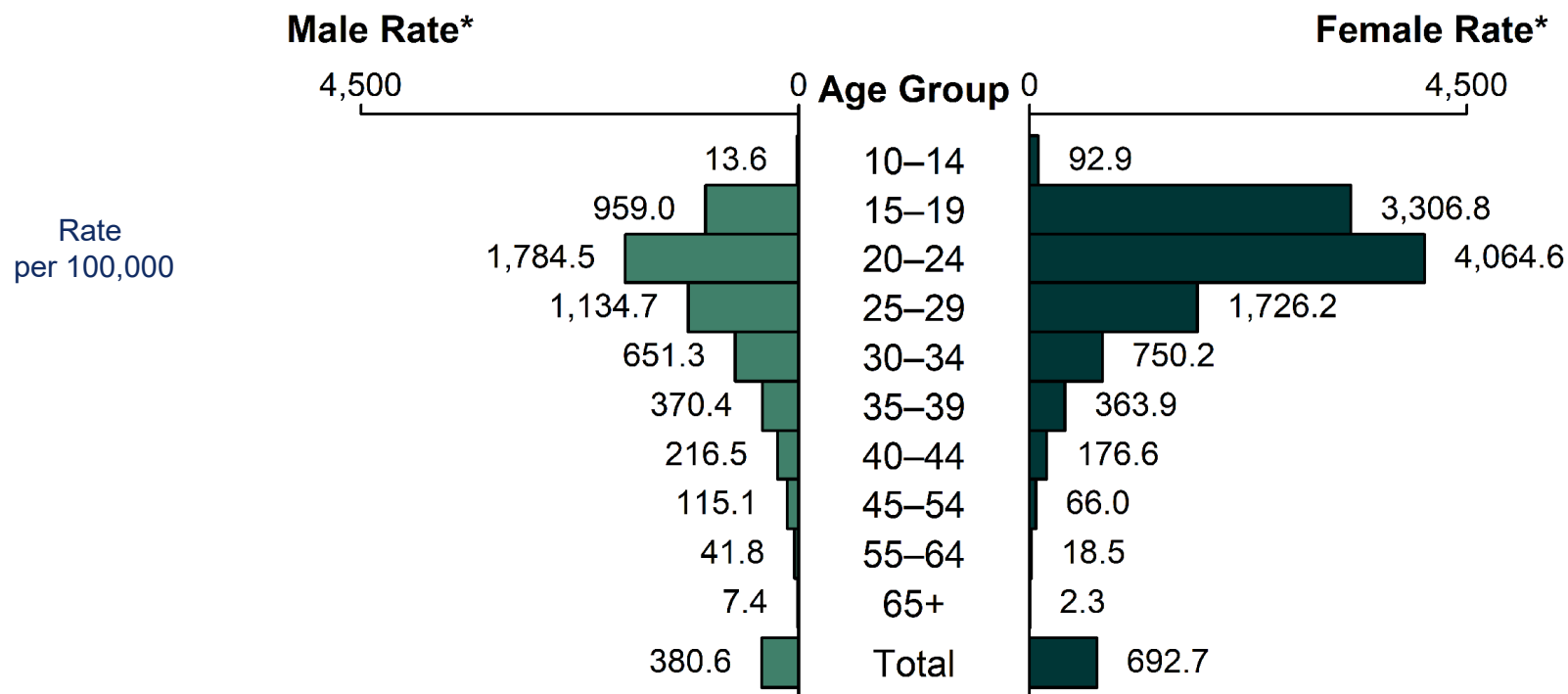
Sexually Transmitted Disease Surveillance 2018, www.cdc.gov



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Chlamydia — Rates of Reported Cases by Age Group and Sex, United States, 2018



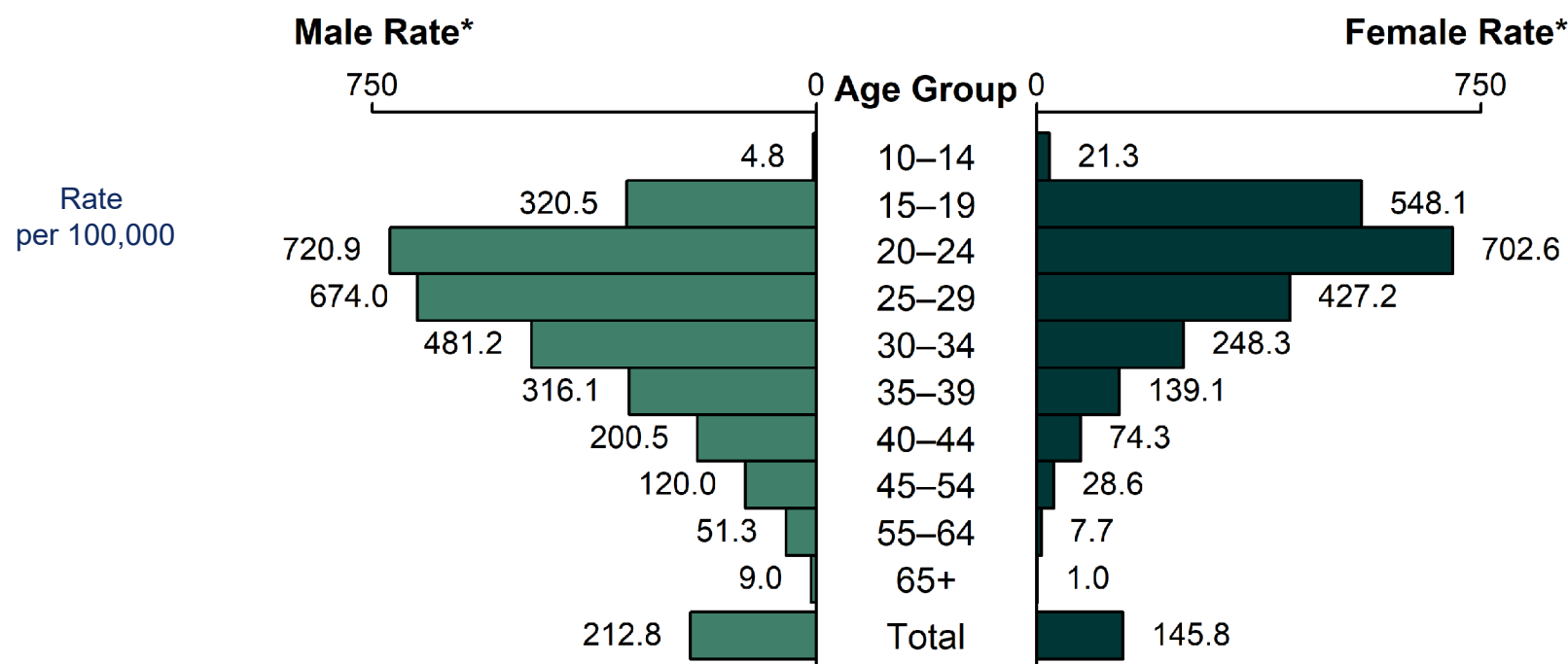
Sexually Transmitted Disease Surveillance 2018, www.cdc.gov



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Gonorrhea — Rates of Reported Cases by Age Group and Sex, United States, 2018



Sexually Transmitted Disease Surveillance 2018, www.cdc.gov



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Human Papillomavirus (HPV)

- Most common sexually transmitted infection in the United States ~ 14 million new diagnoses annually
- HPV has more than 100 serotypes; 40 of them can infect the genital tract
- Most infections are asymptomatic and appear to resolve spontaneously within a few years
- Persistent infection with some HPV types can cause cancer and genital warts.

HPV types 16 and 18 account for approximately 66% of cervical cancers

HPV types 6 and 11 are responsible for approximately 90% of genital warts



Human Papillomavirus (HPV)

HPV is responsible for cancers of the:

- Cervix, vulva, and vagina in women
- Penis in men
- Anus in both women and men
- Throat including the base of the tongue and tonsils (oropharynx), in both women and men

HPV vaccination can prevent over 90% of HPV cancers



Incidence of STIs in US



<https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm>



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Adolescents at Higher Risk

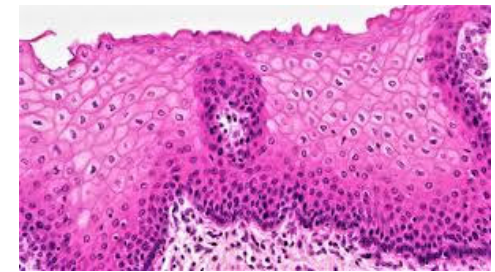
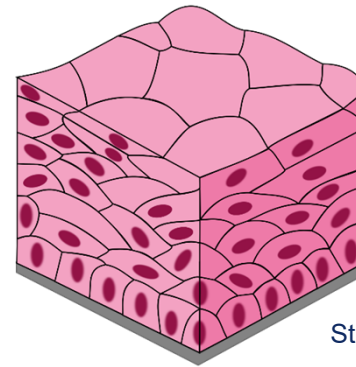
- Lack of information/mixed messages
- Sexual activity at younger ages with increased number of sexual partners
- Focus on pregnancy prevention
- Decreased access to medical care
- Developing cervix increases susceptibility of infection



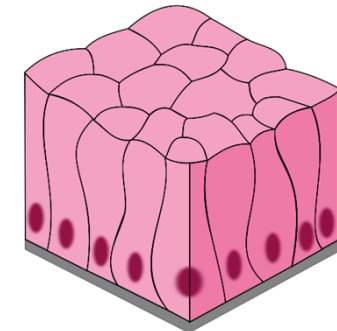
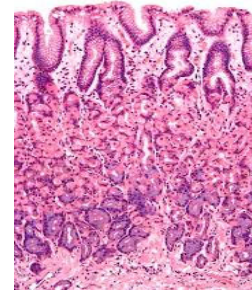
Physiology of the Developing Cervix

In all females the cervix is composed of 2 types of cells.

- One type, known as stratified squamous epithelium, is made up of multiple layers and is intended to protect the underlying tissues.
- The other type is a fragile cell in a single layer, known as simple columnar epithelium.



Stratified Squamous Epithelium



Simple Columnar Epithelium



Immature Cervix

From birth until a woman reaches her mid 20's, her cervix has the appearance of a cone – the ectopion, or exposed cells are simple columnar cells that are more susceptible to HPV, chlamydia, HIV and other STIs.

Mature Cervix

Sometime after the age of 22-23, the cervix changes and becomes everted. The cervix now has a flattened appearance with the exposed (stratified squamous epithelium) cells having natural protection because these exposed cells are less susceptible to STIs.



Sexually Transmitted Infection/Disease

- Sexually Transmitted Infection (STI):
Invasion and multiplication in body cells by an organism that is passed from one person to another during intimate body contact.

- Sexually Transmitted Disease (STD):
Damage to tissues or organs, with or without symptoms, due to a sexually transmitted infection



Facts about STIs

- STIs are infections caused by viruses, bacteria, or protozoa and spread by sexual activity.
- Bacteria and protozoa cause infections that can usually be treated with medicines called antibiotics.
- A virus causes an infection that cannot be cured. Medicines can slow down viruses, but cannot eliminate them from the body.



Facts About STIs

- Most people infected with a STI don't know they have it
- You can get a STI the first time you have sex
- STIs can be spread through oral, anal or vaginal sexual contact; some STIs can be spread by genital/hand contact



Communicability of STIs

chlamydia
gonorrhea

hepatitis B/C
HPV

herpes
syphilis

HIV
trichomoniasis

- STIs are spread through contact with body fluid or skin to skin contact
- Body fluids:

saliva

herpes

blood

HIV (also breast milk)
hepatitis B/C

semen

chlamydia
gonorrhea
HIV
herpes
hepatitis B/C
trichomoniasis
syphilis

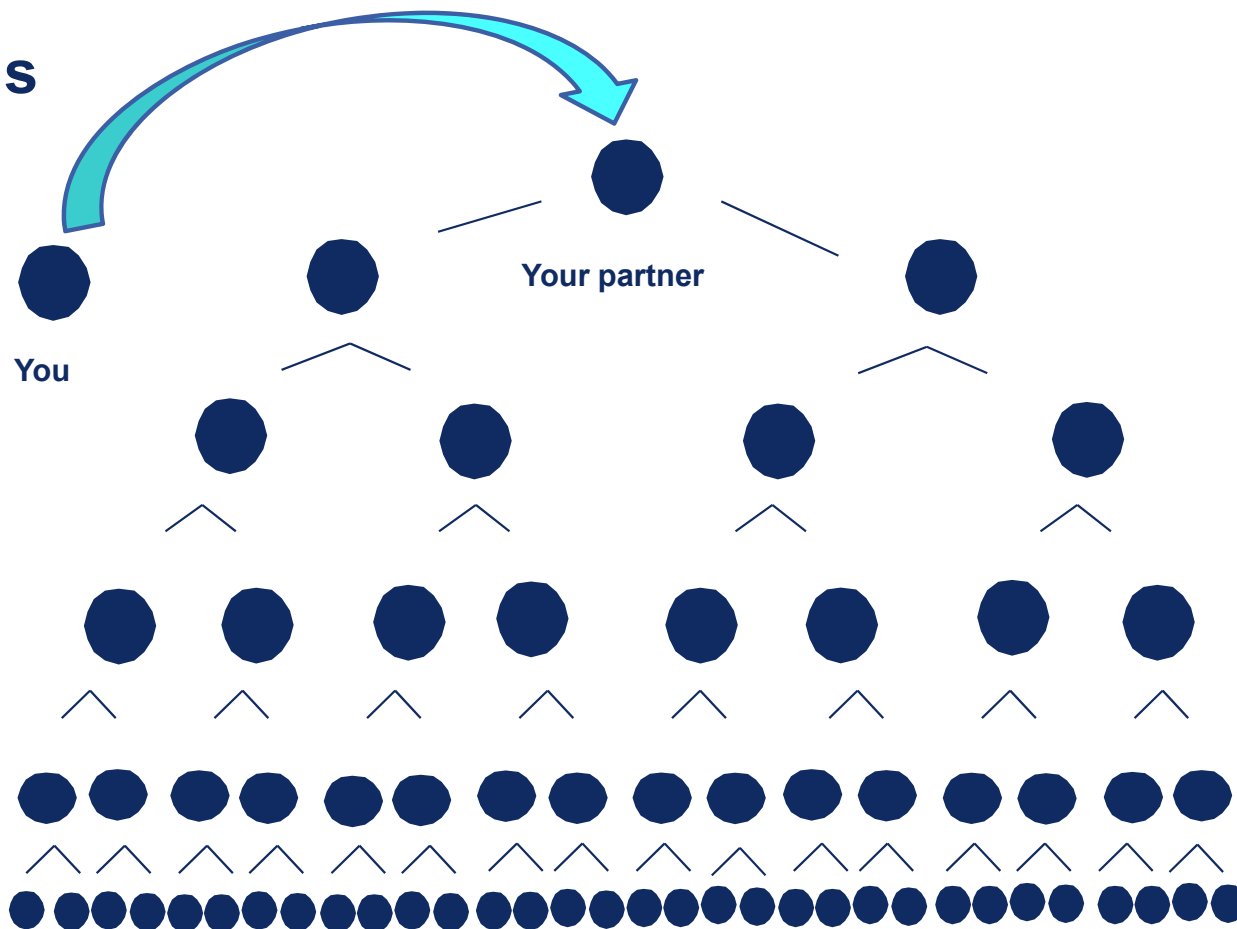
vaginal secretions

chlamydia
gonorrhea
HIV
herpes
hepatitis B/C
trichomoniasis
syphilis

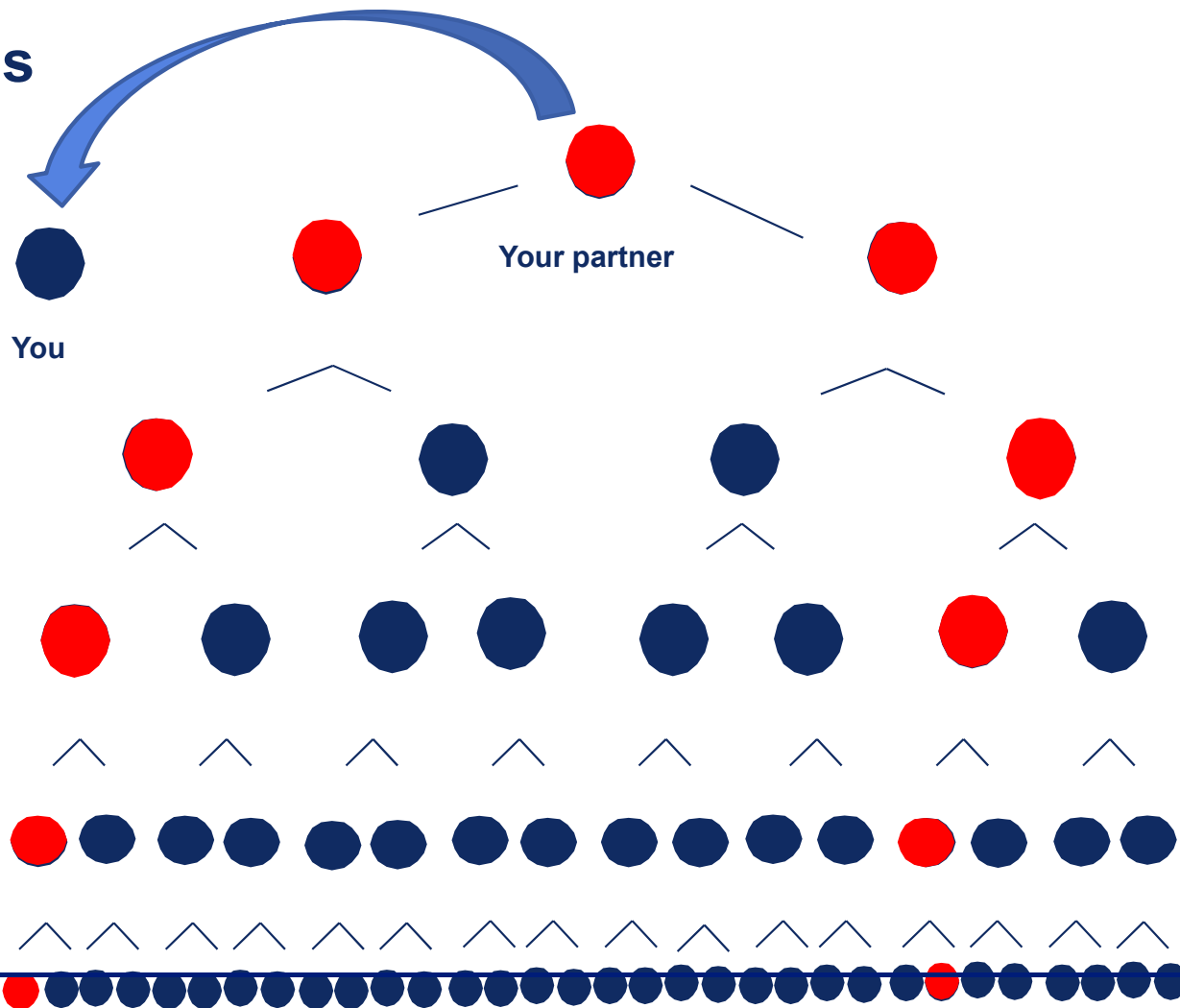
- Skin-to-skin: HPV, herpes, syphilis



Spread of STIs



Spread of STIs



The Problem with Condoms: People Are Not Perfect

People . . .

- do not use condoms consistently - every time.
- do not use condoms correctly - before any genital-to-genital contact.



The Problem with Condoms:

Condoms are not equally effective for all STI/STDs

- Some STIs are spread by contact with body fluid – condoms are most effective for these infections
- Some STIs are spread by genital skin to skin contact and condoms do not cover the entire genital area – condoms are less effective for these infections



Primary Prevention of STIs

- The complexities surrounding condom use are extensive and impact effectiveness dramatically.
- The most reliable way to avoid transmission of STIs is to abstain from sexual activity, or when sexually active, to be in a long-term mutually monogamous relationship with an uninfected partner¹.

1. "Prevention - STD Information from CDC." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 30 Mar. 2020, www.cdc.gov/std/prevention/default.htm.



STI Risk Reduction

Latex condoms, when used consistently and correctly, are highly effective in preventing the sexual transmission of HIV, the virus that causes AIDS

www.cdc.gov, Condom Fact Sheet 2019

If condoms are used consistently and correctly during **vaginal sex**, the chance of getting **HIV are reduced by about 80%**^{1,2}.

Men having sex with men who use condoms consistently and correctly every time can cut their chance of getting HIV **by about 70%**¹.

1. Smith D et al. "Condom Efficacy by Consistency of Use among MSM," US. 20th Conference on Retroviruses and Opportunistic Infections, Atlanta, abstract 32, 2013

2. Weller SC, Davis-Beatty K, "Condom Effectiveness in Reducing Heterosexual HIV transmission (Review)" *The Cochrane Library* 2007, Issue 4. Retrieved March 2015 from <http://www.thecochranelibrary.com>



STI Risk Reduction

Latex condoms, when used consistently and correctly, reduce the risk of transmission of STIs such as gonorrhea, chlamydia, and trichomoniasis

www.cdc.gov, Condom Fact Sheet 2019

When condoms are used correctly and consistently every time during vaginal sex, the **chance of getting chlamydia or gonorrhea is reduced by almost 60%**¹.

1. Crosby RA, Charnigo RA, Weathers C, et al, "Condom Effectiveness Against Non-viral Sexually Transmitted Infections", *Sexually Transmitted Infections* 2012; 88(7):484-489



STI Risk Reduction

Latex condoms, when used consistently and correctly, reduce the risk for genital ulcer diseases, such as genital herpes and syphilis, only when the infected area is covered.

www.cdc.gov, Condom Fact Sheet 2019

If you use condoms correctly every time you have vaginal sex, you can **cut your chance of getting genital herpes by about 30%**¹.

1. Martin, ET, Krantz E, Gottlieb SL, et al. "A Pooled Analysis of the Effect of Condoms in Preventing HSV-2 Acquisition. *Arch Intern Med* 2009; 169:1233-1240



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STI Risk Reduction

Latex condoms, when used consistently and correctly, may reduce the risk for genital human papillomavirus (HPV) infection and HPV-associated diseases such as, genital warts and cervical cancer

www.cdc.gov, Condom Fact Sheet 2019

Among 27 estimates from 20 studies, there was no consistent evidence that condom use reduces the risk of becoming HPV DNA-positive¹¹.

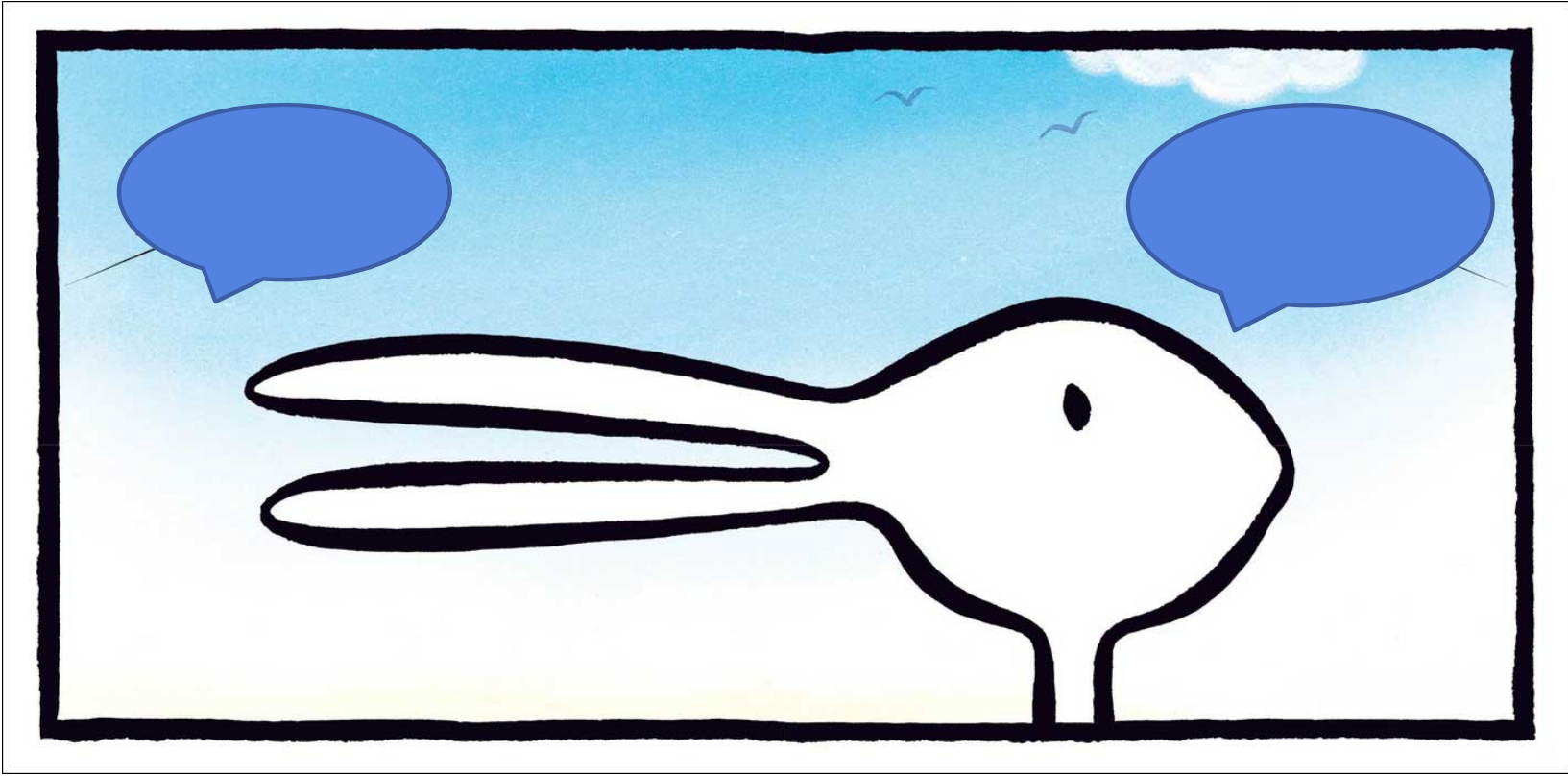
. Manhart LE, Koutsky LA. Do condoms prevent genital HPV infection, external genital warts, or cervical neoplasia? A meta-analysis. *Sex Transm Dis.* 2002;29(11):725-735. doi:10.1097/00007435-200211000-00018



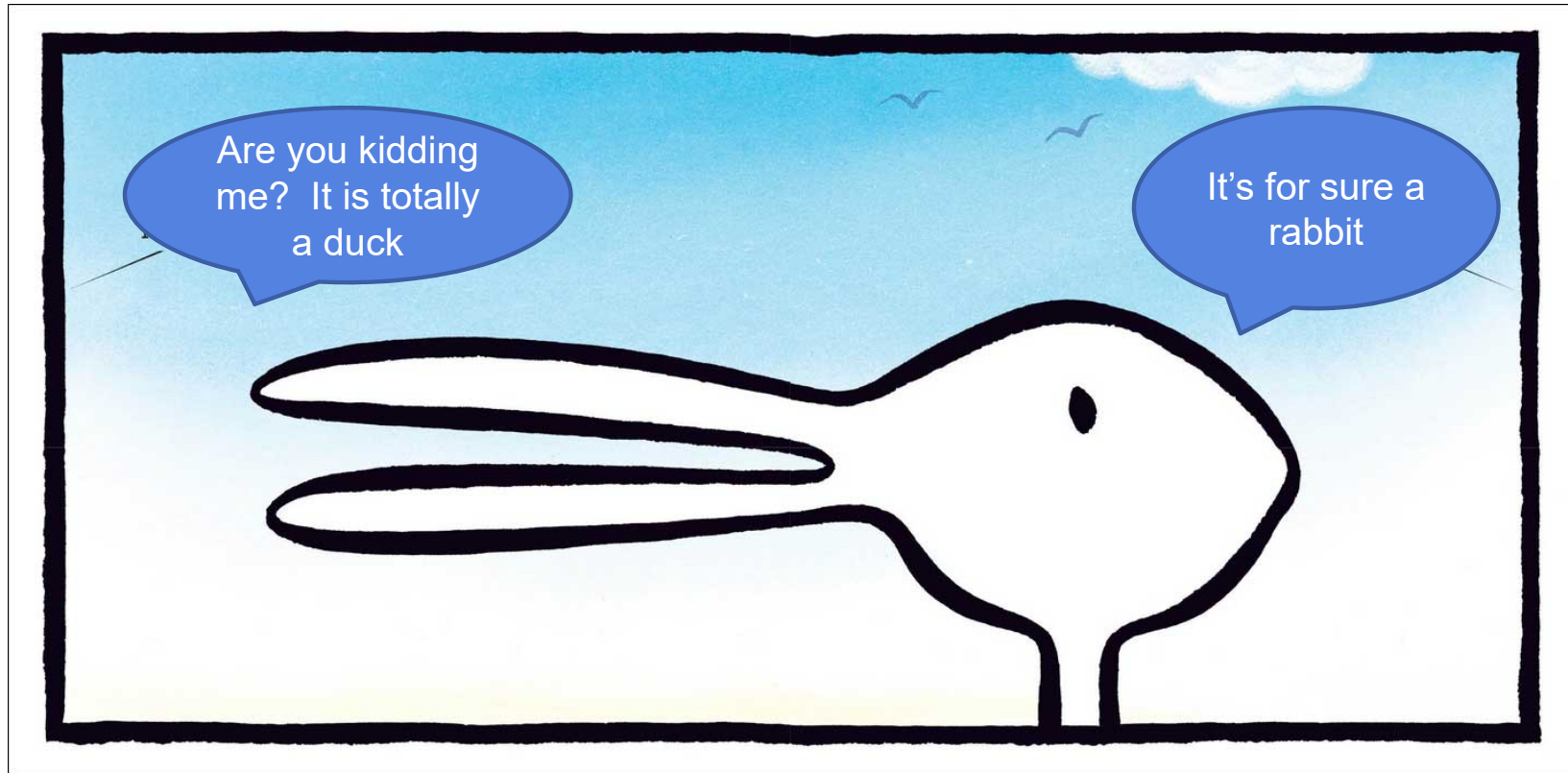
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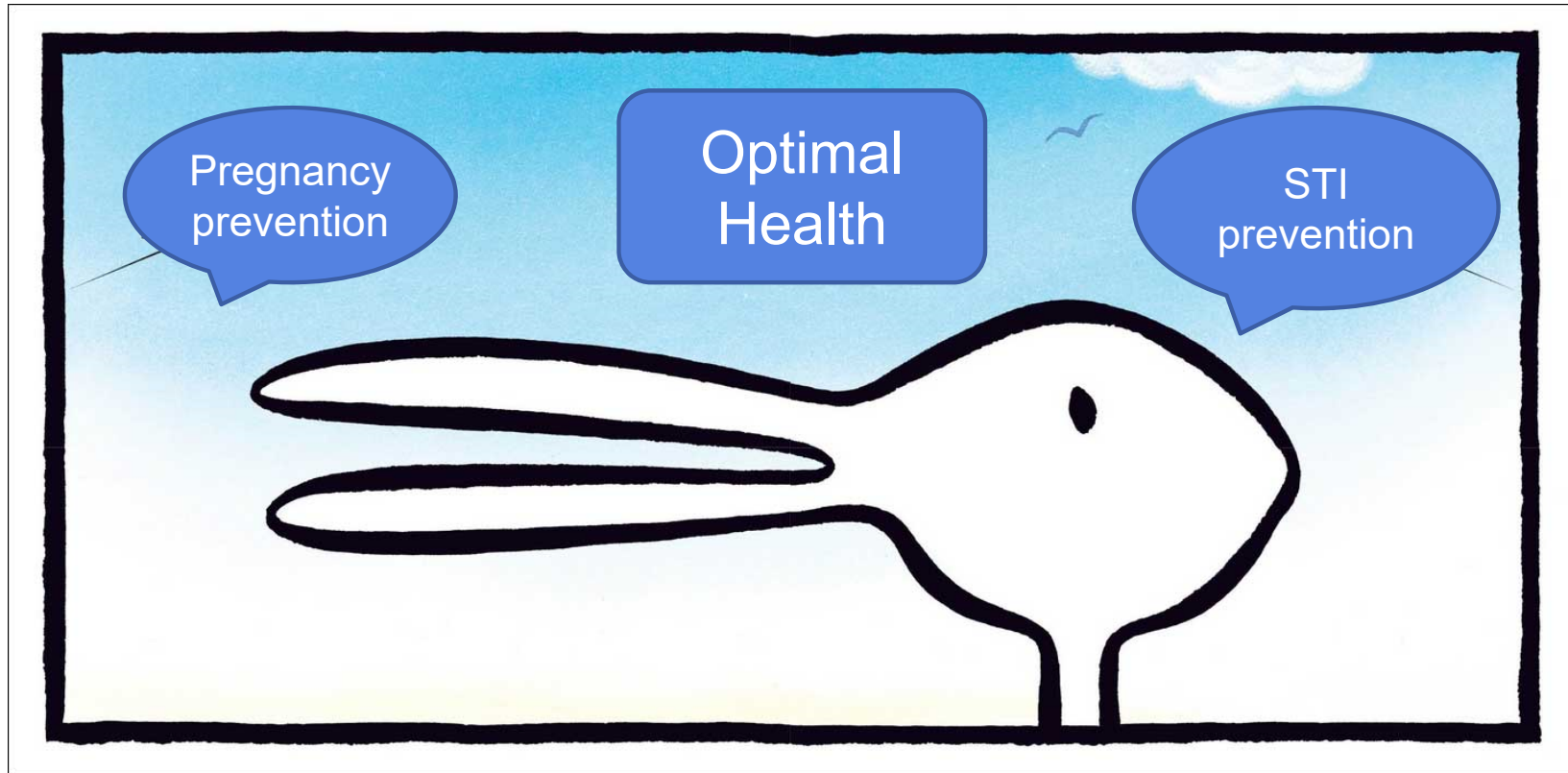
Perspective Matters – Optimal Health for All Adolescents



Perspective Matters



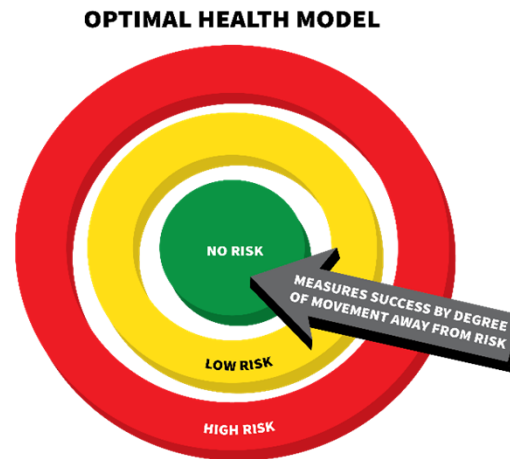
Perspective Matters – Optimal Health for All



How Will You Incorporate STI Prevention Into Your TPP Project?

Tier 1 – Optimally Changing the Map

Tier 2 - Innovation and Impact Networks



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QUESTIONS?



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TPP20 Tier 1 Upcoming Webinars and Trainings

- Check out [MAX.gov](https://www.max.gov) for more information!

September 2 nd	Fidelity and Adaptations
September 16 th	Performance Measures Office Hours
September 23 rd	Youth Engagement Toolkit Office Hours
Starting the week of September 28 th - November 13 th	Systems Thinking Workshop Series



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TPP20 Innovation Networks Upcoming Webinars and Trainings

- Check out [MAX.gov](https://www.max.gov) for more information!

Thursday, September 3 rd	Cohort Workshop #1
Tuesday, September 29 th	Performance Measures Office Hours
Thursday, Oct. 1 st	Cohort Workshop #2



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