

HIV Transmission Rates in the United States

[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.

[Rich Wolitski, PhD] Hello. My name is Rich Wolitski, and I'm the Acting Director of the Division of HIV/AIDS Prevention at CDC. Today, the Journal of the Acquired Immune Deficiency Syndromes, or JAIDS, published online a research letter that was authored jointly by researchers at Johns Hopkins University and CDC. This research provides an updated estimate of HIV transmission rates in the United States from 1977 through 2006. This podcast will help you understand the significance of these data, as well as explain how the transmission rate serves as an indicator of success of our collective HIV prevention efforts.

This podcast format is unique. It features an interview conducted by Mr. Jesse Milan, Vice President of the Altarum Institute and Chairman of the Black AIDS Institute, with the lead author of this research report, Dr. David Holtgrave, Chair of the Department of Health, Behavior and Society at the Johns Hopkins Bloomberg School of Public Health. We chose this particular format because we wanted to ensure that the kinds of questions that are important to prevention program practitioners in the field were asked and answered. We could think of no better way than this -- to invite Mr. Milan and Dr. Holtgrave to participate. They're both well-respected leaders in the field and are recognized experts in the implementation and science of HIV prevention. We here at CDC are thrilled that they agreed to participate. We hope that the format of this podcast will provide a more informal yet comprehensive discussion of this important information.

Now, as you know, CDC recently released 2006 HIV incidence estimates for the United States. These estimates show that the HIV epidemic here, in this country, is worse than was previously known, and they serve as a reminder that HIV remains a significant threat to the health and wellbeing of multiple communities across the United States. They also provide a profile of HIV/AIDS in the United States that continues to most heavily affect African-Americans, Hispanics and men of all races and ethnicities who have sex with men, or MSM. In addition, the estimates reveal that the epidemic is hitting some subgroups particularly hard, especially young black MSM, white MSM in their 30s and 40s, young Hispanic MSM, and black women.

During this podcast, Dr. Holtgrave will explain how the transmission rate was applied to these recent incidence estimates in order to focus on the effects of HIV prevention in the current era of effective HIV treatments that have significantly improved and extended the lives of hundreds of thousands of people living with HIV, like me.

I hope that you will find this podcast relevant to the important HIV prevention work that you do in your own community.

[Jesse Milan, JD] Dr. Holtgrave, David. Your new paper refers to the term "HIV transmission rate." What do we mean by that? How do you define that term?

[David Holtgrave, PhD] Well, Jesse, the HIV transmission rate is really a measure of the speed at which the HIV epidemic is spreading in the United States. It also can be used to help us gauge the success of HIV prevention messages. And, in epidemiological terms, what we mean is that the transmission rate is defined as follows -- for every 100 people living with HIV, the transmission rate is the number of infections that are transmitted to HIV negative partners. So if we think about 100 people living with HIV, it's the number of infections among partners in a given year.

[Jesse Milan, JD] Now, David, we've learned that the latest CDC incidence data shows 56,000 new infections a year. Did you derive the new HIV transmission rates from that incidence data?

[David Holtgrave, PhD] We did, actually. In 2004, we had previously published an estimate of HIV transmission rates in the U.S., but that really needed to be updated given CDC's new incidence numbers, because those incidence numbers are so important with helping us know where the epidemic is going. What we wanted to do is go back and update those transmission rate estimates. And the transmission rate, simply put, is really HIV incidence divided by HIV prevalence, or the number of new infections in a given year divided by the number of people living with HIV in a given year, and that gives us this measure of the speed at which HIV is spreading.

[Jesse Milan, JD] So, what does that tell us about HIV in America today?

[David Holtgrave, PhD] Well, one of the things that it tells us is, when we look at the transmission rate each year since the beginning of the epidemic, there's been actually some substantial declines in the transmission rate, and, in fact, we see now that the transmission rate for 2006 is about 5.0. And what that means is that, for every 100 people living with HIV, there are about 5 new infections in a given year. Another way to say that is, over 95 percent of people living with HIV are not transmitting to someone else in a given year in the U.S., and I think that's an important measure of prevention success.

[Jesse Milan, JD] Has this transmission rate changed over time?

[David Holtgrave, PhD] It has. If we look at the peak of the epidemic, which was about 1984, when the number of new infections per year was roughly 130,000 or so -- since that time, the HIV transmission rate has dropped by about 88 percent. Also, if we look at the last decade, since about 1997, we see that the transmission rate has dropped by about one-third.

[Jesse Milan, JD] So, is this new data useful, at this point in time, today?

[David Holtgrave, PhD] I think that it is, because if we look at that big change of 88 percent since the peak of the epidemic, what it really says is that, with concerted prevention efforts, we really can make a difference in the transmission rate in a nation. Also, the last decade is important because the HIV transmission rate was pretty stable after about 1990, until about 1997. After the new therapies were available, actually the transmission rate went up slightly for a short period. But since 1997, it's again dropped by about one-third, so I think those two statistics tell us something about the success of prevention programs over time.

[Jesse Milan, JD] But if the number of people living with HIV continues to increase because of access to therapies and the transmission rate declines, what will that tell us about the effectiveness of prevention programs?

[David Holtgrave, PhD] I think it's a major indicator that prevention programs can be very successful. When we think about the number of people living with HIV increasing in the U.S. -- and thank goodness that number is increasing because of the new lifesaving treatments that are available -- if the transmission rate were to stay steady, that would mean that new incidence would increase proportionate to new prevalence every year, but in fact, even though CDC's recent incidence estimates suggested to us that incidence was higher than we had previously thought, they still estimated that it was roughly stable over the last several years, so if you have stable incidence and you have a transmission rate that's going down as prevalence is increasing, taking all of those statistics together, I think really paint a picture of successful prevention efforts.

[Jesse Milan, JD] Could we really be sure that future declines in the transmission rate are attributable to successful prevention programs?

[David Holtgrave, PhD] I think that we can. A couple years ago, Jen Kates of the Kaiser Family Foundation and I looked at the relationship between the investment in HIV prevention programs in the United States and HIV incidence. We found there was a strong correlation between those two. As we invest in more as a nation, we seem to see incidence drop. As our investments seem to stagnate, so, too, do the number of new cases in the U.S. Now, with these new transmission rate estimates, we can draw a similar graph. We can plot the transmission rate by year and then put over top of that how much money the nation is spending on HIV prevention, and we see the two are mirror images of each other. As we make an investment, we can really see the transmission rate drop. And I think that's important for looking to the future. If there is this strong correlation, we would suspect that, if we make the investment, we could drive down the transmission rate even further. So it's a measure of prevention success now, but it doesn't mean that we should be satisfied with a transmission rate of 5.0. We can, and should, do better to drive that number down even further.

[Jesse Milan, JD] And how do testing programs play into this rate?

[David Holtgrave, PhD] I think they're very important, because when we think about HIV testing, especially when accompanied with clients that are counseling, we know that the transmission rate is lower for persons who are aware that they're living with HIV and higher when someone is unaware. In fact, there's a major difference between those two transmission rates, for persons who are aware or unaware of seropositivity. So counseling and testing can, I think, help to lower the transmission rate in the U.S. And also we must never forget that testing is an important pathway to lifesaving care or treatment, and that's critically important to remember.

[Jesse Milan, JD] Well, what can organizations do to help ensure that our HIV transmission rates continue to decline?

[David Holtgrave, PhD] I think there are many things that we can do. To name just a few, at the local level, for community-based organizations and health departments, I think we have to use the latest epidemiological statistics to make sure that we're targeting our prevention programs to the clients and communities most in need of those services. We also can make sure that we're using evidence-based programs to make sure that we're having the most impact as possible on the epidemic. And whether that evidence comes from scientific studies or from interventions that were developed at the grassroots level and evaluated carefully to make sure they make a difference, it's important to use evidence-based programs. I think, at the national level, we have to make sure that we have the policies and the investment in place to make sure that we're really funding these programs at the intensity that's necessary. It's one thing to make sure that we have prevention programs that work; it's another to scale them up to the level necessary. And, although we believe that a transmission rate of 5.0 is a measure of prevention success, or an indicator of prevention success, I think that, with the right investment, we could drive that down to 3 or 2.5 in the years ahead. The question is, do we have the will to make that investment to drive transmission rates down even lower? Also, I think that we have to look at CDC's recent incidence estimates, which really show us some critical trends. We know there are tremendous health disparities in Latino and especially in African-American communities, and also we see HIV incidence again on the rise in gay and bisexual men.

[Jesse Milan, JD] And African-Americans.

[David Holtgrave, PhD] Absolutely, and we absolutely must make sure that we're addressing the needs of these communities. Also, I think that in the long run, we have to make sure that we're addressing the root causes of the epidemic -- stigma, discrimination, homophobia, racism are all issues that contribute to the HIV epidemic in this country, and we have to make sure that we address the root causes as well.

[Jesse Milan, JD] Well, David, thank you and your collaborators for this important new information on HIV in America today.

[David Holtgrave, PhD] Thank you very much, Jesse.

[Rich Wolitski, PhD] In closing, I'd like to thank you for watching this podcast on this new and innovative way of looking at HIV transmission in the United States. As Dr. Holtgrave explained, when we apply the transmission rate to CDC's HIV incidence estimates, the analysis shows major successes in HIV prevention. Despite substantial increases in the number of people living with HIV/AIDS, the rate of transmission has declined significantly since the early days of the epidemic, and, just in this past decade, has declined by 33 percent.

But we must not be complacent about this success. The epidemic here at home is far from over. To ensure continued success, we must take on the HIV/AIDS epidemic in the United States with an even greater sense of commitment, purpose, and urgency by all Americans.

While it is possible to end this epidemic in our lifetimes, I'd like to remind you that we're still fighting an uphill battle, given the increasing prevention and medical needs of a growing

population of people living with HIV. Winning this battle will take continued commitment from everyone, whether you're HIV positive or HIV negative, gay or straight, male, female, or transgender, and whether your skin tone is black, brown, or white. We're all in this together. CDC cannot do what needs to be done alone. We need your continued support and involvement.

Thank you for watching this podcast and for your personal commitment to stopping the spread of HIV in the United States. Have a good day.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO, 24/7.