STDs (Sexually Transmitted Diseases)

Sexually transmitted diseases (STDs or STIs) are responsible for a variety of health problems, and can have especially serious consequences for adolescents and young adults. An international comparison of levels and trends in STDs would be useful to identify countries that are relatively successful in controlling the incidence of STDs, as a first step toward improving policies and programs in countries with high or growing STD incidence.

STDs deserve attention not only because of their high prevalence but also because they frequently go undetected and untreated, and can result in serious reproductive morbidity and mortality. Compared with the extensive efforts devoted to research and intervention on HIV and AIDS, very little attention has been paid to other STDs... Recent findings showing that some STDs act as a cofactor or facilitator for HIV transmission argue that research on STDs other than HIV and AIDS can also contribute to better insights into HIV infection.

What are the sexually transmitted diseases?

Sexually Transmitted Diseases or STDs, infectious diseases that are spread by sexual contact. Some can also be transmitted by nonsexual means, but these make up a minority of the total number of cases. In 1998, An estimated 10 to 12 million Americans have had sexually transmitted diseases, several kinds of which are epidemic.

The epidemic nature of sexually transmitted diseases attests to the difficulty of controlling them. Some public health officials attribute the increase in many of these diseases to increasing sexual activity. Also significant may be the replacement of the condom (which provides some protection) with birth control pills and diaphragms.

The only way to prevent the spread of a sexually transmitted disease is by:

- locating the first contact
- locating all the people who have had sexual contact with the subsequently infected persons
- and determining whether these individuals also need treatment. Usually this is done through public health clinics, where the majority of sexually transmitted diseases are reported.
Locating all sexual contacts, however, can be difficult. In addition, many people with sexually transmitted diseases go to a private physician for treatment, and not all cases are reported. Education, monogamy* (in or out of wedlock) and sexual abstinence are also good resources against the endemic. "Sexually Transmitted Diseases," Microsoft(R) Encarta(R) 98 Encyclopedia. (c) 1993-1997 Microsoft Corporation. All rights reserved.

**STATISTICS ON SEXUALLY TRANSMITTED INFECTIONS**

Estimating how many sexually transmitted disease or infection cases occur is not a simple or straightforward task. First, most STDs/STIs can be "silent," causing no noticeable symptoms. These asymptomatic infections can be diagnosed only through testing. Unfortunately, routine screening programs are not widespread, and social stigma and lack of public awareness concerning STDs/STIs often inhibits frank discussion between health care providers and patients about STD/STI risk and the need for testing.

- **More than half of all people will have an STD/STI at some point in their lifetime.** [1]
- Recent estimates from the Centers for Disease Control and Infection show that there are 19.7 million new STIs every year in the U.S. [2]
- In 2008, there were an estimated 110 million prevalent STIs among women and men in the U.S. Of these, more than 20% (22.1 million) were among women and men aged 15 to 24 years. [2]
- The total estimated direct cost of STIs annually in the U.S. is $15.6 billion (2010 US dollars). [3]
- In a national survey of US physicians, fewer than one-third routinely screened patients for STDs/STIs. [4]
- Less than half of adults ages 18 to 44 have ever been tested for an STD/STI other than HIV/AIDS.
- Each year, one in four teens contracts an STD/STI. [5]
- **One in two sexually active persons will contact an STD/STI by age 25.** [6]
- About half of all new STDs/STIs in 2000 occurred among youth ages 15 to 24. [7] The total estimated costs of these nine million new cases of these STDs/STIs was $6.5 billion, with HIV and human papillomavirus (HPV) accounting for 90% of the total burden. [8]
- Of the STDs/STIs that are diagnosed, only some (gonorrhea, syphilis, chlamydia, hepatitis A and B) are required to be reported to state health departments and the CDC.


On the diagram below is a list of ten STDs
Another list (16):
Human Papillomavirus (HPV), Genital Warts, Trichomoniasis, Chancroid, Hepatitis, HIV/AIDS, Lymphogranuloma Venereum (LGV), Molluscum Contagiosum, Mucopurulent Cervicitis (MPC), Pelvic Inflammatory Disease (PID), Pubic “Crab” Lice, Scabies, Syphilis, Bacterial Vaginosis (BV), Chlamydia, Gonorrhea. Herpes

STDs Worldwide

The WHO estimates that 340 million new cases of syphilis, gonorrhea, chlamydia and trichomoniasis occurred throughout the world in 1999 in men and women aged 15-49 years. The largest number of new infections occurred in the region of South & Southeast Asia, followed by sub-Saharan Africa and Latin America & the Caribbean. The highest rate of new cases per 1,000 population occurred in sub-Saharan Africa.

Infection rates can vary enormously between countries in the same region and between urban and rural populations. In general, however, the prevalence of STDs tends to be higher in urban residents, in unmarried individuals, and in young adults.

<table>
<thead>
<tr>
<th>Region</th>
<th>Adult population (millions)</th>
<th>Prevalence: Infected adults (millions)</th>
<th>Prevalence rate: Infected adults per 1,000 population</th>
<th>Incidence: New infections in 1999 (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>156</td>
<td>3</td>
<td>19</td>
<td>14</td>
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In 2008, the CDC published new data on STDs in the U.S. and announced that there is a new wave of STDs in the U.S.: "Just in time for Valentine’s Day, researchers from the U.S. Centers for Disease Control and Prevention issued two new studies of sexually transmitted infections (STIs) today detailing what the lead author of one calls “an ongoing, severe, STI epidemic.”

The studies reveal new infection data, some of it available for the first time, for the eight most common STIs -- chlamydia, gonorrhea, syphilis, herpes, human papillomavirus (HPV), hepatitis B, HIV, and trichomoniasis. The studies, which estimate infection rates and medical costs related to STIs, were published in the journal Sexually Transmitted Diseases.

Both are startling. In 2008, there were 20 million new incidents of infection (for STDs) in the United States, and a prevalence (new infections plus ongoing infection) of 110 million, according to CDC estimates. (Because one person may have more than one infection, the 110 million figure does not mean 110 million people have a sexually transmitted disease.) As a result, the United States incurred estimated direct medical costs of nearly $16 billion.

Previous such estimates, for years 1996 and 2000, estimated approximately 15 million and 18.9 million new incidents respectively, though these reports used somewhat different data sources and methodology so the CDC cautions against making direct comparisons. According to the Henry J. Kaiser Family Foundation, the American Social Health Association, and the CDC, the U.S. has the highest rate of STIs in the industrialized world.

“STIs take a big health and economic toll on men and women in the United States, especially our youth,” CDC epidemiologist Catherine Lindsey Satterwhite, who led the study of incidence and prevalence, told NBC News.

Although people age 15-24 account for only 25 percent of the nation’s sexually experienced population, Satterwhite’s study estimates they account for about half of all sexually transmitted infections. Because every STI is preventable, Satterwhite argued, “we know that preventing STIs could save the nation billions of dollars each year.”

The story could have been different, insisted Matthew Golden, the director of Public Health Seattle and King County HIV/STD Program and a professor of medicine at the University of Washington Center for AIDS and STD. The good news, he said, is that rates for most viral and bacterial infections, including HIV, have stabilized or even dropped.

The “epidemic” Satterwhite speaks of, he said, is driven almost entirely by two bugs: HPV (Human Papilloma Virus), and chlamydia. Chlamydia, a bacterial infection, is easily curable if it’s diagnosed. And there’s a very effective vaccine for the most dangerous forms of HPV that can trigger cervical, oral, anal, and penile cancers, and cause genital warts.” (Alexander B., NBC News Contributor)

"Satterwhite’s study estimated that HPV is by far the most common STD in the United States, with 14.1 million new HPV infections in 2008 as well as 79.1 million ongoing infections that were already prevalent that year. Yet previous CDC reports have found that unacceptably low numbers of Americans
are getting vaccinated for HPV, as just about 35 percent of girls between 13 and 17 have received their recommended HPV shots in 2011 — a sobering statistic that contributes to the fact that HPV-related cancers have been on the rise over the last several years.

Right-wing hysteria surrounding the HPV vaccine has misconstrued it as somehow related to sexual promiscuity. In reality, it’s simply a preventative measure to protect Americans’ sexual health, and federal officials recommend it should be administered to girls and boys starting at the age of 11. But conservative fearmongering around issues related to sexuality — which has contributed to a shame-based culture that pushes ineffective abstinence-only education on youth, rather than fully educating them about their bodies — has directly impacted the current public health epidemic. “How could we possibly have done this to ourselves?” Golden asked. “We have a solution; we have to make it happen.”

(CULP-RESSLER T.); Health Officials Warn The U.S. Still Faces An ‘Ongoing, Severe Epidemic’ Of STDs; (POSTED ON FEBRUARY 14, 2013 AT 9:05 AM)

JANUARY 2014 3 CDC Screening Recommendations

| 1. Annual chlamydia screening for all sexually active women age 25 and under, as well as older women with risk factors such as new or multiple sex partners. |
| 2. Yearly gonorrhea screening for at-risk sexually active women (e.g., those with new or multiple sex partners, and women who live in communities with a high burden of disease). |
| 3. Syphilis, HIV, chlamydia, and hepatitis B screening for all pregnant women, and gonorrhea screening for at-risk pregnant women starting early in pregnancy, with repeat testing as needed, to protect the health of mothers and their infants. |
| 4. Screening at least once a year for syphilis, chlamydia, gonorrhea, and HIV for all sexually active gay, bisexual, and other men who have sex with men (MSM). MSM who have multiple or anonymous partners should be screened more frequently for STDs (i.e., at 3-to-6 month intervals). In addition, MSM who have sex in conjunction with illicit drug use (particularly methamphetamine use) or whose sex partners participate in these activities should be screened more frequently. |

I will add that screening is also necessary for all men with risk factors such as new or multiple sex partners.

CDC: Sexually Transmitted Diseases Treatment Guidelines, 2010. MMWR 2010;59(No. RR-12)

Some Groups Bear a Disproportionate Burden of STDs

While anyone can become infected with an STD, 1. certain groups, including gay and bisexual men and young people, are at greatest risk.

2. individual risk behaviors, such as
   - higher numbers of lifetime sex partners
   - or unprotected sex contribute to disparities in the sexual health,

3. other social and cultural factors may also play a role; for example, lower economic status may have limited access to health care and therefore may be particularly vulnerable to poorer health outcomes

4. complex issues like homophobia and stigma can also make it difficult for gay

5. and bisexual men to seek appropriate care and treatment.

6. age span: gonorrhea and chlamydia primarily affect young people; surveillance data continues to show that numbers and rates of reported chlamydia and

7. gonorrhea cases are highest in Americans between the ages of 15 and 24.

January 2014 Recent Changes to Gonorrhea and Syphilis Case Definitions: Program Impact

Examples of STDs
- Syphilis, studied - as an example of STD (reserve a l'auteur: p.1 & p.2))
- Congenital Syphilis
- Not so rare: some pictures, with no comment, from Google Search engine on the Internet - possible diagnostic errors: **saddle nose** (pictures 1 & 2), **saber shin** (x-rays) (pictures 3 & 4), **Hutchinson teeth** (pictures 6, 7 & 10), **bulldog facies** (for the buy on the right and also on top (look at the jaws)) (picture 2, 8 & 10), **mulberry molars** (picture 10), **sypilitic rhinitis** (at birth) (picture 11)
I told a friend that syphilis is the most ugly of the STD (venereal diseases) for the lesions it creates in the body. What is possible is that **can coexist with other STDs**, since one STD does not exclude another one; it is particular true for the coexistence of a viral one with a bacterial one, like HIV and Syphilis, for example. Now with the advent of the penicillin, congenital syphilis does not necessarily lead to death, but some malformations may exist.

**Congenital syphilis** creates lesions of the skeleton, particularly those of the **cranial bones** and those of the **legs** (the tibia ...). "Combined metaphyseal and periosteal lesions were the commonest bone disorders seen and are thus the most convincing radiological evidence of congenital syphilis. Transverse metaphyseal lucencies occur early in the disease, and with Wimburger's sign they are the prime evidence of pathology in syphilitic bone. **Other radiographic changes**" - such as genus valgus or genu varus for example - "are probably owing to minimal trauma in fragile disorganized bone. The occurrence of periosteal lesions alone has also been evaluated." (Rosen EU, Solomon A; Bone lesions in early congenital syphilis; S Afr Med J. 1976 Jan 31;50(5):135-8).

"**Syphilitic ocular and otic manifestations** can occur at any stage of the disease. Ocular syndromes can affect virtually any part of the eye; they include interstitial keratitis, uveitis (anterior, intermediate, and posterior), chorioretinitis, retinitis, retinal vasculitis, and cranial nerve and optic neuropathies." ([http://www.merckmanuals.com/professional/infectious_diseases/sexually_transmitted_diseases_std/syphilis.html](http://www.merckmanuals.com/professional/infectious_diseases/sexually_transmitted_diseases_std/syphilis.html))

"**Latent period**: Symptoms and signs are absent, but antibodies, detected by serologic tests for syphilis (STS), persist. Because **symptoms of primary and secondary syphilis are often minimal or ignored**, patients frequently are first diagnosed during the latent stage when routine blood tests for syphilis are done. **Syphilis may remain latent permanently**, but relapses with contagious skin or mucosal lesions may occur during the early latent period (< 1 yr after infection). Patients are often given antibiotics for other disorders, which may cure latent syphilis and may account for the rarity of late-stage disease in developed countries." ([http://www.merckmanuals.com/professional/infectious_diseases/sexually_transmitted_diseases_std/syphilis.html](http://www.merckmanuals.com/professional/infectious_diseases/sexually_transmitted_diseases_std/syphilis.html))

However, I think that saying that syphilis can remain latent permanently is a misconception in the Merck Manual. It can be because the patient died before the **latest manifestations** of congenital syphilis, like the **tabes dorsalis** that appears usually 20-30 years after the initial infection, if the later not treated on time, and is not healed by **penicillin** (Knudsen R. P., MD, Adjunct Professor, Department of Neurology, Children's Hospital Regional Medical Center, University of Washington Medical Center & de Menezes M. S., MD, Assistant Professor, Department of Neurology, Division of Pediatric Neurology, Children's Hospital of Seattle, University of Washington; Neurosyphilis excerpt; *Neurosyphilis*; © Copyright 2005, eMedicine.com, Inc; [http://www.emedicine.com/neuro/topic684.htm](http://www.emedicine.com/neuro/topic684.htm))
In congenital syphilis, the descendants are not "guilty", but their parents are; however, as the children tend to inherit or imitate the behavior of their parents, they may become "guilty" in spreading the disease. (Guilty is only taken here in the sense of responsible, but not of sinful that has a religious connotation)

Syphilis, the great mimicker
"Syphilis has 3 sequential clinical, symptomatic stages separated by periods of asymptomatic latent infection." "Syphilis may manifest at any stage and may affect multiple or single organs, mimicking many other disorders that can lead to misdiagnosis. Syphilis may be accelerated by coexisting HIV infection; in these cases, eye involvement, meningitis, and other neurologic complications are more common and more severe."

Epidemiological Trend in syphilis (Euerle B., MD, FACEP; Medscape)

United States statistics

Since reporting began in 1941, the incidence of primary and secondary syphilis in the United States has varied. The incidence dropped from 66.4 cases per 100,000 in 1947 to 3.9 cases per 100,000 in 1956 following the introduction of penicillin.

During the mid 1980s, however, this trend reversed. Increases in the use of intravenous (IV) drugs and crack cocaine, the exchange of sex for drugs, indiscriminate or anonymous sex, and the number of people with multiple sexual partners contributed to the turnaround. From 1986-1990, the rate of syphilis nearly doubled, reaching a peak of 53.8 cases per 100,000 population in 1990.

After 1990, the incidence decreased again; there were 53,000 reported cases (11,387 primary and secondary cases) in 1996, compared with 113,000 cases (33,962 primary and secondary cases) reported in 1992. In 2000, the number of syphilis cases reported was at an all-time low, with rates falling to 2.1 cases per 100,000 population. Increased awareness, aggressive screening, and emphasis on primary prevention contributed to the decrease.

Since 2000, however, the number of syphilis cases in the United States has slightly increased each year. The Centers for Disease Control and Prevention (CDC) reported that, from 2003-2004, the rate of primary and secondary syphilis increased 8%, from 2.5 to 2.7 cases per 100,000 population. Preliminary 2007 syphilis data showed that the US rate of primary and secondary syphilis increased 12% between 2006 and 2007, from 3.3 to 3.7 cases per
A total of 11,466 cases were reported in 2007. Preliminary 2007 syphilis data showed that the US rate of primary and secondary syphilis increased 12% between 2006 and 2007, from 3.3 to 3.7 cases per 100,000 population. A total of 11,466 cases were reported in 2007.

Most of this increase has been noted in men, particularly in men who have sex with men (MSM). The overall cases reported in women decreased. More than 80% of cases were reported in the southern United States. Trends for congenital syphilis cases closely parallel those for acquired syphilis cases in women, namely, a decreased incidence over the past decade.

**International statistics**

Internationally, the prevalence of syphilis varies by region. Syphilis remains prevalent in many developing countries and in some areas of North America, Asia, and Europe, especially Eastern Europe. The highest rates are in South and Southeast Asia, followed closely by sub-Saharan Africa. The third highest rates are in the regions of Latin America and the Caribbean. In some regions of Siberia, as of 1999, prevalence was 1300 cases per 100,000 population.

**Age distribution for syphilis**

Syphilis is most common during the years of peak sexual activity. Most new cases occur in men and women aged 15-40 years. In 2007, the rate of primary and secondary syphilis was highest in people aged 25-29 years (8.9 per 100,000). An age-based breakdown of syphilis can be found on the the CDC Web site.

The incidence of congenital syphilis has increased 3.7% from 2005-2006 after 14 years of decline in the United States (from 8.2 to 8.5 cases per 100,000 live births). Between 1996 and 2005, the yearly incidence of congenital syphilis decreased by an average of 14.1% (see the the CDC Web site for more information).

**Sex distribution for syphilis**

Men are affected more frequently with primary or secondary syphilis than women. This difference has varied over time. Male-to-female ratios of primary and secondary syphilis increased from
1.6:1 in 1965 to nearly 3:1 in 1985. After, the ratio decreased, reaching a nadir in 1994-95.

Since 2002, the incidence of primary and secondary syphilis has risen 54% among men (from 3.7 per 100,000 in 2002 to 5.7 per 100,000 in 2006). Among women, the rates of primary and secondary syphilis remain lower. After a decade of declines, the overall prevalence of syphilis among females increased 11.1% between 2005 and 2006 (from 0.9 to 1 per 100,000). Males with primary and secondary syphilis outnumber females 6 to 1. The recent increase in the male-to-female ratio is largely attributable to the increased rate of disease among MSM.

Studies of patients diagnosed with sexually transmitted diseases (STDs) demonstrate that men are screened for syphilis in emergency departments and health clinics more often than women. Although surveillance data based on risk behavior are not available, a separate CDC analysis suggests that approximately 64% of all adult primary and secondary syphilis cases in 2004 were among MSM, up from an estimated 5% in 1999. In 2007, 65% of new cases occurred in MSM, and there is a high rate of HIV co-infection.

Sex-based trends in syphilis can be found on the the CDC Web site

**Prevalence of syphilis by race or ethnicity**: In the United States, syphilis is more prevalent among persons of minority race and ethnicity.

(EPidemiological Trend in syphilis (Euerle B., MD, FACEP; Medscape))

**STDs: Mother to Child Transmission (MCT)**

MCT Treatment
* Monogamy: any sexual liaison without new or multiple sex partners; heterogamy: sexual liaison with the other sex

** Tabes dorsalis: A late form of syphilis resulting in a hardening of the dorsal columns of the spinal cord and characterized by shooting pains, emaciation, loss of muscular coordination, and disturbances of sensation and digestion.