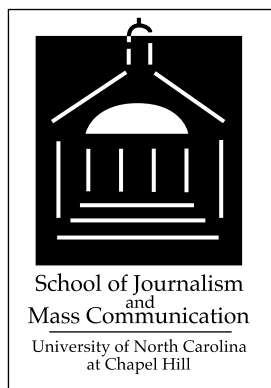


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*Our Voices,  
Our Lives,  
Our Futures:  
Youth and Sexually  
Transmitted Diseases*

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February, 2004



## What This Project Is About

**“We’re at an age where sex is a major topic in our lives,” says Benjamin, 17. “It’s a part of growing up. To deny that and withhold information isn’t right.”**

Sexually transmitted diseases (STDs) affect sexually active people of all ages. But young Americans ages 15-24 are especially hard hit by the nation’s epidemic. Just how many youth are affected has been difficult to measure. Silenced by stigma and lack of information, young people are one of the least likely groups in the nation to obtain STD diagnosis and treatment. As a result, they are highly vulnerable to lifelong consequences. Yet to the extent that youth do learn to prevent STDs and make healthy choices, the results benefit not only youth, but society at large and potentially future generations.

For this project, a panel of national experts assessed what is known about the number of STD cases in young Americans. It also defined the economic and emotional impact of these infections. Recent estimates show that nearly half of new STD cases are among people ages 15-24, even though these youth make up only a quarter of the sexually active population. Half of new HIV infections occur among youth ages 15-24. One out of two youth will acquire an STD before age 25. The lifetime medical costs of STDs acquired by youth in 2000 are projected to be at least \$6.5 billion.

While experts deliberated, a panel of concerned young people from across the country provided a youth perspective and possible solutions. Most of all, panel members say, youth need ongoing conversations with parents, teachers, health care providers, policy makers, and other youth.

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Please address comments and questions to the project’s principal investigator, JoanCates@unc.edu.

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## The Expert Panel

Tracey A. Adams  
American Social Health Association  
Research Triangle Park, North Carolina

Jane D. Brown, M.A., Ph.D.  
School of Journalism and Mass Communication  
University of North Carolina at Chapel Hill

Virginia Caine, M.D.  
Marion County Health Department  
Indianapolis, Indiana

Willard Cates, Jr., M.D., M.P.H.  
Family Health International  
Research Triangle Park, North Carolina

Richard A. Crosby, Ph.D.  
Rollins School of Public Health, Emory University  
Atlanta, Georgia

Jacqueline E. Darroch, Ph.D.  
The Alan Guttmacher Institute  
New York, New York

Ralph DiClemente, Ph.D.  
Rollins School of Public Health, Emory University  
Atlanta, Georgia

Lloyd J. Kolbe, Ph.D.  
Department of Applied Health Science, Indiana University  
Indianapolis, Indiana

Susan L. Rosenthal, Ph.D.  
Department of Pediatrics  
University of Texas Medical Branch at Galveston  
Galveston, Texas

Laura F. Salazar, Ph.D.  
Rollins School of Public Health, Emory University  
Atlanta, Georgia

Jonathan Stacks, M.S.W.  
Advocates for Youth  
Washington, D.C.

Felicia Stewart, M.D.  
Center for Reproductive Health Research and Policy  
University of California, San Francisco

James Trussell, Ph.D.  
Office of Population Research  
Princeton University

Principal Investigator:  
Joan R. Cates, M.P.H.  
School of Journalism and Mass Communication  
University of North Carolina at Chapel Hill

## **The Youth Panel**

Shawn Carney, 17  
Phelps, New York

Naina Dhingra, 21  
Washington, D.C.

Katie Dillard, 22  
San Jose, California

Bridgette Jamison, 22  
Wilmington, North Carolina

Tara Jones, 18  
Lahaina, Hawaii

Chrissy Kajita, 23  
Seattle, Washington

Yesenia Polanco, 21  
Chapel Hill, North Carolina

Miriam Szatrowski, 24  
Urbana, Illinois

Benjamin Weidman, 17  
Clifton Springs, New York

## **Editorial Staff**

Nancy L. Herndon

Susan Lloyd Schulz, P.A., M.P.H.

Shellie Tyrrell, M.S.W., M.P.H.

## **Design**

Adesso Design, Leslie G. Byrd

## **Illustration**

Raymond Wu Rivera

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**"A lot of kids have barriers to getting the information they need and empowering themselves," says Benjamin, 17, an HIV peer educator in Clifton Springs, New York. "It shouldn't be that hard. Some adults make kids feel like bad people when they're trying to find out how to protect themselves and stay healthy. It makes me sad and angry. When kids try to be responsible, they don't get the resources they need."**

Young, sexually active Americans are disproportionately affected by the nation's epidemic of sexually transmitted diseases (STDs), including HIV. But many youth hesitate to discuss the topic with parents, teachers, doctors, or others who could help. The Institute of Medicine considers STDs an epidemic among teens and has called for the development of a national STD prevention strategy.<sup>1</sup> But it is hard to say just how many U.S. youth are affected by STDs, or what the problem costs in economic and human terms. The silence surrounding the issue makes it difficult to design a response.

With support from the William T. Grant Foundation, a blue-ribbon panel of experts in public health, behavioral science, medicine, economics, and communication was convened to define the challenges of STD prevention among young Americans and recommend solutions (see Expert Panel, page 2). The panel identified eight major STDs: chlamydia, genital herpes, gonorrhea, hepatitis B, HIV/AIDS, human papillomavirus (HPV), syphilis, and trichomoniasis. Panel members reviewed estimates of the scope and impact of these STDs on American youth ages 15-24 and the economic and emotional impact of STD infections.<sup>2</sup>

At the same time, a panel of nine youth members, ages 17-25, worked with scientific experts on the project to provide youth perspectives and voices to alert the nation to the reality of the problem (see Youth Panel, page 3). The youth panel members were recruited through Advocates for Youth, a nonprofit public health organization based in Washington, D.C.

**The goal of this project is to help build a national understanding of the STD epidemic among American youth and lay the groundwork for change.**

## **Youth and STDs: Quick Facts**

- Nearly half of all new STD cases occur among youth ages 15-24.<sup>3</sup>
- Half of new HIV infections occur among youth ages 15-24.<sup>4</sup>
- By age 25, one of two sexually active youth will acquire an STD.
- Teens ages 15-19 who have had sex have the highest STD rates of any age group in the country.<sup>5</sup>
- The highest rates of gonorrhea and chlamydia are among 15- to 19-year-old females.<sup>6</sup>
- The lifetime medical costs of STDs acquired by American youth ages 15-24 in the year 2000 will be at least \$6.5 billion.<sup>7</sup>
- Early testing and treatment are necessary to prevent potential lifelong consequences.
- STDs can be prevented.

## Background

**“Teens don’t have safe sex unless they stop to think,” says Tara, 18, a health educator and writer from Lahaina, Hawaii. “But since the information has been held back until kids are older, it’s not really part of their thought processes. In the heat of passion, most kids don’t even think about it.”**

The United States has the highest STD rate of any industrialized country.<sup>8</sup> Among all age groups, approximately 18.9 million new cases of STDs occurred in the United States in 2000.<sup>9</sup> That year one STD—chlamydia—was the most frequently reported of all diseases in the country, according to the Centers for Disease Control and Prevention (CDC).

The Institute of Medicine has called the spread of STDs in the United States “a silent epidemic,” one that has not reached the national agenda of public concern.<sup>10</sup> The Institute further noted, “One of the primary obstacles is this country’s reluctance to openly confront issues regarding sexuality and STDs.”<sup>11</sup> Most people are unaware of the STD epidemic in part because social stigma prevents open discussion of the topic.

In addition, many STD infections are themselves “silent,” in that they cause few noticeable symptoms. Without symptoms, many STDs go undetected. Women are more likely than men to have no symptoms until complications occur. Only testing can detect “silent” STDs in time for early treatment. No single test can detect all STDs.

## STDs can do long-term harm, especially if untreated.

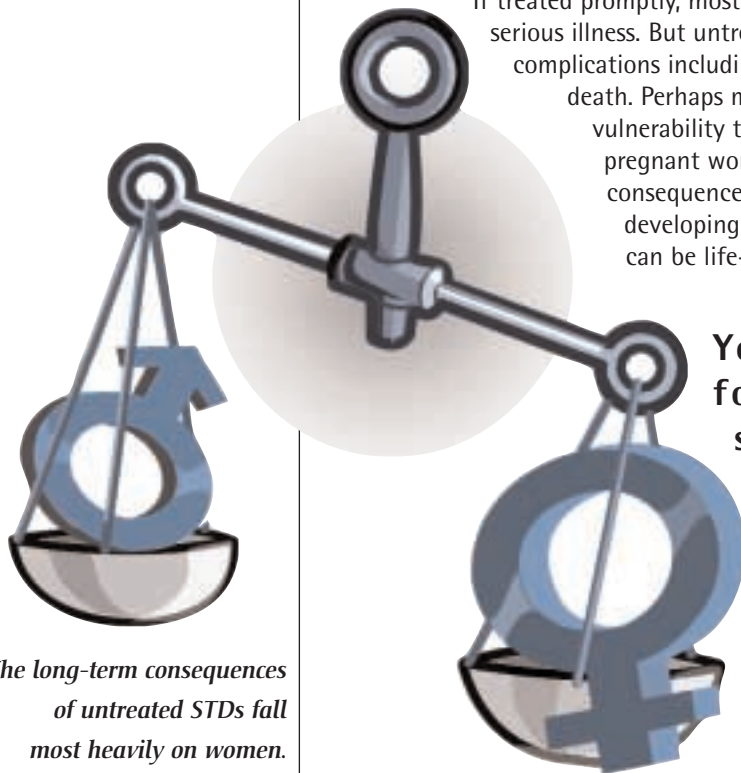
If treated promptly, most STDs can be cured or managed to prevent serious illness. But untreated, STD infections may lead to serious complications including infertility, chronic pain, cervical cancer, or death. Perhaps most dangerous, some STDs increase a person’s vulnerability to getting HIV. Many STDs can be passed from a pregnant woman to her fetus or infant, often with serious consequences. Because the immune systems of infants are still developing, infections that may cause only illness in adults can be life-threatening for an infant.<sup>12</sup>

## Youth are vulnerable for biological and social reasons.

Some STDs are especially common among youth for biological reasons. The bacterial infections chlamydia and gonorrhea most easily infect the adolescent cervix, and spread quickly between sexually active young women and their partners.<sup>13</sup> Most STDs are more easily acquired by females than by males because of the anatomy of the female reproductive tract.

Social factors also explain why youth are at greater risk for STDs than older adults. Young people are more likely to be unmarried, have more than one partner over time, or have a partner who has an STD.<sup>14</sup> Nationwide, nearly half of all high school students have had sex, and approximately 14% have had four or more partners.<sup>15</sup> Nearly all young people have had sex by the age of 25.<sup>16</sup>

Yet young people lack awareness of STDs. In one survey, more than half of sexually experienced teens had never discussed STDs with either their current partner or a health care provider.<sup>17</sup> Only about half of sexually active teens reported using a condom the last time they had sex.<sup>18</sup>



*The long-term consequences of untreated STDs fall most heavily on women.*

**Young people may be the least likely to obtain medical care and therefore the most likely to suffer lifelong consequences.**

Teens and young adults face barriers to the STD testing and treatment services that could stop the spread of STDs and prevent long-term harm. Many young people lack health insurance or ability to pay. They may not have transportation to clinics. Often teens fear their confidentiality will be breached. Both youth and health care providers often suffer embarrassment about discussing sexual health issues. This may prevent youth from talking openly with a health care provider about the need for STD testing.

Health care providers often pay limited attention to STD risk assessment, routine screening for STDs that often do not cause symptoms, counseling, and patient education. And many youth lack accurate information about medical recommendations and risk.

**STDs and Reproduction**

**STDs can affect the full cycle of reproductive health.**

- Birth control pills do not prevent STDs. To prevent infection, condoms should be used in addition to another method of contraception.
- If left untreated, some STDs can lead to permanent infertility.
- Some STDs can be passed from a pregnant woman to her fetus or baby.
- If detected, STDs can be treated during pregnancy to help protect the baby.

“People assume that if you’re in college, you’re supposed to know about safer sex, STDs, everything,” says Katie, 22, an advocate for HIV/AIDS prevention in San Jose, California. “But everybody comes to college from different backgrounds. There is a messed-up link between high school and college. The consistent thing is not to talk about sex or really teach us about it.”

## Common STDs and Their Outcomes

STD	Symptoms	Curable	Long-Term Outcomes
Chlamydia	Women usually have no symptoms; men may have a penile discharge.	Yes.	In women, may cause pelvic inflammatory disease (PID), which can lead to infertility, tubal pregnancy, and chronic pain. In men, may cause scrotal infection. In infants, may cause eye and lung infections.
Genital herpes	May cause no symptoms; or itching, irritation, or painful blisters. Symptoms come and go.	No. Medicines can help manage outbreaks.	Most cases are mild. If a woman acquires herpes during pregnancy, the virus can be life-threatening for the infant.
Gonorrhea	Women usually have no symptoms; men may have a penile discharge.	Yes.	In women, may cause PID, which can lead to infertility, tubal pregnancy, and chronic pain. In men, may cause scrotal infection.
Hepatitis B	May cause no symptoms, or "yellow jaundice" or abdominal problems.	No. Can be prevented with a vaccine.	May lead to liver cancer and sometimes death.
HIV/AIDS	HIV may cause no symptoms but may progress to AIDS. In AIDS, the body cannot fight off many infections and cancers.	No. Medicines may extend life.	Opportunistic infections and cancers may lead to death. Pregnant women may transmit HIV to the fetus or infant.
Human papillomavirus (HPV)	Some HPV types can cause cervical abnormalities; other types cause genital warts.	No, but the immune system may suppress or eliminate the virus.	Untreated, a few HPV types may lead to cervical cancer. Pap testing can usually detect cervical disease in time to prevent cancer. Genital warts can be treated.
Syphilis	Painless sores and rashes that go away without treatment.	Yes.	Untreated, may cause serious neurological, cardiac and other diseases. Increases risk for getting or transmitting HIV. In pregnancy, can lead to severe abnormalities or death of infant.
Trichomoniasis	In women, may cause heavy discharge and genital irritation. Men may have no symptoms.	Yes.	May have no long-term consequences. May cause adverse pregnancy outcomes.

## How Many Youth Are Affected?

The number of Americans affected by STDs is difficult to determine. Routine testing for “silent” infections is not commonplace, and many cases of STDs are undiagnosed. Some STDs—chlamydia, gonorrhea, HIV and AIDS, hepatitis B, and syphilis—are nationally reportable diseases, which means that state health authorities report the number of cases (without names) to the CDC.<sup>19</sup> The numbers reflect cases, not individuals. One individual may have been diagnosed with more than one STD in a year. Data on reportable STDs are collected by age group, race/ethnic group, and gender. However, reported STD data are generally believed to be an undercount.

**Data Sources.** In addition to reported data, other data on STD infections come from the CDC Regional Infertility Chlamydia Prevalence Monitoring Project (chlamydia); the CDC National Health and Nutrition Examination Survey (hepatitis B and genital herpes); reviews of the literature (HPV); and the World Health Organization (trichomoniasis).

**Estimation Methods.** For this project, the researchers evaluated STD data sources based on their consistency and completeness. They categorized the various sources by strength of evidence according to the levels of “good,” “fair,” and “poor,” or levels I, II and III, respectively. The researchers made estimates using the data with the strongest level of evidence. Details of the estimates are published in *Perspectives on Sexual and Reproductive Health* (2004).<sup>20</sup>

No data for STDs were characterized as level I (“good”). Data for chlamydia, genital herpes, gonorrhea, hepatitis B, HIV, and syphilis were characterized as level II (“fair”), as they were derived from widespread, consistent data obtained from many populations over time, or from incomplete national reporting systems. Data for HPV and trichomoniasis were characterized as level III (“poor”), as they were based on weaker sources and rough calculations. For each STD, the researchers applied additional assumptions to adjust the available information for the population and year of interest, namely men and women ages 15-24 in the United States for the year 2000, the most recent year for which data were available.

### By age 25, one of two sexually active youth will acquire an STD.

The researchers estimated a total of 9 million new cases of STDs among Americans ages 15-24 in the year 2000.<sup>21</sup> This number suggests that by age 25, at least half of sexually active youth will have acquired an STD. Nearly half (48%) of new STD cases in the country occur among people ages 15-24,<sup>22</sup> even though these youth make up only a quarter of the sexually active population.

Because some of the most common STD infections, particularly HPV, are measured with limited data, these estimates are subject to further refinement. However, they are consistent with previous estimates of the incidence of STDs among youth.

In addition to the number of new cases, for three STDs the panel reviewed estimates of prevalence—the number of people infected at a given point in time.

## Estimated Cases of STDs in American Youth Ages 15-24, Year 2000

STD	New Cases	Prevalence*	Level of Evidence†
Chlamydia	1,500,000	1,000,000	II
Genital herpes	640,000	4,200,000	II
Gonorrhea	431,000	No estimates	II
Hepatitis B	7,500	No estimates	II
HIV	15,000	No estimates	II
Human papillomavirus (HPV)	4,600,000	9,200,000	III
Syphilis	8,200	No estimates	II
Trichomoniasis	1,900,000	No estimates	III
Total new cases	>9,000,000		

\* Prevalence is the number of people infected with an STD at a given point in time.

† Rated according to criteria in "Estimation Methods," page 8. Source: Weinstock, H., Berman, S., Cates, W. Jr. (2004). Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health*, 36(1):6-10.

**Chlamydia**—Estimates of chlamydia cases in youth are based on data reported by states and the District of Columbia to the CDC for new cases, plus data from the Regional Infertility Chlamydia Prevalence Monitoring Project.<sup>23</sup> In 2000, the highest reported rates of chlamydia were among 15- to 19-year-olds. Many people, especially women, don't know they are infected with chlamydia because they have no symptoms. Therefore the researchers assumed women have untreated cases for an average of nearly one year, and men for an average of 5 months. New cases for youth ages 15-24 were estimated to be 1.5 million, or 54% of total cases. The total prevalence of chlamydia is estimated to be 1.9 million cases, with 1 million in youth.

**Genital herpes**—Estimates of genital herpes cases in youth are based on the National Health and Nutrition Examination Survey of approximately 40,000 Americans ages 12-70. During the last three decades, cases of genital herpes have increased sharply in the United States. For all ages, researchers estimated 1.6 million new cases of genital herpes in 2000. For youth ages 15-24, they estimated 640,000 new infections per year. As herpes cannot be cured, the number of people infected at a given point in time (prevalence) is higher than the number of new cases. Among Americans of all ages, the estimated prevalence of genital herpes was approximately 45 million.<sup>24</sup> The estimated prevalence for youth in 2000 was more than 4 million, or 15% of sexually active youth.

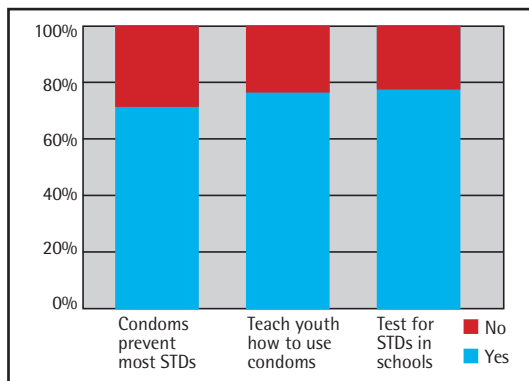
**Gonorrhea**—Estimates of gonorrhea cases in youth are based on data reported to the CDC. Recently, rates of gonorrhea have leveled off, after dropping for several years. In 2000, 60% of cases were in youth ages 15-24. The highest rate of gonorrhea reported to the CDC for 2000 was among 15- to 19-year-old women. The highest rate for men was among 20- to 24-year-olds.<sup>25</sup> Previous estimates of gonorrhea incidence have found a 50% underdiagnosis and reporting rate.<sup>26</sup> Using this estimate, the researchers estimated approximately 431,000 cases among persons ages 15-24.

**Hepatitis B**—Overall, new cases of hepatitis B transmitted by sex have decreased in recent years, due in part to the availability of a vaccine and safer behaviors in the highest risk populations. Approximately 23% of new cases are in youth age 24 and under. Based on data reported to the CDC, the researchers found 7,500 new cases in youth ages 15-24 in the year 2000.

**HIV/AIDS**—New cases of HIV and AIDS are not increasing significantly in the United States, but a greater percentage of new cases are being transmitted by sex (rather than by contaminated needles or blood), and a greater percentage of new infections are now in youth ages 15-24. Because it may take 10 years for AIDS to develop after HIV infection occurs, many of those diagnosed with AIDS in their twenties and thirties were infected as youth. Approximately 75% of HIV infections are transmitted sexually. Based on national reporting of 40,000 AIDS cases per year to the CDC, the researchers estimated 15,000 new sexually transmitted cases of HIV in youth ages 15-24 in the year 2000. Approximately half of new HIV infections occur among youth ages 15-24.

**Human papillomavirus (HPV)**—Comprehensive data are not available for HPV, but numerous studies have found that HPV is extremely common among young, sexually active populations.<sup>27</sup> Using age-specific estimates for cervical HPV infection in women<sup>28</sup> and assuming an equal incidence of HPV in men, the researchers estimated approximately 6.2 million new HPV infections in 2000. Of these, 74%, or 4.6 million, were among

## What People Think about Preventing STDs in Youth: A Three-State Public Opinion Poll



Public perceptions about the extent of STDs in youth and ways to combat the spread of infection have implications for shaping public policies. For this project, random digit-dialed telephone surveys were conducted in 2002 with likely voters in North Carolina (n = 625), Colorado (n = 631), and Ohio (n = 805). Polling was conducted September 9-24, 2002, with a 95% confidence level and margin of error of +/- 3.5% in Ohio and +/- 4% in Colorado and North Carolina.

The surveys asked respondents to estimate (1) the percent of STDs in youth 15-24, (2) the percent of STDs undetected and undiagnosed, (3) whether correct and consistent condom use prevents most STDs, (4) whether youth should be taught to use condoms consistently and correctly, and (5) whether STD testing should be available in schools.

The survey assessed the effect of age, gender, race, political party identification, parent of minor child, state, and, in Ohio, religion and education on the responses.

Respondents generally underestimated the incidence and detection of STDs in youth. But most people believed that condom use prevents most STDs (71%), supported teaching youth about condom use (75%), and supported STD testing in schools (76%). Parents of children under the age of 18 were as likely to support these policy options as were non-parents. The data indicate that responses were consistent across the subgroups. Some variations in the responses were evident within subgroups.

Cates, J.R. (2003). *Assessing the American Public's Knowledge and Attitudes about the Reduction of Sexually Transmitted Diseases in Youth*. Paper presented at the annual meeting of the American Public Health Association, San Francisco, CA.

“Reflecting back on the sex education I received in school and from my parents and friends, I don’t recall ever discussing how or when to talk with a doctor about STDs,” says Chrissy, 23. Chrissy works for a community resource center in Seattle, Washington. “When some of my friends have run into this dilemma, they were not sure what to do. Many of them went to their family doctors and were scared that their parents would find out. I think this is one more example of how young people are disempowered and not made aware of their rights.”

people ages 15-24. Over time, most people’s immune systems suppress or eliminate HPV from the body. However, because the virus may persist, cases add up for several years. The estimated prevalence (number of people infected with HPV at a given point in time) is 9.2 million in youth.

**Syphilis**—Estimates of syphilis in youth are based on data reported to the CDC. In 2000, syphilis rates for all ages were the lowest ever reported. The dramatic decrease followed the National Plan to Eliminate Syphilis from the United States, launched by the Surgeon General in 1999. However, syphilis remains an important problem in the South and some urban areas. A total of 31,046 cases of syphilis were reported in 2000, with 16% of cases in youth ages 15-24. Assuming that 50% of all reported syphilis cases are diagnosed more than one year after infection, and that 20% of infections are never diagnosed or reported, the researchers estimated 8,200 new syphilis infections among people ages 15-24 in 2000.

**Trichomoniasis**—Vaginal infections caused by trichomoniasis are among the most common reasons for women to seek reproductive health care. The World Health Organization (WHO) has estimated that this STD accounts for nearly half of all curable infections worldwide. Based on WHO estimates for North America, researchers calculated 1.9 million cases of “trich” in 2000 among American youth ages 15-24.

## HPV in Perspective

Genital human papillomavirus (HPV) is an extremely common virus among young people who have had sex.<sup>29</sup> It is so common, in fact, that some experts consider it almost synonymous with the beginning of sexual activity. Then why have many people never heard of HPV?

In most cases, the immune system suppresses or eliminates the virus, and HPV causes neither symptoms nor disease. HPV infections are much less common as people get older, suggesting that the immune system is usually able to clear the virus from the body.

In some cases, however, HPV can be a serious problem. There are more than 100 types of HPV, roughly one-third of which are sexually transmitted. Some types of the virus (particularly HPV 16 and 18) can lead to cervical cancer in women. Other types of the virus (particularly HPV 6 and 11) can cause genital warts.

The good news is that regular Pap tests are able to detect HPV-related cervical changes before they lead to cancer. HPV DNA tests are also available that can detect early infection with high-risk HPV types. Prompt treatment can prevent cervical cancer from developing.

Because HPV is so common, women who have had sex should get regular Pap smears. A woman’s first Pap test should be about three years after first sexual intercourse or no later than age 21, whichever comes first. For women ages 21 to 30, the American Cancer Society recommends Pap tests every 1-2 years, depending on the type of test used.

Genital warts are usually harmless (although annoying) and can also be treated.

## In Their Own Words: What People Say about Youth and STDs

For the project, four audiences were identified for their unique capacity to help shape policies on youth and STDs. The groups were (1) youth ages 15-24; (2) parents of children 10-14 and 15-19 years old; (3) health care providers, youth counselors, and clergy; and (4) advocates working with national policy makers in Washington, D.C. Focus group discussions were held with members of each group to learn their thoughts about why the epidemic of STDs in youth has occurred and how to change the epidemic. In their own words:

### Youth

*"I don't think they (the media) give the full facts of having unprotected sex. They show people having sex on TV, but, like, nothing happens to them." –Female, age 15*

*"When you go for a doctor's visit, I think doctors should tell you about STDs anyway, even if you have something else wrong with you." –Male, age 15*

*"Instead of ignoring issues, why don't they actually start telling people? If you go to any basic middle school and you ask them, 'Name an STD other than AIDS,' probably 9 out of 10 don't know." –Male, age 22*

*"They keep doing it younger and younger and younger, 'My friend's doing it. Everybody's doing it. Well my friends are doing it, I guess I should do it', you know, just to see what it's like or to be in the IN group or whatever." –Female, age 23*

*"Media pressure young people. 'You can go out and have sex, you can protect yourself'. But protection isn't always the correct answer. Most likely the correct answer is probably going to be abstinence. They don't push that the way they used to." –Male, age 22*

*"I haven't had any conversation with my parents about [STDs]. I know more than my parents. ... I think they are just ashamed. They don't want to talk about that." –Male, age 21*

*"I think that if you're in a relationship and you want to take it to that level, you should open up and talk about it without being scared. It's something that you really need to talk about with your partner." –Male, age 17*

### Parents

*"It should fall back to the parents and guardians, but sometimes in our society now, that's not always possible ... The family situation isn't always capable to handle it, not that they can't or they won't, sometimes it's just not possible." –Mother, age 37*

*"You have to really get them when they're willing to listen, because if they're taught when they're at a listening stage and they haven't started refusing that adult authority ... then you probably can make a difference." –Mother, age 44*

*"They [youth] need to be empowered with learning to have discipline and stuff, wisdom. There's something called being able to have a plan for yourself ... regardless of what the peer pressure is." –Father, age 44*

*"Some of the commercials, especially those that they're showing for the AIDS virus, try to get them to see that it's just not somebody else, that it might be you. So I like the new messages that it's just anybody, not a particular person, or a particular sexual habit." –Mother, age 44*

*"Our pediatrician, when my daughter goes for her yearly physical, asks me to leave and then asks, 'Are you having sex? Are you smoking? Any drugs?' and that sort of thing, so if the parent's not on that level with the child, then the [doctor] can say, 'You know, you need to be using condoms or be tested for STDs or whatever.'" –Mother, age 43*

*"Guide them [children] into things they want to do and excel in and find success with. Don't try and have them do things that you want them to do." –Father, age 53*

*"In terms of communication with your child, the staying up on top of them, even if it means argument or whatever ...just totally keep stressing it on them...Just say, 'Now don't be afraid ...I'm here for you no matter what it is, just bring it to me, let's deal with it together.'" –Mother, age 32*

## **Health Care Providers, Youth Counselors, and Clergy**

*"I think what the standard media show, the popular media, is that you can have a lot of sexual activity without any consequences. So that's really...the big message people learn." –Female physician*

*"There's a sense of invincibility...I think back to when I was that age, and I wasn't going to get pregnant, I wasn't going to get a disease. I was going to be okay, and this wasn't going to happen to any of my friends either, cause we're smart—we know what's going on." –Female health educator*

*"There's not a question about whether or not human beings have a sexual nature. I mean, of course we do...It's about responsible sexuality, and that's a different issue." –Male physician*

*"If we could get them [youth] early enough...and maybe even take some classes together and talk about what's going on as your bodies change and how you should care for your body because you have respect for your body and things like that, perhaps that would be a way that we could help." –Female pastor*

## **Advocates Working with National Policy Makers**

*"I think we tend to think it's quite different [today] than what we went through, when there really are a lot of parallels. You know, your emotions and relationships, getting to know people, the fear of rejection, all those different things." –Male, age 57*

*"There's still the myth that talking about it is going to make it happen. And lots of kids don't have particularly good access to health care." –Female, age 62*

*"A lot of physicians don't think their patients are the ones that have STDs and there's no reason to talk about it...Obviously, the assumption is wrong. They should just make it a standard conversation with everybody and maybe in a different way with teens." –Female, age 35*

*"There are a lot of parents who are actually quite happy that the kids are learning something in school. They don't necessarily always feel equipped to have those conversations. They don't always have the right information. They're actually looking to teachers and schools to find that kind of information." –Female, age 43*

Source: Cates, J. R. (2004). Finding the Balance: Focus Group Research on Youth and Sexually Transmitted Diseases. Unpublished manuscript, University of North Carolina at Chapel Hill.

## Who Is at Risk?

**"I started having sex young and now I know a lot more," says one young woman. "I really didn't talk with my partner about sex. We just did it. When I think back, I probably didn't even want to have sex. If someone had taught me a little sooner about teens and sex, I probably wouldn't have had sex then with that person."**

**"I grew up in a household where sex was talked about," says Tara, 18. "My mom is so cool. All my friends asked her questions. I think parents should be the first to start informing youth."**

People can change dramatically as they grow up, and what is true for a 15-year-old may no longer hold when a youth is 24. Nevertheless, some broad statements apply to many people at various points in their teen and young adult years. These are the years in which most young people become sexually active, but are still unmarried. This phase of life often involves sexual risk taking.

Sexual risk behaviors include:

- becoming sexually active in the teen years
- having more than one partner
- having sex without using a condom consistently and correctly
- having sex with someone who has an STD

People of any age may take sexual risks for complex reasons. Influences include culture, the media, schools, and relationships with families, friends, and romantic partners. Beliefs and feelings about sex play an important role, too.<sup>30</sup>

## What raises the risk?

Alcohol and drug use may affect judgment and therefore be closely linked with risky sexual behaviors. Especially for young women, low self-esteem, emotional distress, and depression are linked with having sex at an early age, having unprotected sex, and having multiple sex partners. Among young women, lack of control in the romantic relationship, fear of discussing condom use, inability to talk with a partner about sexual topics, and having an older sex partner have all been linked with increased STD risk.<sup>31</sup>

Young people are at greater risk for STDs if they live in poverty, because these youth often have more limited access to health care, education and prevention resources than middle-class youth. Communities that have high rates of STDs among older adults are also a risky environment for youth. National data show higher rates of reported STDs among some minority racial or ethnic groups when compared with rates among whites.<sup>32</sup>

## What reduces the risk?

Many factors in young people's lives help protect them from STDs. For example, youth who believe they could get pregnant or get an STD tend to take fewer sexual risks than youth who don't believe it could happen to them. Family support, positive and frequent parent-teen communication, and parental monitoring may help protect teens from taking sexual risks. Friends who support abstinence, safer sexual behaviors and condom use may help young people make healthier decisions.<sup>33</sup> Some sex education programs have been successful in helping teens delay first sexual experience and use condoms when they do have sex.<sup>34</sup> Participation in youth organizations and positive school environments can be helpful.<sup>35</sup>

## Gay, Lesbian, and Bisexual Youth: Special Issues

Gay, lesbian, bisexual and questioning youth may face special issues in STD prevention and treatment. Parents and teachers may assume that the youth are heterosexual, and fail to provide appropriate information about STD prevention. Health care providers may fail to provide testing and counseling appropriate for them. Embarrassment and fears about confidentiality are problems for most youth seeking sexual health information and care. These issues may be especially acute for gay, lesbian, and bisexual youth.

In addition, gay youth have a greater chance than other youth of choosing a partner with HIV, because HIV prevalence is higher in many gay communities.

Lesbian youth (and their health care providers) may believe the common myth that lesbians are not at risk for STDs. Although STDs are not spread as easily from woman to woman as from man to man or man to woman, herpes and HPV, in particular, can spread between women. Further, many lesbians have a history of sex with men.

Gay, lesbian, and bisexual youth who are sexually active should use condoms and other barriers to protect themselves against STDs, talk openly with their health care providers if at all possible, and, for women, get regular Pap tests. Health care professionals need to create a safe space for *all* youth to receive the services they need.

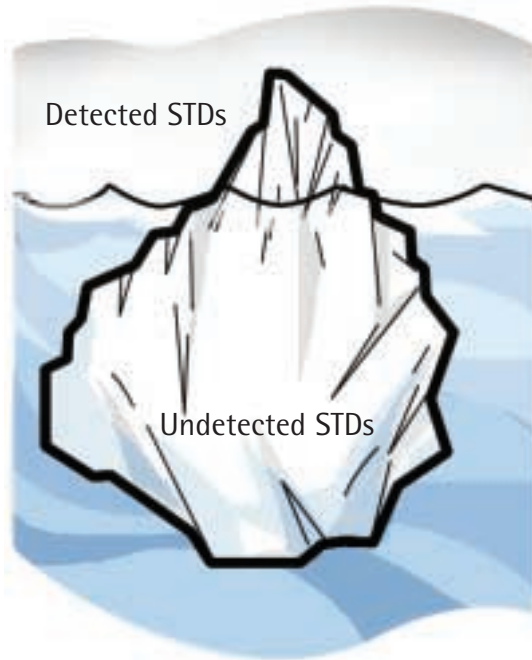
**"As much as parents may think what they say goes in one ear and out the other, it really doesn't," says Benjamin, 17. "When they're talking about something as important as sex, and as reasonable as protecting yourself and making good choices, kids listen."**

## The Emotional Cost

STDs cause pain on an emotional as well as physical level. Young people diagnosed with STDs often have feelings of shame and stigmatization that do not occur with other diseases. They may feel betrayal and disruption of their personal relationships. Those who acquire incurable, lifelong infections such as genital herpes may fear telling new partners or beginning new relationships. When untreated STDs lead to infertility or infant illness, the emotional toll on families can be devastating.

### Fear and shame may make the problem worse.

The way people feel about getting STDs may affect many other reactions: how quickly they seek medical care; whether they talk to past, current and future sex partners; and whether they change their behaviors to lower the risk of getting a repeat infection.<sup>36</sup> Stigma and fear of getting bad news may cause young people to delay seeking care and deny the problem rather than deal with it. On the positive side, social support may help youth overcome anxiety and seek care. It also helps when teens expect confidentiality from the medical system, and their health care providers communicate in a nonjudgmental manner.



### Risk taking may continue.

Being diagnosed with an STD may or may not change a young person's risky sexual behaviors. One study found that about 20% of young people diagnosed with an STD practiced abstinence for the next three months, and others increased condom use.<sup>37</sup> Yet many continued to have sex with their previous partner, who may still be infected. In one recent study, between 60% and 73% of young people diagnosed with an STD became infected again with the same STD in less than one year.<sup>38</sup>

*Many STDs go unrecognized. Those that are diagnosed are only the tip of the iceberg.*

### The Cost of Silence: Chlamydia

It can be cured with a single dose of an inexpensive antibiotic. Uncured, it can cause lifelong damage.

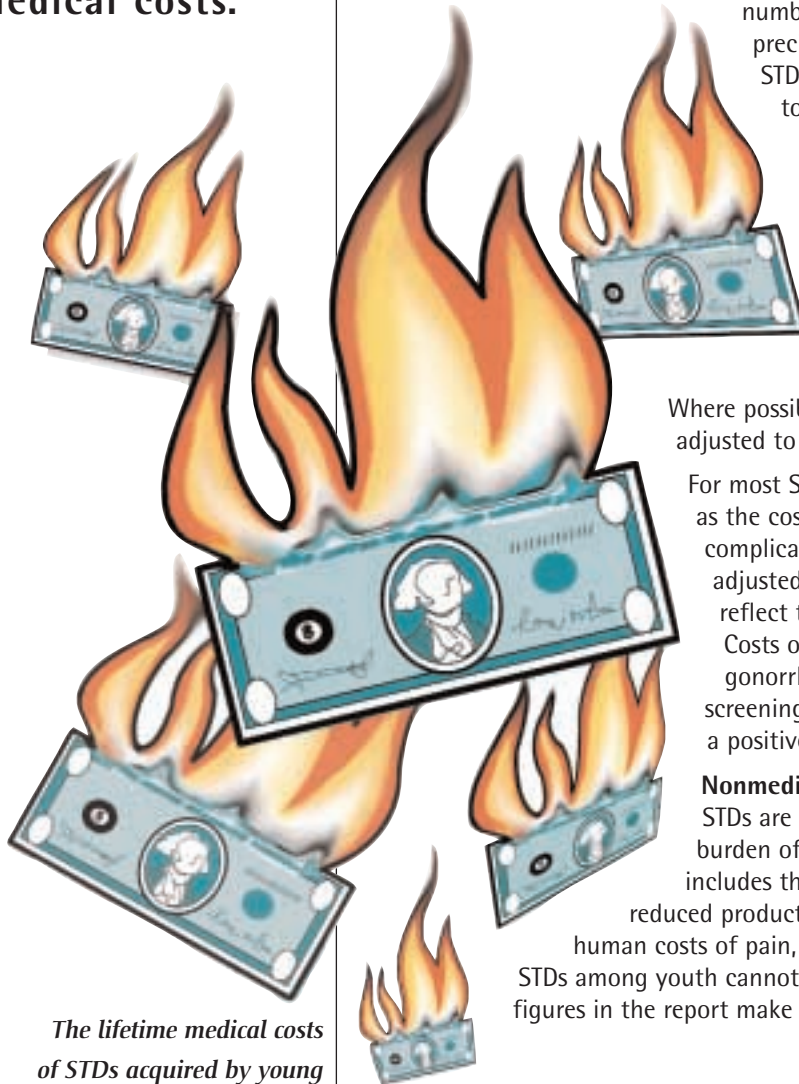
Chlamydia is the ultimate "silent" STD, causing few if any symptoms, particularly in women. Unless a health care provider routinely screens for chlamydia, or a male partner tells a woman she may have been infected, a woman has no way of knowing that she needs treatment. Untreated, chlamydia can move up into the fallopian tubes, causing pelvic inflammatory disease and leading to infertility, chronic pelvic pain, tubal pregnancy, or infant illness. It also increases a woman's susceptibility to getting HIV.

The infection is most common among 15- to 19-year-old females—placing them at the highest risk for long-term medical, emotional and economic consequences.<sup>39</sup> An estimated 1.5 million young Americans get chlamydia each year.<sup>40</sup>

How can chlamydia be detected? New national guidelines call for annual screening of all sexually active women ages 15-25, even if they do not have symptoms. But many young women are not being tested. Open communication between young women and their health care providers is one key—to assess the risk, determine the need for screening, and counsel about prevention methods.

## The Economic Cost

**A 10% reduction in STD rates among youth could save \$650 million in medical costs.**



*The lifetime medical costs of STDs acquired by young Americans in 2000 are at least \$6.5 billion.*

All Americans have a stake in STD prevention, because all communities are affected by STDs. All pay—directly or indirectly—for the costs of these infections. And measured in dollar terms, the cost is high.

The panel reviewed research that estimated the lifetime medical costs of STDs acquired by American youth ages 15–24 in the year 2000 will be at least \$6.5 billion.<sup>41</sup> The costs are so high because millions of youth are affected, and because treatment for the viral STDs, particularly HIV, is so expensive. Without existing STD/HIV prevention efforts, the current treatment costs would be even higher.

Because the costs are high, even small reductions in STDs could lead to considerable savings. For example, a 10% reduction in STD rates among youth could save \$650 million in medical costs.

**Caveat:** The cost estimates presented here should be viewed as “ballpark figures,” because they are based on estimates of the total number of cases and the cost per case, which are not precise. These estimations include only the major STDs and most frequent complications, are limited to new infections, and thus are likely an undercount of the cost of STDs among American youth.

**Estimation Methods.** The estimates were based on a review of published data on the direct medical costs of STD treatment in the United States. Direct medical costs include the cost of clinician visits, hospitalization, diagnostic testing, and drug treatments.

Where possible, estimates of STD costs in adults were adjusted to reflect unique treatment issues among youth.

For most STDs, the cost per new infection was calculated as the cost of short-term care, plus the lifetime costs of complications of the infection. Future costs were adjusted by discounting at an annual rate of 3% to reflect the present value equivalents of future costs.

Costs of PID were incorporated into the chlamydia and gonorrhea cost estimates. Costs of STD and HIV screening were not included except where tests yielded a positive result.

**Nonmedical Costs.** Although the direct medical costs of STDs are great, these costs reflect only part of the burden of STDs on young people. The true burden includes the indirect and intangible costs of STDs, such as reduced productivity and higher rates of absenteeism, and the human costs of pain, suffering, and grief. These intangible costs of STDs among youth cannot easily be measured in dollar terms. The cost figures in the report make no attempt to include nonmedical costs.

## Estimated Direct Medical Costs of STDs Acquired by U.S. Youth Ages 15-24 in the Year 2000

STD	New cases among youth in 2000	Average lifetime cost per case among youth	Total cost of STDs acquired by youth in 2000
Chlamydia <sup>Ⓢ</sup>	1,500,000	\$244 (women); \$20 (men)	\$248,400,000
Genital herpes <sup>▽</sup>	640,000	\$417 (women) <sup>▽</sup> ; \$511 (men)	\$292,700,000
Gonorrhea <sup>ⓧ</sup>	431,000	\$266 (women); \$53 (men)	\$77,000,000
Hepatitis B <sup>■</sup>	7,500	\$779	\$5,800,000
HIV/AIDS <sup>○</sup>	15,000	\$199,800	\$3,000,000,000
HPV <sup>▽</sup>	4,600,000	\$1,228 (women); \$27 (men)	\$2,900,000,000
Syphilis <sup>■</sup>	8,200	\$444	\$3,600,000
Trichomoniasis <sup>●</sup>	1,900,000	\$18	\$34,200,000
Total	>9,000,000		\$6,500,000,000

**Note:** Direct medical costs include clinician visits, hospitalization, diagnostic testing and drug treatments for acute care plus the lifetime costs of complications. Costs are in 2000 dollars.

- Ⓢ Chlamydia costs depend on whether the infection is treated promptly, or after complications set in. The primary complications are epididymitis in men and PID in women. Costs were based on numerous existing estimates.<sup>42</sup> The cost of screening tests that yielded a positive result was included.
- ▽ Herpes costs were taken from a 2002 study,<sup>43</sup> which was consistent with previous estimates. The cost of neonatal herpes was not included. Assumptions included: (1) 17% of infected people develop symptoms, (2) men experience more symptoms than women, and (3) some patients take medication occasionally to shorten outbreaks, while others take it regularly to suppress outbreaks.
- ⓧ Gonorrhea costs depend on whether the infection is treated promptly or after complications set in. The primary complications are epididymitis in men and PID in women. Costs were based on numerous existing estimates.<sup>44</sup> The cost of screening tests that yielded a positive result was included.
- Hepatitis costs were based on a study<sup>45</sup> of treatment for acute infection and complications. Costs assume 60% of infections do not require treatment. Of the 40% that do require treatment, an estimated 88% require outpatient treatment, and 12% require hospitalization. An estimated 0.9% of all infections result in chronic liver disease.
- HIV costs were based on a cost-of-illness study.<sup>46</sup> Assumptions included: (1) persons with HIV live for 16 years after becoming infected, (2) each infected person is assumed to be unaware of the infection in the first two years and to begin viral load monitoring (but not treatment) in the third year, (3) in the

fourth through sixteenth years, the person receives antiretroviral therapy, prophylaxis and treatment for opportunistic infections, and other medical care associated with progression to AIDS. Future treatments may have different costs and may alter the expected progression of disease.

- ▽ HPV costs were limited to treatment of HPV-related cervical abnormalities in girls and women, and genital warts in both sexes. Costs for females were based on reported cancer outcomes, with costs of HPV back-calculated. Costs include (1) diagnosis and management of abnormal cytology findings; (2) treatment of pre-invasive cervical neoplasia; and (3) treatment of invasive cervical cancer. Costs for treatment of genital warts were based on actual cost data.<sup>47</sup>
- Cost estimates were based on a model of the clinical course of syphilis.<sup>48</sup> The model assumed each new case of syphilis will (1) be treated in the primary, secondary, or early latent stage; (2) be treated in the late latent stage; (3) be treated by antibiotics taken for reasons unrelated to syphilis; or (4) lead to long-term complications such as late benign syphilis, cardiovascular syphilis, or neurosyphilis. The model did not include congenital syphilis. The model was updated by assuming a higher probability of treatment in the primary, secondary or early latent stage, and by assuming a lower cost of treatment.<sup>49</sup>
- As few studies exist of the cost of trichomoniasis, estimates were based on treatment for gonorrhea and chlamydia, adjusting for the differences in medication and laboratory costs. Estimates assumed 40% of cases are treated, and that untreated cases incur no costs.

Source: Chesson, H.W., et al. (2004). The estimated direct medical cost of sexually transmitted diseases among American youth, 2000. *Perspectives on Sexual and Reproductive Health*, 36(1):11-19.

## Solutions

**“Parents above all need to support sex education,” says Benjamin, 17. “The reason schools don’t teach certain things is because of the parents. If the parents will allow more education, it will happen.”**

The STD epidemic lacks easy solutions because it is rooted in human behavior and is closely interwoven with public attitudes toward sexuality, access to health care, and other national issues. Different young people have different needs as they age and change. Youth need to have a voice in determining their sexual health options.

No one solution will work for everyone. However, a number of approaches can reduce STDs among young people (see “Solutions that Work,” page 20). Collaboration among many facets of society is needed to help all people, including youth, prevent STDs. Our society at all levels—youth, families, health care providers, clergy, policy makers, and media—can do a better job of protecting and educating youth.

### Communication.

Open lines of communication are essential between young people and their peers, partners, parents, and providers. Being able to ask questions and discuss sexual matters, being able to say “no,” and being able to negotiate condom use result in lower rates of STDs.<sup>50</sup>

Youth leaders note the contradictory ways in which society presents sex to young people. The mass media bombard audiences with images of carefree sex without consequences and rarely present realistic sexual relationships. At the same time, educational presentations are often equally unrealistic, presenting only the risks of sex without mentioning pleasure. Unfortunately, little honest discussion of healthy sex or teen sexuality occurs in our society.

To reduce the spread of STDs, former surgeon general David Satcher, M.D., has called for “a national dialogue on issues of sexuality, sexual health, and responsible behavior.”<sup>51</sup> Concerned young people for this project call for involvement by parents, teachers, clinicians, policy makers, and other youth (see “Our Futures,” page 22). The mass media can play a crucial role in stimulating this national dialogue, by raising awareness about the epidemic and the options available to young people.

### Education.

Promising efforts have coordinated health and education services across families, schools, media, community organizations and health care settings. Many of these programs combine information with discussion or role-playing to help youth learn to make healthy choices. In addition, some programs focus on both members of a couple, addressing differences in confidence and power.

The American College of Preventive Medicine and other national prevention organizations support educating youth to reduce the risk of STDs by delaying sexual intercourse, using condoms if sexually active, and seeking diagnosis and treatment for infection.<sup>52</sup> Education programs need to include messages about sexual health in addition to warnings about disease.

Solutions That Work				
Circle of influence	Communication	Education	Services	Technologies
Individual	Talk openly with partners, peers, parents, and health care providers.	Get educated. Improve your motivation, negotiation skills, resistance skills, condom skills.	Get screened for STDs. If you have an STD, get your partner treated too.	Take advantage of new medicines, tests and vaccines.
Family and Friends	Talk openly with children and peers. Know where young people are and what they are doing.	Support opportunities for young people to become educated about sexual health.	Support confidential access to services.	Support access to and use of appropriate vaccines, tests and treatments.
Community	Increase awareness of STD prevalence, STD services, and STD prevention techniques.	Promote safer sex practices, including postponing sex or using condoms if youth are sexually active.	Support condom availability, clinic-based screening, provider-based screening, community outreach, and partner notification.	Support/promote development of and access to more appropriate and effective vaccines, tests and medicines.
Society	Open discussion about STDs. Encourage media messages on STD awareness.	Support education for youth. Encourage media messages on skills to negotiate safer sex, including postponing sex or using condoms if choose sex.	Support confidential access to services. Support media messages on confidential services.	Promote access to new technologies.

**“Teach people to make healthy decisions,” says one member of the youth panel. “Don’t just teach girls to say no. Teach both boys and girls how to take care of themselves. If you promote fear and stigma, people are afraid to go get treated. Talk about the facts. Assess the risks.”**

**Source:** Adapted from DiClemente, R. J., Salazar, L. F., Crosby, R. A., & Rosenthal, S. L. (2004). Prevention and Control of Sexually Transmitted

Diseases among Adolescents: The Importance of a Socio-Ecological Perspective, submitted for publication, Emory University.

### Access to services.

Better tests, routine screening programs and medicines have allowed more STDs to be detected and treated in recent years and have helped decrease some STDs nationwide. Partner notification, and approaches such as partner-delivered medication, could help prevent reinfection as well as transmission to others.

Chlamydia screening is now recommended for all sexually active women ages 15-25 whether or not they have symptoms.<sup>55</sup> In parts of the United States where large-scale chlamydia screening programs are in place, the disease has declined substantially.<sup>56</sup> Clinical programs that include treatment for partners of infected clients help to reduce

## Condom Effectiveness

The surest way to avoid STDs is to abstain from sex, or to be in a long-term, mutually monogamous relationship with a partner who has been tested and does not have an STD.

For people whose sexual behaviors place them at risk for STDs, correct and consistent use of a male latex condom can reduce the risk. When used the right way every time, latex condoms are highly effective in preventing sexual transmission of HIV, and can reduce the risk of chlamydia, gonorrhea, genital herpes, syphilis, and trichomoniasis. While the effectiveness of condoms in preventing HVP is unknown, condom use has been associated with a lower rate of cervical cancer, an HPV-associated disease.<sup>53, 54</sup>

However, no protective method is 100 percent effective, and condom use cannot guarantee absolute protection against any STD. Most youth do not use condoms every time they have sex, and most have not been taught the correct way to use a condom.

**"Are condoms 100% effective?" asks Miriam, 24. Miriam is a leader in OUTLaw, the LGBTQ student organization on her campus in Illinois. "No, but they can be very, very effective. To tell young people that their only option is to not have sex because condoms sometimes fail is sort of ridiculous. If you are having sex with a man, it's much, much better to be using condoms than not to be using them. It's important to teach people how to use them correctly."**

reinfection. Researchers have also shown the effectiveness of making testing for STDs accessible to youth through school venues.<sup>57</sup> Intensive community programs have nearly eliminated syphilis from the United States.

To encourage the use of STD prevention services, young people should have access to confidential services. Media messages can publicize such services as well as reinforce their importance.<sup>58</sup>

## Improved technologies.

As new technologies develop, the diagnosis and treatment of STDs becomes more exact and streamlined. Rapid tests, more sensitive tests, and tests that work from a urine sample are now available to detect infection. Single-dose medicines are less invasive than injection and help with treatment compliance. State programs to provide free hepatitis B vaccines to elementary and middle school children have helped to reduce hepatitis B in youth. Vaccines now in development for HPV and herpes hold great hope for reducing these viral infections if the vaccines are widely provided to young people before they become sexually active.

In conclusion, young people need to participate in protecting their health, talking with their partners and others about sexual issues, pursuing how and when to get medical testing, and making wise choices as they grow up. It is the responsibility of the larger community to support young people with adequate and easy access to STD information and services.

Young people are not mere statistical victims of this country's STD epidemic, and they are not unique in acquiring sexually transmitted infections. They have a crucial role to play in designing, running, and evaluating programs aimed at protecting youth from STDs. In partnership with parents, policy makers, health care providers, religious leaders, educators, and others, youth hold the key to conquering this epidemic in American society. When youth are able to prevent STDs and make healthy choices for themselves, the results benefit not only youth, but society at large and potentially future generations.

**It is time for all of us to put the well-being of young people first.**

## Our Futures: Youth Panel Recommendations

The youth panel members for this project recommend the following strategies to help young people prevent STDs:

### Parents/guardians

- Think about the values and priorities that you want to share with your teen. Discuss these thoughts with your partner, other parents, or your child's teachers. Use these dialogues to begin a conversation with your child.
- Make the conversation ongoing instead of a one-time event.
- Listen to youth's thoughts and feelings.
- Remember that it is your responsibility as the parent to begin this conversation.
- If you feel uncomfortable, admit it and keep going.

### Teachers

- Seek partnerships with parents and the local community so that the overall approach is consistent and comprehensive.
- Give youth resources that are accurate and easy to understand. If necessary, direct youth to sources of additional information.
- Give young people age-appropriate information about abstinence and condoms.
- Use role-playing to help youth at appropriate ages practice negotiating abstinence and safer sex.
- Emphasize self-respect and respect for the choices of others.
- Teach youth how to have a conversation about sex-related topics.
- Be approachable.

### Health Care Providers

- Make sure each patient understands that all conversations ideally are private. Explain under what conditions if you cannot maintain confidentiality.
- Screen youth for STDs regularly and consistently.
- Screen both men and women.
- Don't assume that youth are comfortable telling you the 'whole story' immediately – work to gain their trust.
- Speak privately with youth. Explain to parents why this is important.
- Work with parents to reinforce health education and strengthen your relationship with the patient.

### Policy Makers

- Use peer-reviewed scientific research to make public health decisions about reproductive health issues and youth.
- Talk with youth when making decisions that affect them.
- Take a stand on behalf of youth as they work to stand up for themselves.
- Support comprehensive, science-based sex education that includes information about abstinence and condoms.
- Support programs that make condoms available to sexually active young people.

### Youth

- You have a right to have your questions answered completely and truthfully. Seek uncensored, research-based information so that you can make educated choices.
- In your quest for information, form partnerships with people who share responsibility for your health, such as your parents, teachers, health care providers and policy makers.
- You have a right to age-appropriate services. Do some research, hold professionals accountable, and say what you need.

## Resources and Referrals

CDC National STD & AIDS Hotlines **1-800-342-2437** or **1-800-227-8922**.  
 American Social Health Association: <http://www.iwannaknow.org/On the Teen Scene>  
 Preventing STDs: [http://www.fda.gov/fdac/reprints/ots\\_std.html](http://www.fda.gov/fdac/reprints/ots_std.html)  
 Safe Place Teen Topics: <http://www.safeplaceservices.org/teentopics/sex-stds.shtml>  
 STD World of Resources Network: <http://www.sworn.org/teen.html>  
 My Voice Counts Youth Action Center [www.advocatesforyouth.org/youth](http://www.advocatesforyouth.org/youth)  
 Parents' Sex Ed Center: <http://www.advocatesforyouth.org/parents/index.htm>  
 Teens Health – STDs: [http://kidshealth.org/teen/sexual\\_health/stds/std.html](http://kidshealth.org/teen/sexual_health/stds/std.html)  
 Teen Line Online: <http://www.teenlineonline.org/readyssex.html>  
 Campaign to Prevent Teen Pregnancy:  
<http://www.teenpregnancy.org/resources/data/pdf/keeping.pdf>

## References

- <sup>1</sup> Institute of Medicine. (1997). *The Hidden Epidemic: Confronting Sexually Transmitted Diseases*. Eng, T.R., & Butler, W.T. (Eds.). Washington, DC: National Academy Press.
- <sup>2</sup> Weinstock, H., Berman, S., & Cates, W. Jr. (2004). Sexually transmitted diseases in American youth: incidence and prevalence estimates, 2000. *Perspectives on Sexual and Reproductive Health*, 36(1):6-10; DiClemente, R. J., Salazar, L. F., Crosby, R. A., & Rosenthal, S. L. (2004). Prevention and Control of Sexually Transmitted Diseases among Adolescents: The Importance of a Socio-Ecological Perspective, submitted for publication, Emory University; Chesson, H.W., Blandford, J.M., Gift, T.L., Tao, G., & Irwin, K.L. (2004). The estimated direct medical cost of sexually transmitted diseases among American youth, 2000. *Perspectives on Sexual and Reproductive Health*. 36(1):11-19.
- <sup>3</sup> Weinstock, H., (2004). (See reference 2)
- <sup>4</sup> Weinstock, H., (2004). (See reference 2)
- <sup>5</sup> Holmes, K.K. (Ed.). (1999) *Sexually Transmitted Diseases*. 3rd ed. New York: McGraw-Hill.
- <sup>6</sup> CDC. (September 2001). *Sexually Transmitted Disease Surveillance, 2000*. Atlanta, GA: U.S. Department of Health and Human Services.
- <sup>7</sup> Chesson, H.W., et al. (2004). (See reference 2)
- <sup>8</sup> Institute of Medicine. (1997). (See reference 1)
- <sup>9</sup> Weinstock, H. 2004. (See reference 2)
- <sup>10</sup> Institute of Medicine. (1997). (See reference 1)
- <sup>11</sup> Institute of Medicine. (1997). p.4. (See reference 1)
- <sup>12</sup> Holmes, K.K. (Ed.). (1999). (See reference 5)
- <sup>13</sup> Holmes, K.K. (Ed.). (1999). (See reference 5)
- <sup>14</sup> CDC. (2001). *Sexually Transmitted Disease Surveillance, 2000*. (See reference 6)
- <sup>15</sup> CDC. (2001). Health Risk Behaviors among U.S. High School Students. *Youth Risk Behavior Surveillance*. National Center for Chronic Disease Prevention and Health Promotion.
- <sup>16</sup> Abma J. Chandra, A. Mosher, W. Peterson, L. & Piccinino L. (1997). *Fertility, Family Planning, and Women's Health: New Data from the 1995 National Survey of Family Growth*. National Center for Health Statistics, Vital and Health Statistics 23(19), Table 19, p. 30.

- <sup>17</sup> Kaiser Family Foundation. (1999 and 2002). Menlo Park, CA.
- <sup>18</sup> CDC. (2001). *Youth Risk Behavior Surveillance*. (See reference 15).
- <sup>19</sup> CDC. (2003). Summary of Notifiable Diseases, United States, 2001. *MMWR*; 50(No. 53):vi.
- <sup>20</sup> Weinstock, H. (2004). (See reference 2)
- <sup>21</sup> Weinstock, H. (2004). (See reference 2)
- <sup>22</sup> Weinstock, H. (2004). (See reference 2)
- <sup>23</sup> CDC. (November 2001). *Sexually Transmitted Disease Surveillance 2000 Supplement, Chlamydia Prevalence Monitoring Project*. Atlanta, GA: U.S. Department of Health and Human Services.
- <sup>24</sup> Fleming, D.T., et al. (1997). Herpes simplex virus type 2 in the United States, 1976-1994. *New England Journal of Medicine*, 337:1105-1111.
- <sup>25</sup> CDC. (2001). *Sexually Transmitted Disease Surveillance, 2000*. (See reference 6)
- <sup>26</sup> Cates, W. Jr. and the American Social Health Association Panel. (1999). Estimates of the incidence and prevalence of sexually transmitted diseases in the United States. *Sexually Transmitted Diseases*. 26 (Suppl.):S2-S7.
- <sup>27</sup> Holmes, K.K. (Ed.). (1999). (See reference 5)
- <sup>28</sup> Myers, E.R. (2000). Mathematical model for the natural history of human papillomavirus infection and cervical carcinogenesis. *American Journal of Epidemiology*. 151:1158-1171.
- <sup>29</sup> Holmes, K.K. (Ed.). (1999). (See reference 5)
- <sup>30</sup> DiClemente, R.J., Crosby, R.A. (In press). Sexually transmitted diseases among adolescents: risk factors, antecedents, and prevention strategies. In G. R. Adams, & M. Berzonsky (Eds.) *Blackwell Handbook of Adolescence* (pp. 573-605). Oxford, UK: Blackwell Publishers Ltd.
- <sup>31</sup> DiClemente, R.J., et al. (2004). (See reference 2)
- <sup>32</sup> CDC. (September 2003). *Sexually Transmitted Disease Surveillance, 2002*. Atlanta, GA: U.S. Department of Health and Human Services, available at <http://www.cdc.gov/std/stats/minorities.htm>.
- <sup>33</sup> DiClemente, R.J., et al. (2004). (See reference 2)
- <sup>34</sup> Kirby, D. (2001). *Emerging Answers. Research Findings on Programs to Reduce Teen Pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- <sup>35</sup> DiClemente, R.J., et al. (2004). (See reference 2)
- <sup>36</sup> DiClemente, R.J., Crosby, R.A. (In press). (See reference 30)
- <sup>37</sup> Fortenberry, J.D., et al. (2002). Post-treatment Sexual and Prevention Behaviors of Adolescents with Sexually Transmitted Infections. Unpublished manuscript.
- <sup>38</sup> Orr, D.P., et al. (2001). Subsequent sexually transmitted infection in urban adolescents and young adults. *Archives of Pediatrics & Adolescent Medicine*. 155:947-953.
- <sup>39</sup> CDC. (2001). *Sexually Transmitted Disease Surveillance, 2000*. (See reference 6)
- <sup>40</sup> Weinstock, H. (2004). (See reference 2)
- <sup>41</sup> Chesson, H.W., et al. (2004). (See reference 2).
- <sup>42</sup> Chesson, H.W., et al. (2004). (See reference 2)
- <sup>43</sup> Fisman, D.N., et al. (2002). Projection of the future dimensions and costs of the genital herpes simplex type 2 epidemic in the United States. *Sexually Transmitted Diseases*. 29(10):608-22.

- <sup>44</sup> Chesson, H.W. et al., (2004). (See reference 2)
- <sup>45</sup> Margolis, H.S., et al. (1995). Prevention of hepatitis B virus transmission by immunization: an economic analysis of current recommendations. *JAMA* 274:1201-8.
- <sup>46</sup> Holtgrave, D.R., Pinkerton, S.D. (1997). Updates of cost of illness and quality of life estimates for use in economic evaluations of HIV prevention programs. *Journal of Acquired Immune Deficiency Syndromes & Human Retrovirology*. 16(1):54-62.
- <sup>47</sup> Richward, G.A., Langley, P.C. (2001). Cost of care and treatment patterns for external genital warts (EGWs) in OB/GYN practices in the United States. *International Journal of STD/AIDS*. 12:126.
- <sup>48</sup> Chesson, H.W., Pinkerton, S.D., Rein, D., Irwin, K.L., Kassler, W.J., Carande-Kulis, V., Schmid, G. (1998). Direct Medical Costs of Syphilis in the United States: The Potential for a Cost-Saving National Elimination Program. Presented at the 1998 National STD Prevention Conference. Dallas, Texas.
- <sup>49</sup> Chesson, H.W., et al. (2004). (See reference 2)
- <sup>50</sup> DiClemente, R.J., et al. (2004). (See reference 2)
- <sup>51</sup> U.S. Surgeon General. (2001). *Call to Action to Promote Sexual Health and Responsible Sexual Behavior*. Washington, DC: U.S. Department of Health and Human Services.
- <sup>52</sup> American Medical Association Council on Scientific Affairs. (1999). *Sexuality Education, Abstinence, and Distribution of Condoms in Schools*. [CSA Report 7-1-99; Action of the AMA House of Delegates, 1999 Interim Meeting]. Chicago, IL: AMA; Institute of Medicine. (1997). (See reference 1); Institute of Medicine, Committee on HIV Prevention Strategies in the United States. (2001). *No Time to Lose: Getting More from HIV Prevention*. Washington, DC: National Academy Press; American Academy of Pediatrics. (1995). Condom availability for youth: Policy statement RE9502. *Pediatrics*; 95:281-285.
- <sup>53</sup> CDC. (January 2003). Male Latex Condoms and Sexually Transmitted Diseases. Fact sheet for Public Health Personnel, Department of Health and Human Services.
- <sup>54</sup> Cates, W. Jr. (2002). The condom forgiveness factor: the positive spin. *Sexually Transmitted Diseases*. 29:350-3; CDC. Male Latex Condoms and Sexually Transmitted Diseases, available at <http://www.cdc.gov/std>.
- <sup>55</sup> American College of Preventive Medicine. American College of Preventive Medicine Practice Policy Statement: Screening for Chlamydia trachomatis. 2003. Retrieved April 27, 2003, from <http://www.acpm.org/chlamydia.pdf>
- <sup>56</sup> CDC. (2001). *Sexually Transmitted Disease Surveillance, 2000*. (See reference 6)
- <sup>57</sup> Cohen, D., Nsuami M., Maftin, D. H., & Farley, T. A. (1999). Repeated school-based screening for sexually transmitted diseases: A feasible strategy for reaching adolescents. *Pediatrics*, 104(6), 1281-1285; Wang, L. Y., Burstein, G. R., & Cohen, D. (2002). An economic evaluation of a school-based sexually transmitted disease screening program. *Sexually Transmitted Diseases*, 29(12), 737-745; Wiesenfeld, H. C., Lowry, D., Heine, L. B., Phillips, R., Krohn, M. A., Bittner, H., et al. (2001). Self-collection of vaginal swabs for the detection of Chlamydia, Gonorrhea, and Trichomoniasis: Opportunity to encourage sexually transmitted disease testing among adolescents. *Sexually Transmitted Diseases*, 28(6), 321-325.
- <sup>58</sup> DiClemente, R.J., et al. (2004). (See reference 2)

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*School of Journalism and Mass Communication*

*University of North Carolina at Chapel Hill*

*Campus Box 3365*

*Chapel Hill, North Carolina 27599-3365*

*[www.jomc.unc.edu](http://www.jomc.unc.edu)*

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