

TeachAIDS Educator Handbook

A Comprehensive HIV and AIDS Prevention Curriculum



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A heartfelt thanks to the Honorable Festus Gontebanye Mogae, Former President of Botswana, for his unwavering support to bring the TeachAIDS animations to Botswana, and to our celebrities Game “Zeus” Bantsi, Oratile “Jazzelle” Kebakile, Thato “Tref” Maruping, and Thato “Scar” Matlhabaphiri for donating their time and talent to bring the animations to life for the children and youth of Botswana.

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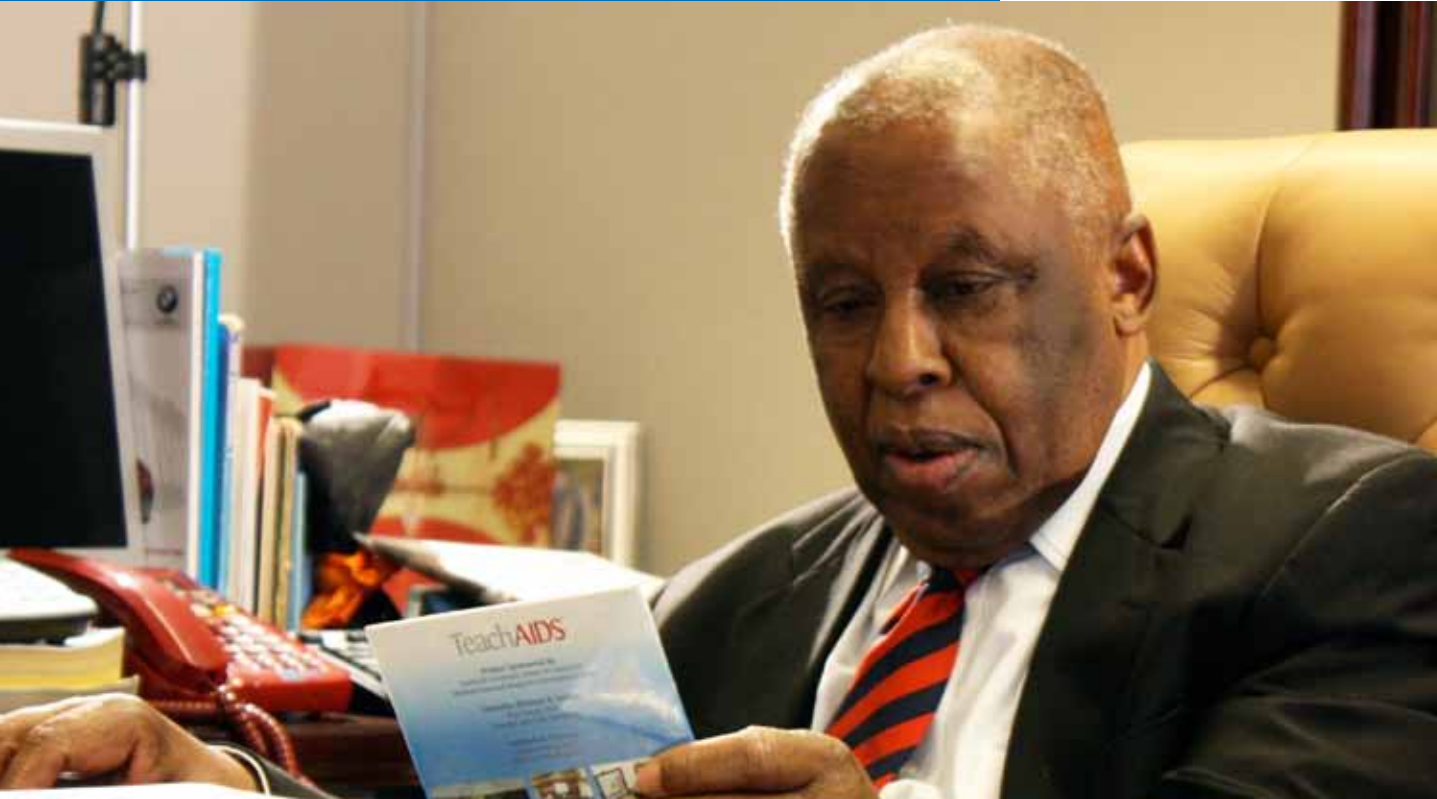
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SPECIAL THANKS
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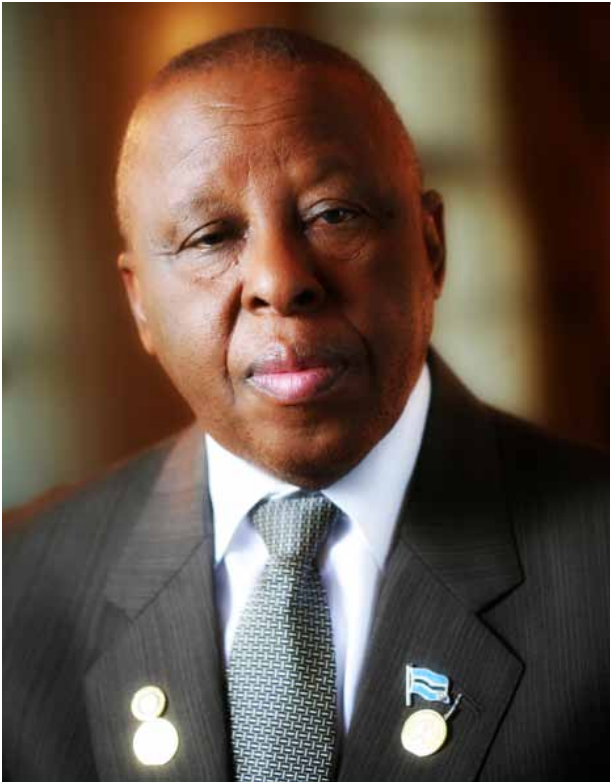


Founded at Stanford University, TeachAIDS is a nonprofit social venture that creates breakthrough software addressing numerous persistent problems in HIV and AIDS prevention around the world. TeachAIDS uses a research-based design process to develop medically-accurate, pedagogically-grounded, and culturally-tailored animated software to optimize learning and retention. Through Institutional Review Board-approved research, these applications have been developed and optimized over several years by an interdisciplinary team of experts spanning the fields of education, communications, public health, and medicine to target young learners.

The TeachAIDS interactive materials incorporate key instructive and communication theories and approaches in order to maximize efficacy. One major finding was that 2D cartoon figures are the optimal balance between comfort and clarity in terms of visual representation for sex-related topics. On that basis, animated storyboards were created that emphasized the biological aspects of HIV transmission and used customized cultural euphemisms to overcome social stigma. In addition, specific pedagogical techniques (e.g., instructional scaffolding) were utilized to create a coherent conception of HIV transmission for learners, as opposed to the fragmented knowledge created by mass media campaigns. The design process included the development of multiple prototypes and over 150 iterations, starting with concept maps, screenplays, storyboards, and low-fidelity paper prototypes, and eventually leading to interactive versions of the curriculum in multiple media, including final versions in Adobe Flash. The TeachAIDS software has been cited as a model health intervention. Since the materials are related to the discussion of sex without compromising information about HIV transmission, they bypass issues of stigma and allow HIV and AIDS education to be provided to communities where it was not allowed previously. In other communities, the tutorials provide the highest learning effects and comfort rates of any tested educational approach.

TeachAIDS operates globally, with its animations in use in more than 30 countries around the world, including Botswana, Canada, China, India, Rwanda, South Africa, and the United States. In addition, numerous AIDS service organizations, AIDS education and training centers, NGOs, and government institutions distribute and utilize the tutorials as part of their own HIV and AIDS prevention efforts. Some of the organizations partnered with TeachAIDS include CARE, Elizabeth Glaser Pediatric AIDS Foundation, and the United States Peace Corps. In India, the National AIDS Control Organisation approved the TeachAIDS materials, marking the first time HIV and AIDS education could be provided decoupled from sex education. In the United States, the Stanford Program on International and Cross Cultural Education distributes the tutorials on CD along with a custom educator handbook, both of which are made available at cost. In Botswana, the TeachAIDS tutorials have been adopted nationally as a standard method for HIV and AIDS education. In 2011, the Ministry of Education will be distributing the tutorials to every primary, secondary, and tertiary educational institution in the country, reaching all learners from 6 to 24 years of age nationwide.

The TeachAIDS materials are made available for free at <http://teachaids.org/>, funded through donations from individuals and organizations including Covington & Burling, Google, Nimmagadda Foundation, UNICEF, and Yahoo!.



FESTUS GONTEBANYE MOGAE
Former President of Botswana (1998 to 2008)

Brothers and sisters, parents, and incredible educators of our generation. Thank you for all your hard work and tireless dedication towards raising our children to be responsible members of society.

It is my great pleasure to have this opportunity to address our youth—the future leaders of our great nations.

To all the young people out there: Youth is such an exciting time! The world opens up to you, and we learn in so many different ways. I want to encourage you to take full advantage of the opportunities around you. Seek out knowledge and experiences that will enrich your lives and empower you. Make the most of this wonderful time in your life.

However, childhood also has its challenges. Too often, the dreams of our youth are compromised by things like teenage pregnancy, sexual abuse, intergenerational sex, and especially HIV and AIDS. The information you need to protect yourselves from these tragedies is available. It is up to you to take action. Make a difference. Change the course of your life. Take full advantage of the invaluable resources, materials, and knowledge around you.

Education is the key, the foundation to success. On a recent trip to Stanford University, I discovered a wonderful educational tool developed by a nonprofit research group there. That group, called TeachAIDS, has worked with an incredible team of world-class experts, governments around the world, and UNICEF to create a clear way to understand what you need to know about HIV and AIDS. Their tutorials are being used globally and are quickly becoming the standard in HIV and AIDS education. Explore and use this innovative tool. Challenge the myths and misconceptions that still exist in our society. In the past, we would not have been able to talk to our elders about sex. However, our culture is changing. Reach out to your parents, aunts, and uncles and talk to them about your concerns and how to prevent HIV and AIDS. Talk to them about getting tested for HIV. Those of us who know our status can make informed and responsible decisions and find a way to access the prevention and care opportunities that exist within our countries.

Most importantly, take pride in who you are. Take control of your destiny. Value yourself and respect your body. Make use of this HIV knowledge and work hard to stay informed and protected. After all, there is only one you. For those of you who are sexually active, use condoms each and every time you have sex. If your partner refuses to use condoms, then know how to refuse sex. It is simply not worth the risk. This is your life, not just for today but for the future. I want to see all of you living long, healthy, and productive lives.

I know that you will take responsibility for your own lives, and I have great faith that we can work together to create an HIV-free generation!

One day, it will be your generation’s turn to lead US. One of YOU will be president.

It is not an easy job to be a president. I needed to make great sacrifices to achieve my goals. I needed to study hard and educate myself on important issues like HIV and AIDS. Finally, I put what I learned into action in order to be an effective leader, stay healthy, and achieve success. I know that you can do this too. I believe in you.

In my life...“HIV prevention; it begins with me.”



Dr. Piya Sorcar is the Founder and Chief Executive Officer of TeachAIDS, where she leads a team of interdisciplinary experts to develop prevention materials that are culturally sensitive to communities around the world. Previously, she was a Program Advisor for Stanford’s Learning, Design & Technology Master’s Program and a Research Analyst with Analysis Group. Dr. Sorcar holds a Ph.D. in Learning Sciences & Technology Design and International Comparative Education and an M.A. in Education, both from Stanford. She has been an invited speaker at numerous universities, including Caltech, Columbia, Yale, Tsinghua (China), and Utrecht (Netherlands). In 2011, MIT *Technology Review* named her to its TR35 list of the top 35 innovators in the world under 35.

Dear Educator:

One of the greatest challenges facing the world today is how to provide effective public health education. Effective prevention and awareness of communicable diseases have direct benefits for the rest of the world, while their absence has direct negative consequences. As witnessed in 2002 during the near pandemic of Severe Acute Respiratory Syndrome (SARS), deadly diseases can rapidly spread around the world in the modern era. AIDS is perhaps the best known disease in this category, with 33.3 million infected worldwide. For these types of illnesses, general prevention education is a more effective and realistic mitigation strategy than containment.

Disease prevention and management are facilitated when modes of disease transmission can be discussed openly. However, diseases like AIDS that are usually transmitted sexually present significant challenges because social stigma often precludes such open discussion. Solving the problem of how to provide effective health education on diseases subject to social taboos is of immediate importance. Social stigma concerning HIV and AIDS is particularly prominent in the developing world, which accounts for 95 percent of the global HIV and AIDS population. This stigma makes it difficult not only to provide awareness but also to estimate societal levels of risk behaviors and disease prevalence. In fact, nine out of ten people infected worldwide do not know they are seropositive for HIV, increasing their chances of infecting others.

Research demonstrates that expert knowledge is focused on concepts that are connected and assembled in an organized fashion. In other words, usable knowledge is quite different from a large set of disconnected facts. One way educators present health education is through a list of “DOs” and “DON”Ts.” Research on HIV and AIDS prevention has shown that these methods present “superficial knowledge” and are unlikely to translate into actionable prevention methods, leading to increased fear among learners. When teaching about prevention, it is imperative to avoid fragmented knowledge and, instead, focus on creating a coherent conception. This allows learners to organize considerable information and learn to reason in new settings.

TeachAIDS develops pedagogically-grounded and evidence-based HIV and AIDS materials localized for countries around the world. Our research has shown tremendous gains in knowledge and retention, along with corresponding positive changes in attitudes. Over the past several years, we have partnered with dozens of leading organizations (e.g., governments, institutions, NGOs) in numerous countries to bring high-quality education materials to learners of all ages. You have the opportunity to raise awareness and engage learners who need this information the most. AIDS is a preventable and treatable illnesses, and, with proper education and our joint efforts, it can be controlled effectively.

Sincerely,

Piya Sorcar, Ph.D.
Founder and Chief Executive Officer
TeachAIDS

Dear Educator:

For many years now, I have run the Communication between Humans and Interactive Media (CHIME) Lab, which focuses on uncovering fundamental relationships between humans and interactive media. The lab members are interested in both advancing the overall understanding of human psychology and exploring the practical implications of our discoveries. Our findings have informed software application design in a variety of contexts, including personal computing, mobile technologies, collaborative work environments, education, e-commerce, and driving. Most recently, I have been interested in understanding culturally-appropriate interfaces, which is inspired by a few basic principles: research should emerge from the needs, values, and desires of the indigenous population; research should adhere to the highest standard, regardless of geography, economy, and culture; and research should improve the quality of life in the communities being studied.

Though these principles have been fundamental in guiding social science in developed countries, relatively little research has been held to the same standards in the developing world. Much of this research is based on treating the needs and values of people in developed countries as standard and globally meaningful: developing countries are characterized in terms of differences from these norms. In contrast to best practices, methods of research and assessment in developing countries are not grounded in comparison, quantifiable measures, and scientific rigor. Because of these deficiencies, psychological and sociological research on technology in the developing world has not resulted in actionable design that improves the lives of communities.

Information and communication technologies hold much promise as empowering tools for populations that are critically dependent on timely and easy access to information about agriculture, employment, and especially public health. Our methodology of social science research, rooted in theoretically informed, rigorously controlled experimental research and tested in over 100 published research studies and 200 products and services for Fortune 500 companies, is one that we believe allows a fresh approach to this problem. Rather than asking whether groups are similar or different to developed countries, the questions are motivated by the unique needs and desires of local populations.

The TeachAIDS materials are based on this actionable design. They are grounded in the “gold standard” of testing for any quantitative research. This sort of rigorous, controlled testing is often neglected in developing countries. Thus far, research for these animated materials has been conducted in India, South Africa, and China with extraordinary results. What is groundbreaking is that the evidence shows we can provide complete and detailed information about HIV and AIDS while fully respecting the taboos of each indigenous culture. It was especially impressive that the results demonstrated significant changes in learners’ attitudes and beliefs without discussing topics or presenting value judgments that are considered inappropriate in the culture. Because the curriculum does not rely on literacy or advanced technologies, these materials can be readily adapted to educate people regardless of their access to high-tech resources (e.g., cell phones, computers, Internet). I hope you and your students enjoy the materials.

Sincerely,

Clifford Nass, Ph.D.
Thomas M. Storke Professor
Stanford University

Dr. Clifford Nass is the Thomas M. Storke Professor at Stanford University. He has appointments in Communication, Computer Science, Education, Law, and Sociology. He directs the Communication between Humans and Interactive Media (CHIME) Lab, and co-directs the Kozmetsky Global Collaboratory and the AutoX Lab. Professor Nass has authored three books, *The Media Equation*, *Wired for Speech*, and *The Man Who Lied to His Laptop*, and over 125 papers. His primary areas of research are statistical methods and social-psychological aspects of human-technology interaction, and car, robot, and mobile interfaces. He is the creator of the Computers are Social Actors paradigm.



Dear Educator:

AIDS is one of the worst infectious disease pandemics in the history of humankind. Millions of individuals are infected worldwide, and adults in their prime are among the hardest hit. One of the terrible legacies of this pandemic is a generation of AIDS orphans who have lost one or both parents to this illness. Although there have been great gains in providing life-saving treatment in resource-limited settings, for each person who has been treated during the last year, two to three more have become infected. So, despite dramatic increases in the number of people being treated, we are still losing ground because so many more people continue to become infected.

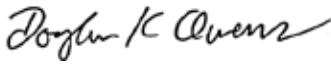
A cruel irony of the pandemic is that the vast majority of these new infections can be prevented. Apart from mother-to-child transmission, HIV is acquired through sexual and needle-sharing risk behaviors that are well known and can be changed. In our research on strategies to prevent and treat HIV and AIDS, we have found that reductions in risk behaviors can markedly diminish a person’s chance of becoming infected. Across the many types of policy analyses we have conducted, the importance of behavioral change is very clear. Although clinicians and epidemiologists understand how HIV is transmitted, many people at risk of HIV infection lack the knowledge to reduce transmission. The cultural and practical barriers to teaching such knowledge are formidable, and yet, education is one of the most important tools we can apply to change the course of the HIV pandemic.

TeachAIDS has developed and tested evidence-based HIV and AIDS materials for teaching potentially life-saving facts. Based on research by an interdisciplinary team of experts at Stanford, including specialists in education, medicine, and communications, among others, this innovative tool provides an approach for teaching sensitive topics in a culturally appropriate and acceptable way. I have been an advisor to TeachAIDS since early in its development, and the team has brought enormous creativity and scientific rigor to the development of this tool.

We know that information alone is not sufficient for people to change behaviors. Yet without information, facts can be replaced by ignorance, and acceptance can be replaced by suspicion. HIV and AIDS are not just medical, social, or policy problems. They are a challenge we must meet with a commitment to public health, human rights, social justice, and, most crucially, education.

Your role in teaching young learners is a cornerstone of HIV prevention. You can help your learners gain knowledge that will replace fears with understanding and may help them save a life — their own or someone for whom they care.

Sincerely,



Douglas K. Owens, M.D.
Professor of General Internal Medicine and of Health Research and Policy
Center for Health Policy, Freeman Spogli Institute for International Studies
Stanford University School of Medicine



Dr. Douglas K. Owens is a General Internist, and a Professor of Medicine and of Health Research and Policy at the Stanford School of Medicine. Dr. Owens is Director of the Stanford Center for Health Policy and the Center for Primary Care and Outcome Research, and a Senior Fellow at the Freeman Spogli Institute for International Studies at Stanford University. Dr. Owens’ research focuses on technology assessment, cost-effectiveness analysis, evidence synthesis, and methods for clinical decision-making for preventive and therapeutic interventions for various illnesses, including HIV and AIDS.

Dr. Shelley Goldman is a Professor of Learning Sciences & Technology Design at the School of Education at Stanford University. Her interest in educational anthropology drives her research on real-world contexts of learning. Dr. Goldman’s quest to give people the tools they need to collaborate and accomplish learning has led her to study and design computer technologies. She was the co-director of the multi-year Dunia Moja project, which studied the efficacy of state-of-the-art mobile phone technology in Uganda, South Africa, and Tanzania to teach environmental science course materials via mobile technologies. Dr. Goldman is currently a principal investigator for the Stanford Education for Global HIV and AIDS, Infectious Disease, and Epidemics project.



Dear Educator:

For decades now, my research through the learning sciences has been focused on developing pedagogically-grounded technologies that enhance learning in both formal and informal learning environments. I see the power of technology as a way to enrich or move beyond traditional school activities, structures, and experiences so that learners can make connections that affect their lives, reach out to human and information resources, and experience multiple channels and representations relating to concepts and skills. It is also absolutely essential that the creation of new learning technologies takes a research-based approach. To these ends, I have developed and extensively researched video technologies and their corresponding learning environments. I am currently experimenting with how to use hand-held devices, including mobile technologies, and social networking computing to facilitate learning.

Based on research in the learning sciences, “best practices” are being identified for the design of teaching and learning environments. Some “best practices” for use of technology research and development include developing learning approaches on the basis of sound research; taking a culturally relevant approach; making use of visual information; giving learners material for learning with ideas and concepts; providing the ability to simulate or model situations or problems; making available multiple channels, media, and communications for learning; and integrating assessment of learning. The TeachAIDS materials beautifully incorporate these critical “best practices.” Using an extensive iterative design approach, these materials use visual information to communicate essential messages to young people. I am excited that you will be able to bring these pedagogically-grounded messages to your students.

Since the beginning of the TeachAIDS initiative, I have been part of the team of experts, carefully following the critical design decisions and evaluation processes of these interactive materials. I see this as a unique curriculum that takes advantage of what technology offers to teach students about an often tabooed topic in ways that are respectful of cultural and social sensitivities. The materials are the result of a rigorous research-based process over several years that include work on how to best use technology, how to consciously present information about HIV and AIDS, and how to best assess student learning. The outcome of this evidence-based testing is a curriculum that is sensitive to social norms, uses animated agents to engage learners and provide visual information, and presents accurate and scientific information.

In just a short time, there has been a tremendous global response to TeachAIDS. Educators in schools, NGOs, and governments worldwide are using the materials and are quite pleased with their efficacy and effect. I think you will find that the TeachAIDS materials are easy for you to use, regardless of your classroom environment and context, and that they will help your students learn critical information about HIV prevention and awareness. Thank you for your dedication towards educating young people around the world on this very important topic. I believe you will be pleased with the results you will see in your students.

Sincerely,



Shelley Goldman, Ed.D., M.S.
Professor of Education
Stanford University School of Education



Dr. Cheryl Koopman is an Associate Research Professor in the Department of Psychiatry and Behavioral Sciences at Stanford University. Dr. Koopman has numerous publications focused on psychological consequences of highly stressful events and on evaluating the effects of educational and mental health interventions. Dr. Koopman's research emphasizes HIV-related attitudes, risk behavior, and quality of life among gay and runaway adolescents, HIV-positive men and women, and others in India, China, Haiti, Botswana, Kenya, South Africa, and Malawi.

Dear Educator:

It is a pleasure for me to introduce an exciting new interactive tool developed by Dr. Piya Sorcar and several world-class interdisciplinary experts here at Stanford University. Based on empirical research and an iterative process of design, many versions of these prevention materials have been developed and more of them are in the works. What all of these interactive versions have in common is that they are based on the critically important assumption that effective HIV and AIDS education must be delivered with content tailored to the learner's cultural background. As a researcher who studies psychosocial behaviors and health risk factors, I have found this to be an essential component to communicate prevention education most effectively. Using animation and incorporating culturally-sensitive images and verbal content, these materials help students overcome the social barriers of stigmatizing attitudes toward HIV and AIDS and those against communicating about sexual practices.

These interactive materials have been carefully developed to overcome a variety of social prejudices—not only against persons thought to be and those who are HIV-positive—but also against the behaviors associated with heightened risk for HIV and AIDS. I have found such stigmatized behaviors to be critically important through my years of international HIV prevention-related research. The social stigma associated with these behaviors can lead to ostracism that is so severe that it often threatens individuals' livelihood, relationships, and well-being if they are suspected of engaging in such behaviors. However, TeachAIDS does not focus on such stigmatized behaviors. How does TeachAIDS achieve this? The answer sounds simple, but remarkable creativity has been incorporated in the details. TeachAIDS uses the engaging power of culturally-sensitive animated characters portrayed in an interactive format to describe all of the elements involved in sexual risk behavior that can lead to HIV infection. Therefore, learners are able to understand in sufficient detail the precise underlying mechanisms that can lead to HIV infection. TeachAIDS accomplishes this education about the mechanisms of HIV transmission while avoiding virtually any discussion of the social context in which transmission can occur. Moreover, because many cultures have social norms against explicitly discussing or portraying sexual behavior, each version of TeachAIDS is designed to incorporate a variety of strategies for communicating about sexual behavior in culturally-sensitive ways that avoid offending learners of the specific culture for which it is produced.

The success of this approach in overcoming cultural barriers to HIV and AIDS education has been compellingly demonstrated by impressively high ratings that learners report across a variety of indices. These indices show that the vast majority of those surveyed have felt very comfortable with the TeachAIDS program. A tremendous amount of effort as well as insight and creativity have been devoted to making these interactive materials culturally-sensitive. Dr. Sorcar and her associates have shown that such an effort can result in a program that holds learners' attention while commanding their respect, produces an increase in knowledge, changes attitudes, and gets delivered in the first place.

Sincerely,

Cheryl Koopman, Ph.D.
Professor of Psychiatry & Behavioral Sciences
Stanford University School of Medicine

Dear Educator:

As the HIV pandemic continues to threaten the future of youth throughout the world, TeachAIDS has developed tools that are a powerful force in the struggle against ignorance and stigma. Despite many global studies, we have not really made full use of the powerful network of educators and schools that could better support HIV and AIDS education. An effective approach to prevention education that is tailored to the needs of educators and their students remains elusive. Since the context of country, gender, economic class, and level of education is so variable, there is no "one message" that suits all. Nevertheless, the ignorance and stigma surrounding HIV and AIDS permeate all social and cultural boundaries. Today, globalization and the HIV pandemic have arisen together, striking a generation in which technology is spreading rapidly across these boundaries. Young people in diverse communities share their experiences and interact with media in new ways that are still evolving. The mode of communicating new information is rapidly moving from the passive and hierarchical (top-down) dissemination of knowledge to the more active and interactive (peer-to-peer) exchange of information.

TeachAIDS is finding new ways to answer old questions, such as "How do we talk about sex and sexually transmitted diseases like AIDS?" Our team is harnessing "new media concepts" responsive to important questions that youth can discuss in school but may not be able to discuss openly with family or peers. Educators have a responsibility to address the deepest, but often unspoken, concerns of young people about the sensitive issues of gender roles, pregnancy, and sexuality. What is needed is for educators to bring reliable answers to questions students have, while maintaining the level of comfort that "tabooed" or stigmatized topics often disintegrate.

Given the comforting familiarity of culturally-sensitive cartoon characters, can animation help to break through the barriers of taboo and stigma? The youth, who were surveyed before and after interacting with the TeachAIDS programs in our pilot studies, have shown significant gains in knowledge and more positive attitudes. Our research found that 98 percent of students surveyed said they liked the tutorial, and 95 percent said they learned more from these animated materials than from any other communication method, including television and school. Nevertheless, the responsibility for quality instruction ultimately rests with the educators. I sincerely hope that you make use of these materials and give TeachAIDS your feedback.

Knowledge is power, and with any luck, these simple cartoon characters will empower a generation of educators to meet the needs of their students in the 21st century.

Sincerely,

David Katzenstein, M.D.
Professor of Infectious Diseases
Stanford University School of Medicine



Dr. David Katzenstein is a Professor of Infectious Diseases at the Stanford School of Medicine. In conjunction with the University of Zimbabwe, Dr. Katzenstein co-founded and is currently the Principal Investigator of the Zimbabwe AIDS Prevention Project, a community-based research organization. He conducts HIV-related research throughout the United States, Africa, and Asia. His recent laboratory and clinical efforts span the AIDS Clinical Trials Group and HIV Prevention Trials Network. Dr. Katzenstein is focused on prevention of viral evolution, mother-to-child-transmission, and drug resistance in the context of scaling-up antiretroviral drug treatment for AIDS in Africa and Asia. He also has clinical appointments at San Mateo County Hospital.

THATO “SCAR” MATLHABAPHIRI

The talented hip-hop artist, Scar, plays the role of the Motswana erudite male doctor in the TeachAIDS animations.

Thato Matlhabaphiri, popularly known as “Scar,” is a judge on Idols East Africa. His pan-African search for the next big pop star has taken him to places like Zimbabwe, Zambia, Malawi, Tanzania, Kenya and Uganda. A native of Botswana, Scar’s music has dominated the country’s hip-hop industry since 2001. The artist has received commercial and critical acclaim, including awards for Lyricist of the Year and for Track of the Year (“My People”) at the annual Botswana Hip Hop Music Awards (BHIPMA) in 2004 and the Channel O Music Video Award for Best Hip Hop Video in 2007.

One of Southern Africa’s most charismatic emcees, Scar has his own morning radio show, which reaches thousands of youth across Botswana. He has also guest-starred in productions like Big Brother Africa, the Annual Miss Botswana pageant and the 2009 Road to MTV Africa Music Awards in Nairobi, Kenya.



GAME “ZEUS” BANTSI

Winner of the coveted Channel O Music Video Award and one of the most talented hip-hop artists in Botswana, Game “Zeus” Bantsi generously donated his voice and artistic talents for the role of the Motswana male student.

Over the years, Zeus has won the hearts of youth all over Africa. He has been featured on numerous international stations and media outlets, including Y-FM, Metro FM, 5 FM, Kiss FM in Kenya, Hype Magazine, SL Magazine, MTV Base and SABC. The young entrepreneur founded his own recording and event company, D.I.Y. Entertainment, through which he released the popular album *Freshly Baked*. In 2008, *Freshly Baked* was nominated for the Album of the Year at the MTN-HYPE Magazine Hip Hop Awards. Zeus’ track “Imagination” was also nominated for an award in the category of Best Reggae Dance Hall by Channel O, a pan-African music entertainment organization. In 2009, his song “Gijima” won the Best Hip Hop Video award at the Channel O Music Video Awards, a ceremony celebrating the top music artists on the continent.

Zeus is no stranger to helping social causes. He uses his musical talents to support a number of social ventures, including Childline Botswana, Oxfam International and Youth Health Organization (YOHO), a PEPFAR-supported program dedicated to reducing new HIV infections among Botswana youth.

ORATILE “JAZZELLE” KEBAKILE

The on-air personality, Oratile “Jazzelle” Kebakile, has kindly gifted her talents and voice to give life to the Motswana female doctor character in the TeachAIDS animations.

As a host of “The Gabz fm Sunrise” radio show, Jazzelle’s blend of hard-hitting interviews, social issue debates and interactive sessions have made her immensely popular among Botswana’s youth. Although professionally trained as a Public Relations Practitioner, Jazzelle’s talent in the entertainment industry was discovered at age 16. She quickly made a name for herself in radio and has worked with some of Southern Africa’s most well-respected organizations, including ESPAfrika (The Cape Town International Jazz Festival), Hotwire PRC, TBWA/Medcom and OP Advertising. Jazzelle has also served as an emcee for a variety of high profile events, including the 2009 Coca-Cola World Cup Trophy Tour.

After learning about TeachAIDS’ efforts, Jazzelle said, “When the invitation and opportunity availed itself, there was no doubt I would make time for this. TeachAIDS is an important tool to be used for many good years in my country and beyond. As an African woman and mother, I believe that HIV and AIDS are social ills that I have a responsibility to sensitize my people about.”



THATO “TREF” MARUPING

The talented young rapper, Tref, donated her voice and artistic talents to the role of the Motswana female student character in the TeachAIDS animated software.

“Tref”, the stage-name of Thato Refilwe, is one of Botswana’s rising Motswako stars. By the age of 22, she had already been signed to her second record company, Hail Earth Records. Her voice is popular, especially among youth, and is widely played across radio and television stations in the country. In addition to her successful music career, Tref holds a degree in Public Relations. She is an active social advocate with a passion for reaching out to youth and addressing Botswana’s problems through music. Tref has collaborated with several hip-hop stars, including Kast, Scar, and Zeus, to release the first HIV-oriented rap compilation in Botswana. Each of the artists based their lyrics on personal life experiences and issues affecting society, including alcohol abuse, materialism, gender-issues and violence.

In collaboration with the United States Embassy in Botswana and Stepping Stone International, Tref performed in “The Show”, a hip-hop program hosted by the Youth Health Organisation (YOHO). This was part of a compelling HIV and AIDS initiative called “Artistic Excellence for an HIV-free generation.”

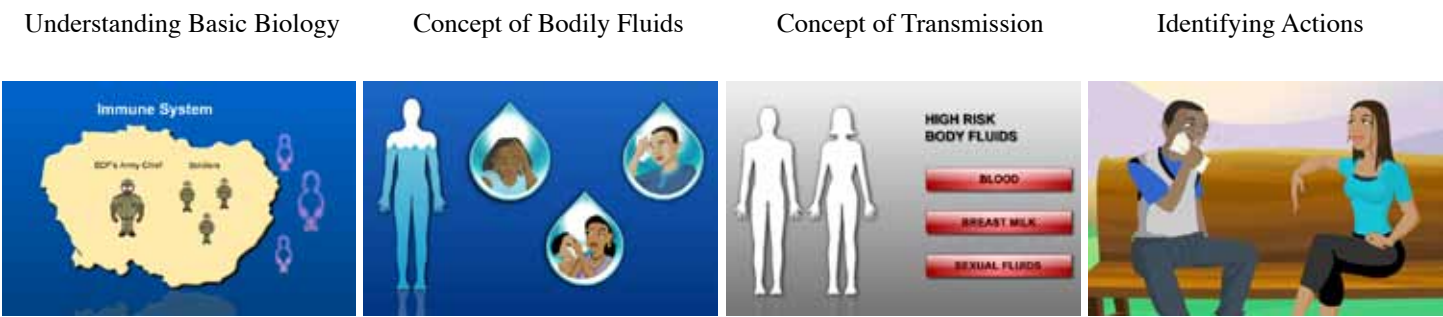
TeachAIDS – An Innovative and Research-Based Development Approach

TeachAIDS has developed a breakthrough approach to providing HIV and AIDS education. With tremendous gains in knowledge and retention, the TeachAIDS materials have shown the highest learning effects of any tested curriculum. They consist of professionally developed interactive animated software, which incorporate the voices of celebrities and are distributed entirely for free. Based on pedagogical and communications theories, the materials are fully customized to reflect local cultural contexts. The animations are used in over 30 countries and are becoming the standard way to teach about HIV and AIDS in many regions of the world.

Our world-class researchers, developers, and artists consider a number of social and cultural contexts to ensure acceptability of the animated materials. As such, a research-based iterative design approach is utilized to adapt the scripts, storyboards, translations, voice recordings, and animations. Below are a few examples in our development process.

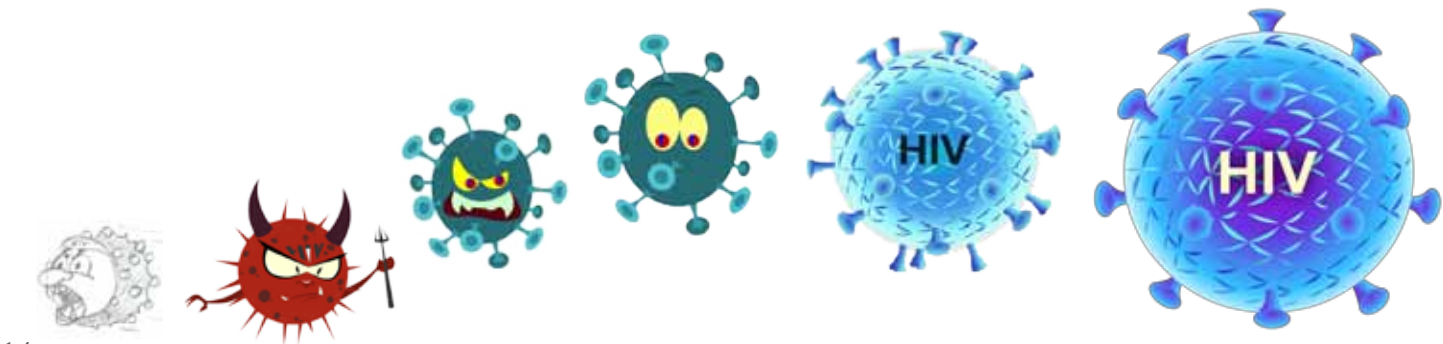
Comprehensive and Conceptual Learning

Health education is commonly presented through a list of “DOs” and “DON’Ts” (e.g., you can get HIV from blood, you cannot get HIV from hugging). Research has revealed that this promotes superficial knowledge and is, therefore, unlikely to translate into actionable prevention methods. This may even increase fear among learners and contribute to stigma. Thus, it is imperative to focus on creating a coherent conception. The TeachAIDS materials build knowledge around concepts of basic biology, bodily fluids, and transmission to help learners identify actions and learn to reason through novel contexts.

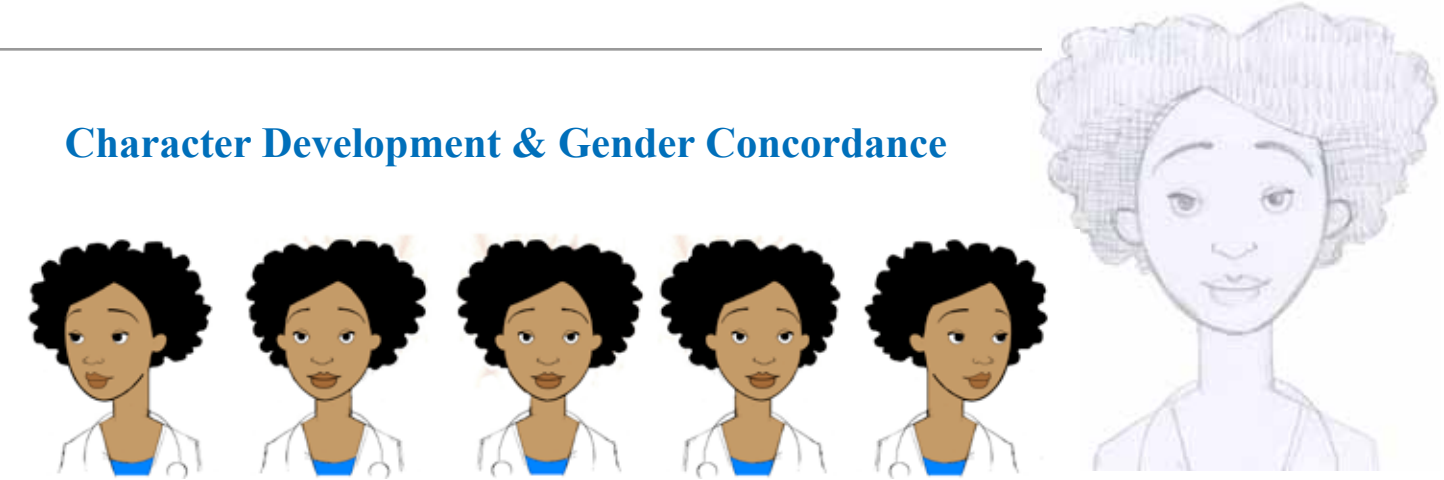


Efficacy vs. Comfort

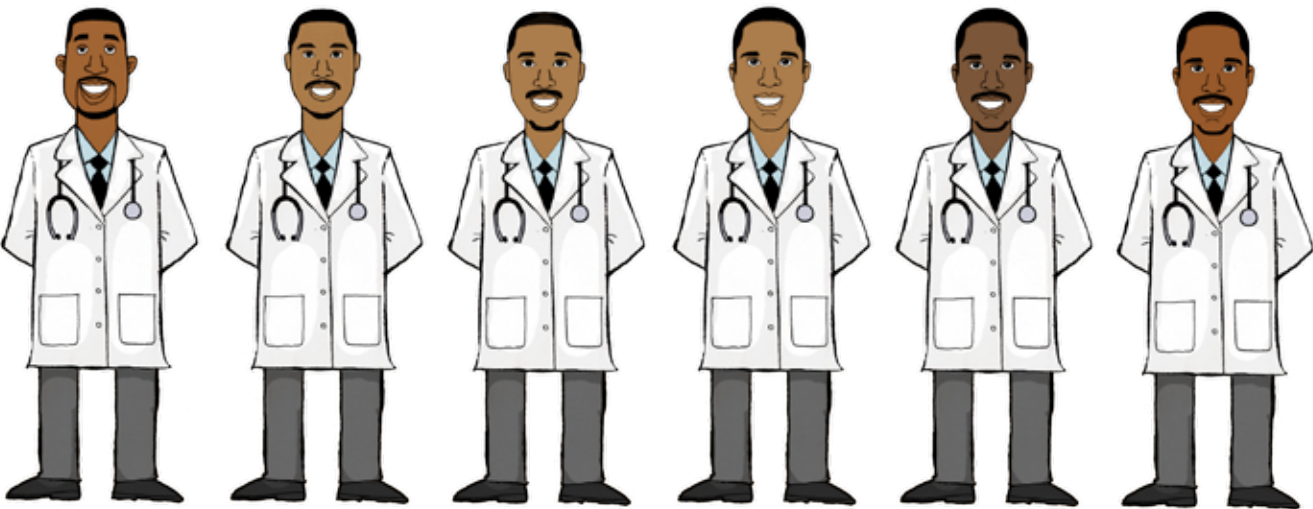
Various images were tested in the TeachAIDS curriculum before the optimal ones were identified. Striking a balance between enough details in the images while maintaining high comfort levels is pivotal to maximizing learning efficacy. In fact, the result from our pilot studies has led us to alter the design of the HIV character to maximize comfort and acceptability. The HIV character is less anthropomorphic to reflect its systematic and biological functionality.



Character Development & Gender Concordance



Through our partnerships with the Botswana Ministry of Education, UNICEF, Stepping Stones International, and experts at Stanford University, the TeachAIDS animations have been customized to reflect local customs and practices. A diverse array of character designs has been piloted with target audiences to determine the most culturally appropriate appearances for the animation. Research demonstrates that learners find voices similar to themselves as most credible, trustworthy, and friendly. Hence, the animations incorporate the voices of celebrities with Botswana accents and pronunciations. Medical research also indicates that gender concordance is important while discussing sensitive issues, particularly among female patients. Based on this evidence, we have developed male- and female-specific animation versions to optimize learning and retention.





Idols East Africa Judge, “Scar” donated his voice for the Botswana TeachAIDS animations.

HIV at a Glance

Genetic analysis of a Congolese man’s blood sample from the late 1940s or early 1950s showed that HIV probably stemmed from a single virus. After spreading to Haiti in 1956, HIV entered the United States around 1970. HIV was then reported in European countries around 1982 and China in 1985, and by 1986, there were more than 38,000 reported cases of HIV or AIDS in 85 countries. Four years later, there were 8 million people living with HIV or AIDS, and by 2009, the estimate had increased to 33.3 million.

Today, southern Africa bears the burden of 34 percent of all HIV-infected individuals worldwide. With a prevalence of 23.9 percent among adults of ages 15 to 49—the second highest in the world—Botswana is experiencing one of the most severe HIV epidemics within southern Africa. This has contributed to a significant drop in life expectancy from 65 years to less than 40 years between 1990 and 2005.

In Botswana, the primary mode of HIV transmission is sexual activity. Multiple concurrent relationships, intergenerational sexual activity, lack of condom use, population mobility, and unavailability of effective female-controlled prevention methods contribute to the high levels of HIV and AIDS within the country. Gender inequality also limits a woman’s ability to negotiate protected sexual intercourse. Moreover, increased alcohol consumption levels among men correlate with men being three times more likely to have unprotected sex, have multiple partners, and pay for sex. Women who use alcohol in vast amounts are 8.5 times more likely to sell sex.

Females continue to be disproportionately vulnerable to the spread of HIV and AIDS in Botswana. HIV prevalence among women and girls is 20.4 percent compared to 14.2 percent among men. The HIV infection rate among young women of ages 15 to 24 is 10.7 percent, which is more than double the infection rate among young men of the same age group (4.8 percent). The high occurrence of intergenerational relationships in Botswana is a principal risk factor for females because early exposure to older men with longer sexual histories increases young girls’ chances of contracting HIV.

HIV in Botswana also severely affects children under 17 years, 20 percent of whom are orphans. The majority of these orphans have lost parents because of AIDS. Children also die from the virus due to vertical transmission from mother to child through breastfeeding and childbirth; 54 percent of deaths among children younger than 5 years result from AIDS.

Zero new infections by 2016.



On-air personality, “Jazzelle” donated her voice for the Botswana TeachAIDS animations.

Many of the following terms are defined in a medical context that is specific to HIV and AIDS.

Adherence: closely following a given treatment plan (taking the correct dose at the correct time)

AIDS (Acquired Immunodeficiency Syndrome): disease that occurs when an HIV-infected person has a CD4 count 200 cells/μl or when he/she has acquired an opportunistic infection
Note: A healthy individual has a CD4 count of at least 800 cells/μl.

Antibodies: specialized proteins produced by the immune system to identify and neutralize foreign invaders in the body, such as bacteria and viruses

ART (Antiretroviral Therapy): medications that help to prevent the HIV virus from replicating

Asymptomatic HIV Infection: having no physical signs of the disease, yet able to transfer HIV, the infection agent

Bacteria: microscopic organisms causing diseases, like most forms of pneumonia

CD4+ T Cell: type of immune cell that is infected and destroyed by the HIV virus; CD4+ T cells are critical components of the host immune system

CD4 Count: indicates HIV infection status by giving the number of CD4+ T cells in the blood, with lower values indicating a weakened immune system

CDC (Centers for Disease Control and Prevention): agency of the United States Department of Health and Human Services that targets public health and safety

Combination Therapy: typically includes three or more drugs used together to achieve optimal results in controlling the HIV infection by limiting replication of the virus

Condom: thin sheath that is used during sexual intercourse and can help prevent conception and/or STIs like HIV

Direct Transfer/Transmission: entrance of infectious agents into body through cuts/wounds on skin or natural openings like mouths or genitals

Epidemic: outbreak and spread of a disease to many people in a geographic area
Note: The CDC defines an epidemic to be severe when more than one percent of individuals in a geographic area are infected.'

High Risk Fluid: body fluid that can transfer HIV; these are blood, breast milk, and sexual fluids

HIV (Human Immunodeficiency Virus): virus that attacks the human immune system and makes the body more susceptible to opportunistic infections

Homosexual/Gay: physical and romantic attraction to the same gender

Host: living organism that houses a virus or other infectious agent

Immune System: system in the body that protects itself by fighting/killing bacteria, viruses, and other foreign cells; weakened by HIV

Immunocompromised: describes the AIDS stage where the immune system has been weakened and can no longer protect an HIV-infected individual from other infections

Latency: the interval between exposure to a disease-causing organism (like HIV) and the development of a clinically apparent illness (like AIDS)

Modes of Transmission: how the HIV virus spreads from one individual to another; includes sexual contact, blood-borne, and vertical transmission from mothers to infants

MSM: Men who have Sex with Men

Mycobacteria: small, slow-growing bacteria that cause diseases such as tuberculosis (TB)

No Risk Fluid: body fluid that has not been shown to transfer HIV to another person; these include saliva, sweat, and tears

Opportunistic Infection: infection that normally occurs only in an immunocompromised individual; examples: certain types of pneumonia and meningitis

Pandemic: severe epidemic that spans a broad geographic region like an entire continent or the world
Note: HIV is a worldwide pandemic!

PCR: Polymerase Chain Reaction; test of viral load that detects presence of HIV's genetic material and shows the level of HIV replication occurring in the body

PLWA (PLWH): People Living With AIDS (People Living With HIV)

Protozoa: unicellular, microscopic organisms that cause diseases like malaria

Replication: process HIV uses to multiply and make more of itself by using components of the human cells it infects

Resistance: a virus's ability to keep replicating even though drugs for treatment have been administered

Safer Sex: commonly used term describing sexual practices that reduce exchanges of blood and sexual fluids, such as by using a condom

Semen: genital fluid released by males that carries sperm; also carries the HIV virus when male is HIV-positive

Seropositive: showing significant level of antibodies of the particular infectious agent being tested, indicating previous exposure to that agent
Note: HIV-seropositive indicates the presence of antibodies to the virus.

STD/STI: Sexually Transmitted Disease (Sexually Transmitted Infection)

Symptomatic Infection: having physical signs or conditions that result from HIV infection; examples: fever, continuous cough, skin rash, sweating, weight loss

T Cell: type of white blood cell in the immune system that protects the body from infection and helps destroy any foreign invaders in the body

Vaccine: substance that stimulates an immune response to prevent or control an infection
Note: There is currently no vaccine approved for HIV and AIDS.

Vaginal Secretion: genital fluid released by females; carries the HIV virus when female is HIV-positive

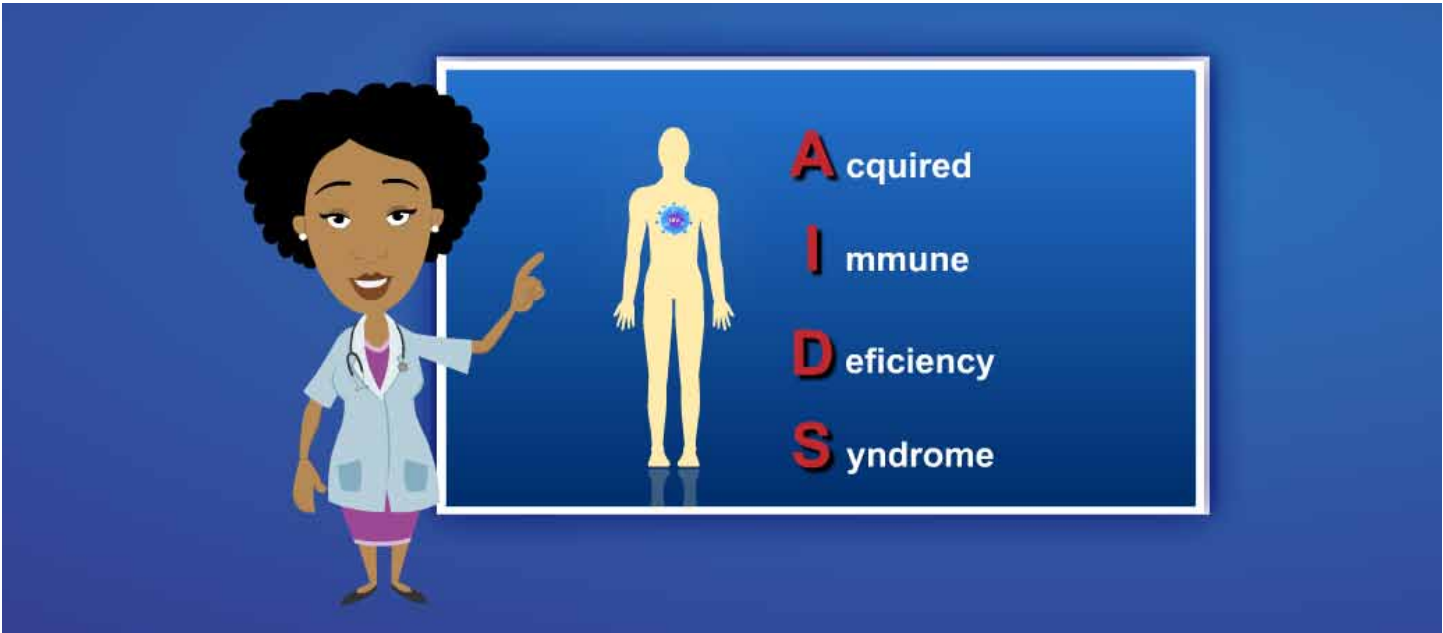
Vertical Transmission: when HIV is directly passed from a mother to her child

Virus: microscopic infectious agent that cannot grow or reproduce outside a host; causes illnesses like AIDS and the common cold

Viral Load: amount of HIV per unit of blood plasma; indicates disease progression and ART effectiveness
Note: High viral load despite treatment means disease progression and ineffectiveness of ART.

Wasting Period: progressive loss of weight and muscle tissue in HIV and AIDS patients

Window Period: time between the first infection and when the HIV antibody test can reliably detect HIV infection (See FAQ #9 on page 31 for a description.)



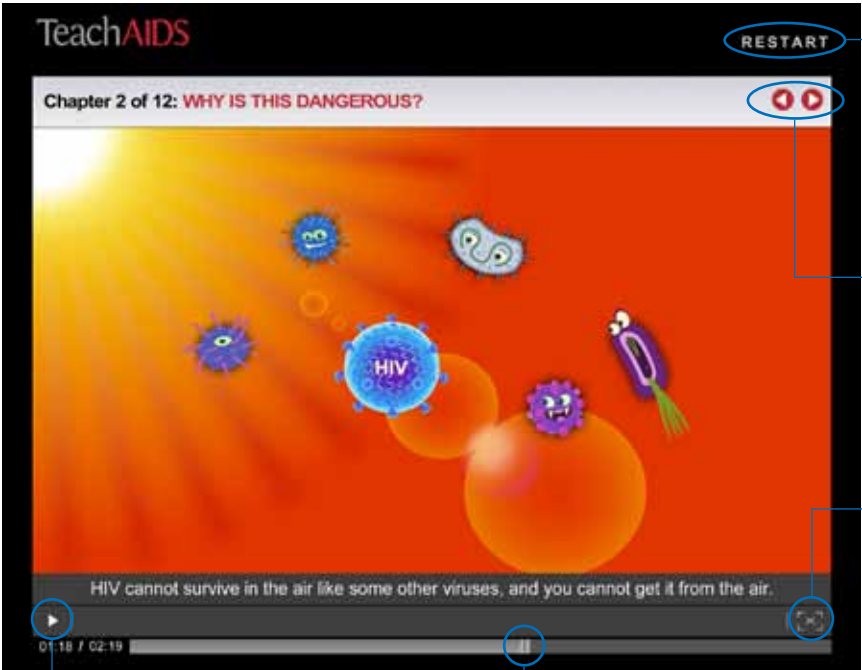
Welcome to the TeachAIDS Animations

The TeachAIDS materials were developed to be easily accessible to educators and scalable to various contexts and environments around the world. Directions and equipment for the materials are included in this kit, as are several examples of how to use the TeachAIDS materials in both formal (e.g., schools) and informal (e.g., museums, after-school programs) learning environments.

Starting the Animation

- 1. Double-click the TeachAIDS icon on your computer desktop.
- 2. Click “I Agree” to continue. The program will open.
- 3. Select your language of choice: English or Setswana.
- 4. Famous celebrities have donated their voices to the TeachAIDS animation. You can read their brief biographies by clicking their photographs or “Actor Bios.”
- 5. Select your characters: Male or Female.
- 6. Select the version of the animation that will play: Interactive or Linear/Video. The interactive version is recommended for individual learners and small groups; the linear/video version is recommended for large groups.

Animation Controls



TeachAIDS

Chapter 2 of 12: WHY IS THIS DANGEROUS?

HIV cannot survive in the air like some other viruses, and you cannot get it from the air.

01:18 / 02:19

RESTART
Click here to restart animation from the beginning.

PREVIOUS/NEXT CHAPTER
Click ◀ to return to previous chapter.
Click ▶ to proceed to next chapter.

CHANGE VIEW
Click [Full Screen Icon] to view animation in full-screen.
Click [Normal View Icon] to return to normal view.

PLAY/ PAUSE
Click [Pause Icon] to pause the animation at any time.
Click [Play Icon] to resume the animation.

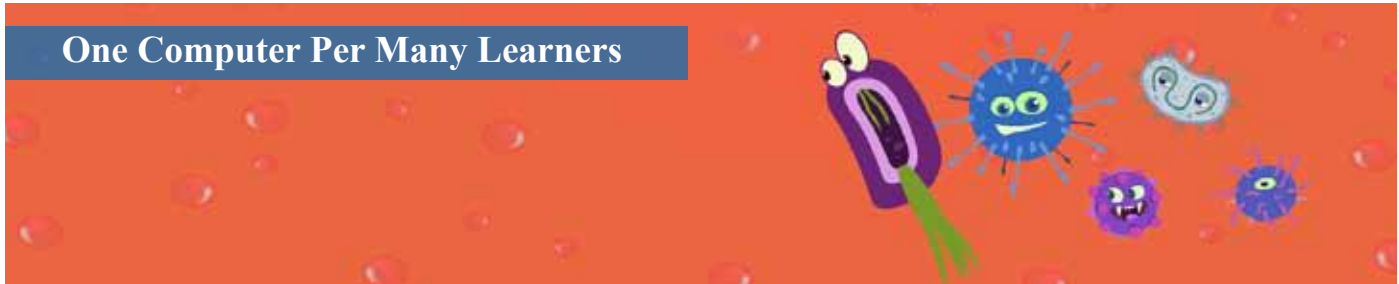
PROGRESS BAR
Click and drag to rewind or fast-forward the animation.



- | ADVANTAGES: | TEACHING SUGGESTIONS: | REQUIREMENTS: |
|--|--|---|
| <ul style="list-style-type: none">• Each learner can work at his/her own pace.• Learners have privacy, which can make learning about sensitive subjects more comfortable. | <ul style="list-style-type: none">• Use the interactive version.• Option to provide group-wide breaks for discussion. | <ul style="list-style-type: none">• Headphones, one per learner• Computer with CD drive and/or Internet access |



- | ADVANTAGES: | TEACHING SUGGESTIONS: | REQUIREMENTS: |
|---|--|--|
| <ul style="list-style-type: none">• 2–4 learners can use one computer to view the animations.• Engages small groups of learners interactively. | <ul style="list-style-type: none">• Use the interactive version.• Walk among the small groups to make sure that each learner is engaged.• Learners may want to take turns being in charge of the computer mouse. | <ul style="list-style-type: none">• Speakers• Computer with CD drive and/or Internet access |



- | ADVANTAGES: | TEACHING SUGGESTIONS: | REQUIREMENTS: |
|--|--|--|
| <ul style="list-style-type: none">• Only one computer is necessary.• The teacher can pause between chapters to engage the entire class in discussion. | <ul style="list-style-type: none">• Use the linear version.• Be mindful that some learners may not feel comfortable asking questions or discussing sensitive subjects in front of the entire class. | <ul style="list-style-type: none">• Speakers• Blank wall or screen• Computer projector• Computer with CD drive and/or Internet access |

Name: _____ Date: _____

TeachAIDS Worksheet

1. Name the three high risk fluids through which HIV can be transmitted:

- | | True | False |
|--|--------------------------|--------------------------|
| 2. A mother infected with HIV will always pass HIV to her infant during delivery. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. You can get HIV from hugging an infected person. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. You can get HIV from going to the restroom used by an infected person (using a toilet). | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. You can get HIV from kissing an infected person (mouth to mouth). | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. You can get HIV from an infected person sneezing on you. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. You can get HIV from talking with an infected person. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. You can get HIV from drinking polluted water. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. You can tell by looking at a person whether he/she has HIV or AIDS. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. You can get HIV from farm animals (e.g., chickens, pigs). | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. There is a cure for HIV. | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. You can get HIV from a mosquito bite. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. You can get HIV from sharing plates, silverware, or cups with someone with HIV. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. You can get HIV from living in the same house as an infected person. | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. You can get HIV from touching an infected person’s blood with your finger. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. You can get HIV from eating food that is made by an HIV-infected person. | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. You can get HIV from sharing needles and syringes with an HIV-infected person. | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Cough and fever can be symptoms of HIV-related illnesses. | <input type="checkbox"/> | <input type="checkbox"/> |

19. Mark whether each of the following fluids is high risk or no risk:

BODY FLUIDS	High Risk	No Risk
Blood	<input type="checkbox"/>	<input type="checkbox"/>
Saliva	<input type="checkbox"/>	<input type="checkbox"/>
Breast milk	<input type="checkbox"/>	<input type="checkbox"/>
Sweat	<input type="checkbox"/>	<input type="checkbox"/>
Tears	<input type="checkbox"/>	<input type="checkbox"/>
Sexual fluids	<input type="checkbox"/>	<input type="checkbox"/>
Urine	<input type="checkbox"/>	<input type="checkbox"/>

20. In what ways does HIV transmission occur? (Hint: Consider direct transfer.)_____

21. What disease can HIV lead to? _____

22. What is the best way to protect yourself from HIV?
☐ Prevention ☐ Eating healthy ☐ Exercising ☐ Using drugs

23. The immune system is like a(n)
☐ Factory ☐ Army ☐ House ☐ Hospital for sick people

24. What does HIV stand for?
H: _____ I: _____ V: _____

25. HIV can be transmitted through which one of the following fluids?
☐ Stool ☐ Cow’s milk ☐ Breast milk ☐ Sweat

26. HIV cannot be transmitted through which one of the following fluids?
☐ Sexual fluids ☐ Saliva ☐ Breast milk ☐ Blood

27. What is the Triangle Test? _____

28. Which of the following can help prevent you from getting HIV?
☐ Exercise ☐ A healthy diet ☐ Condoms ☐ Mosquito nets

29. Is it easy to get tested for HIV?
☐ Yes ☐ No

30. Who can be infected with HIV if not cautious?
☐ Poor people ☐ Women ☐ Men ☐ Healthy people
☐ Married people ☐ Rich people ☐ Religious people ☐ Anyone

The following activities were designed to be useful and scalable to learners, regardless of country or age group. Younger learners may ask simpler questions, while older ones may ask more complex ones. Alternatively, young learners may ask about complex ideas, while older ones may refer to fairly basic ones. Regardless of the demographic involved, these activities will create a safe environment in which to encourage public discourse and raise awareness about HIV- and AIDS-related issues and concepts.

Black Box

Many students feel uncomfortable talking about HIV and AIDS, particularly the circumstances surrounding its transmission. Others may be willing to share information they know about HIV and AIDS, provided that they are in a safe space. One way to encourage students to share their knowledge or ask questions is to allow them to anonymously post facts they know in a public space, which we will call a Black Box. You can conduct this activity before the TeachAIDS animation to gauge what the students already know and the misunderstandings they may have, or after the animation to answer any additional questions.

For this activity, you will want to create a safe space in order to encourage open discussion. Set rules for the safe space, such as not allowing students to interrupt or laugh at each other during the discussion. You may also want to change the physical space/location of the students, which will in turn influence the group dynamics of the learners (sit in a circle, face each other). After setting up a safe space, encourage students to think about questions they have and facts they know about HIV and AIDS. Give each student two blank pieces of small paper/cards. On the first piece, ask the students to write something they know about HIV and AIDS that would be helpful to others. On the second sheet, ask the students to write a question they have about HIV or AIDS. Give the students an adequate amount of time to come up with their facts and questions and encourage them to complete the activity independently to encourage discussion of different ideas. Make sure to let the students know that no question is improper or unintelligent, and ask them to fold the papers after they have finished with them.

After the students finish writing, walk around with two boxes (or other containers) and collect all of the pieces of paper, keeping the two categories separate. Collect the anonymous facts/questions and read them aloud to the class before interacting with the animation. You may want to write the main concepts/themes drawn from the anonymous papers on the board or compile them into a document. After your students interact with the animation, reread the questions and allow the students to answer them with their new knowledge. You can also have them individually research the answers and then regroup to discuss misconceptions. This activity allows more reserved learners to voice their concerns without drawing attention to themselves, while empowering students to share critical information with one another. Be sure to discuss whether the ideas they know are true, where they learned them, and the resources they can access to further investigate their questions and/or concerns.

Ideas to Keep in Mind

As you perform these additional activities with your students, you want to keep in mind the key points that the TeachAIDS materials aim to address. By including these ideas in your activities, learners will discover them in multiple situations, cementing their understanding of these sometimes difficult concepts. Below are some general topics to include in the activities on the these pages.

- The Triangle Test
 - Direct Transmission
 - Anyone Can Be Infected
 - The Immune System
 - HIV Testing
 - No Infection Through Animals
 - The 3-Point Mantra and High Risk Fluids
 - How HIV and AIDS Affect the World
- Prevention Methods
 - Personal Connections to Individuals with HIV or AIDS
 - Open Discussion
 - The Government’s Role
 - Symptoms
 - HIV vs. AIDS
 - Treatment
 - Spreading Awareness of HIV and AIDS

Cross the Line

There is often tremendous misinformation circulated among young people about HIV, AIDS, and related concepts, particularly around the transmission of the virus. In addition, basic facts remain unknown to many learners, which increases stigma around this topic. Although many people have questions about HIV and AIDS, individually they may feel alone in their opinions and ideas. With this in mind, it is important to create a sense of community among your students so that they feel connected and more comfortable talking to each other. Cross the Line is an interactive activity that builds awareness of diversity within a group while creating a necessary sense of unity. The activity serves to help students learn more about themselves and their peers, reflect on their self-identities, and appreciate the differences between various opinions.

To perform this activity you will need a large open space (so the students can stand in one single line), along with a number of “yes” or “no” questions related to facts and opinions about HIV and AIDS. Use some sort of a marker to create a line down the middle of the space (e.g., tape, stones). The line should be long enough so that every student can stand next to each other along the line. If space is limited, the students can stand in two parallel lines facing each other. Ask each question out loud, and for every question have the students who “agree” or answer “yes” cross over the line and the ones who “disagree” or answer “no” remain in place. You can ask the students to close their eyes while you ask your question and then make their decision to step forward or remain in place. After taking action, you can allow them to open their eyes and look around them. Make sure you provide students with enough time to decide whether they want to cross the line; they should not feel rushed. It is usually best if this activity is conducted with no discussion. The instructor should ask the students to be silent and express their opinions only through their actions. A full discussion can take place after the end of this activity or after interacting with the animation. This activity works for learners of all ages and is best conducted before viewing the animation.

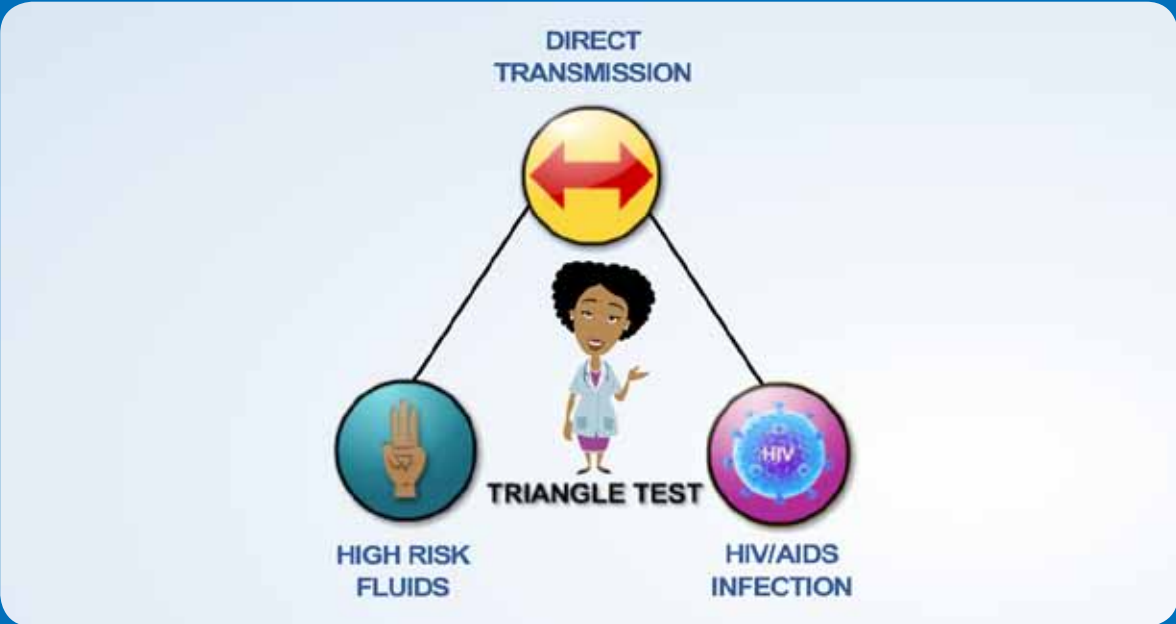
When selecting questions, you will want to start with easier, less controversial questions and work up to more difficult and thought-provoking ones. Some sample questions include:

- Cross the line if you are from _____.
- Cross the line if you are female.
- Cross the line if you have at least one brother or sister.
- Cross the line if you have heard anything about HIV or AIDS.
- Cross the line if you think you know everything about HIV and AIDS.
- Cross the line if you know someone infected with HIV or AIDS.
- Cross the line if you know someone who has died from AIDS.
- Cross the line if you believe anyone can be infected with HIV.
- Cross the line if you would be friends with someone with HIV or AIDS.
- Cross the line if you would share a room with someone with HIV or AIDS.
- Cross the line if you are scared about being infected with HIV.

Two Truths and One Myth

This interactive session is recommended after all the students have completed the animated HIV and AIDS materials. Ask each student to take a few moments to think about two correct facts and one incorrect fact or common misunderstanding about HIV and AIDS. If possible, seat all the learners in a circle so that they can see each other to foster interactivity and open discussion. Go around the circle and have each person state the “two truths” and “one myth” in any order they wish. Students should try to trick the rest of the group or make it difficult for them to guess which statement is the actual myth. After a student has stated all three phrases, the group must guess which presented fact was actually a myth. After the group has reached a consensus, the person making the statement will reveal the correct answer. This student may draw upon various concepts outlined in the animated materials, or ideas he/she knew from the past, to develop the three statements. After each “myth” is revealed, the entire group can discuss the particular item in detail, including why it may or may not be a common misunderstanding.

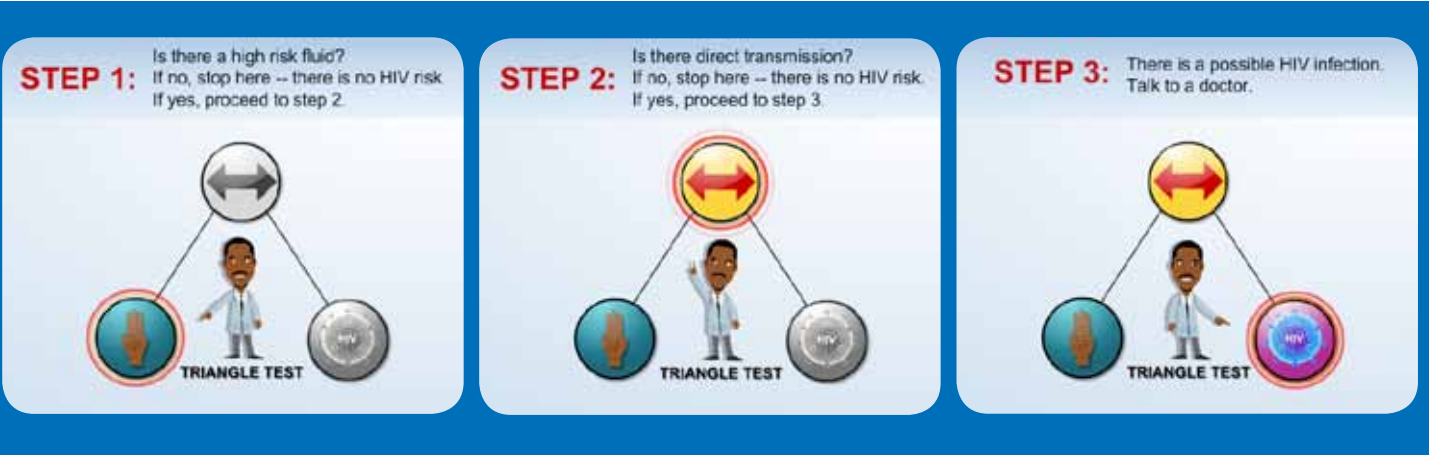
Triangle Test Activity



How do you know if you might be infected?
Use the Triangle Test!

Use the triangle test (from the TeachAIDS animation) to answer the following questions.

- Can you get HIV from swimming in the same area as someone who is HIV-infected?
- Can you get HIV from drinking dirty water?
- Can you get HIV from sharing plates, forks, or glasses with someone who is HIV-infected?
- Can you get HIV from being friends with someone who is HIV-infected?
- Can you get HIV from eating food prepared by someone who is HIV-infected?
- Can you get HIV from donating blood to an authorized blood bank?
- Can you get HIV from touching infected blood with your finger?
- Can you get HIV by living with someone who is HIV-infected, even if you have no sexual relations with him/her?
- Can you get HIV from farm animals?



Open Discussion

Below are selected open-ended questions that may help your class begin a more open discussion around HIV, AIDS, and other related topics. Based on the comfort levels of your learners, please take the necessary steps to create an environment that maximizes discussion and learning.

1. What can you do to help promote awareness of HIV and AIDS?
2. What were some of the misconceptions you had about HIV transmission before interacting with the animated tutorial? How has your knowledge changed since further learning about the subject?
3. Are people from various cultures and backgrounds affected by the HIV pandemic in different ways? Please explain your answer.
4. What segments of the population are at the greatest risk of HIV infection?
5. Do you think most young people are aware of the risks surrounding HIV and AIDS? Do they consider themselves at risk from the virus? Brainstorm innovative suggestions to make young people more aware of HIV and AIDS.
6. With your new knowledge, what are you going to do to take precautions to protect yourself and your loved ones from getting infected?
7. What can we as a society do to make HIV-infected individuals feel less isolated?
8. What questions do you still have about HIV and AIDS? What can we do as a class to address them? What can you do individually to address them?



Answer Key to TeachAIDS Worksheet

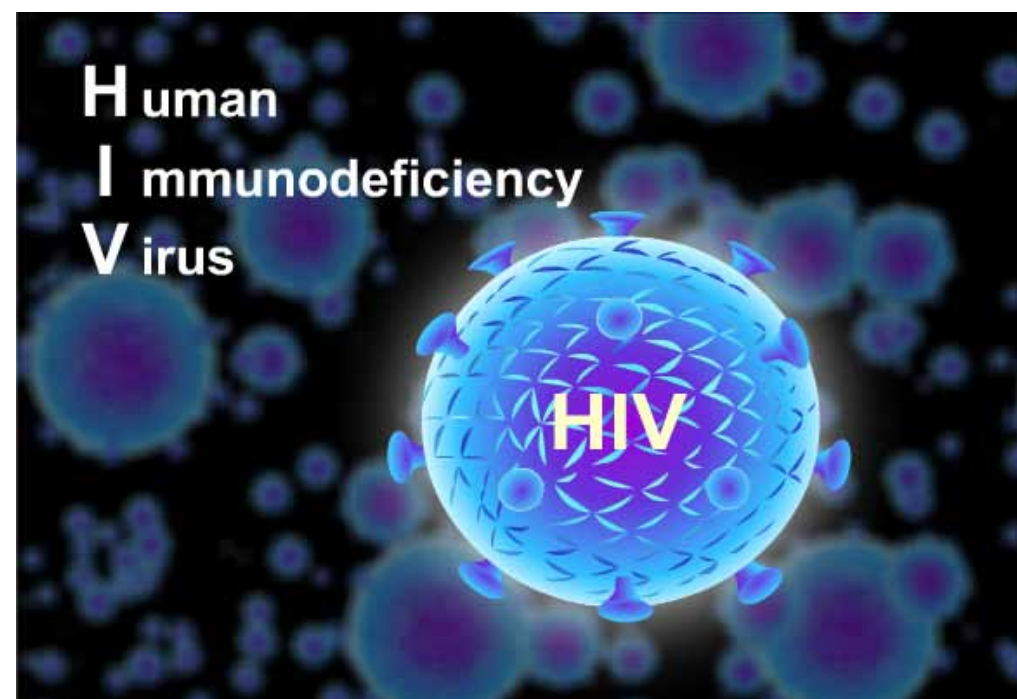
- | | | | |
|---------------|-----------|---|-------------------------------------|
| 1. Blood; | 9. False | 19. High Risk; No Risk; High Risk; | 24. Human Immunodeficiency Virus |
| Breast Milk; | 10. False | No Risk; No Risk; High Risk; No Risk | 25. Breast Milk |
| Sexual Fluids | 11. False | 20. Direct transfer is entrance of infectious | 26. Saliva |
| 2. False | 12. False | agents into body through cuts/wounds | 27. The triangle test is a mnemonic |
| 3. False | 13. False | on skin or natural openings like mouths | device that helps learners assess |
| 4. False | 14. False | or genitals. | whether they are at risk of an HIV |
| 5. False | 15. False | 21. Acquired Immunodeficiency Syndrome | infection. |
| 6. False | 16. False | (AIDS) | 28. Condoms |
| 7. False | 17. True | 22. Prevention | 29. Yes |
| 8. False | 18. True | 23. Army | 30. Anyone |



Dr. Seble Kassaye is trained in Internal Medicine, Pediatrics, Infectious Diseases, and Epidemiology. Her research interests include issues related to mother-to-child transmission, HIV prevention, drug resistance, and HIV treatment monitoring. She has worked as an instructor of Infectious Diseases and Geographic Medicine at Stanford University and has practiced medicine as an Infectious Diseases physician. She is currently a Senior Research Officer at the Elizabeth Glaser Pediatric AIDS Foundation.

1. What is the difference between HIV and AIDS?

SK: HIV stands for Human Immunodeficiency Virus. Viruses differ from other infectious agents, such as bacteria, in their need to infect and use the host in order to multiply. The body's immune system generally protects us from foreign invaders like viruses and bacteria. However, in the case of HIV, the virus attacks and destroys our immune cells called CD4+ T cells. HIV infects these cells and uses their components to duplicate itself. Many new HIV particles are then released from the infected CD4+ T cells, and the cycle of infection continues. Following virus multiplication, the infected CD4+ T cells die, and their decreased numbers drastically reduce an HIV-infected person's ability to fight foreign agents.



AIDS stands for Acquired Immunodeficiency Syndrome. This syndrome was first recognized in 1981, when young, previously healthy individuals were identified to have uncommon infections usually seen in people with impaired immune systems. These infections, known as opportunistic infections or AIDS-defining illnesses, arise due to a weakened immune system which cannot protect the host from foreign invaders. In 1983, researchers identified the cause of AIDS to be HIV.

2. Where did HIV come from?

RS: HIV appears to have evolved from a virus similar to itself, the Simian Immunodeficiency Virus (SIV), which infects chimpanzees but does not harm them. Multiple alterations of SIV resulted in a virus that was able to cross over to humans and produce immune deficiency. The birth of HIV from SIV is said to have occurred in the African nation of Cameroon, perhaps in the early to mid-1900s. Evidence of human HIV infection has been traced back to 1959 in an African man in the Congo, and HIV is known to have been present in the United States by the 1970s, several European countries by 1982, and Asia by 1985.

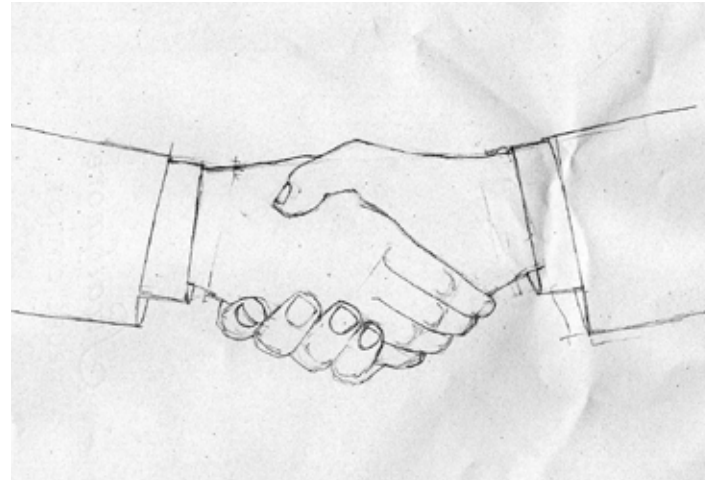


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3. Can I get HIV from mosquito bites?

SK: HIV is a virus that is transmitted through direct contact with infected blood and/or body fluids. It only infects humans. Furthermore, mosquitoes are not hosts for HIV. This is because when a mosquito feeds on humans, human blood is ingested in the stomach of the mosquito. HIV does not survive the digestion process within the mosquito and, thus, does not replicate within mosquitoes. Mosquitoes, then, are a dead-end host for HIV, and the life cycle of HIV cannot be completed within the mosquitoes, preventing HIV transmission to humans.





4. Can I get HIV from using an HIV-infected person's hygienic products, like toothbrushes or razors?

RS: HIV is not spread by casually touching an infected person or their belongings. The virus itself does not survive outside of human cells for a long period, and its transmission is most likely if blood or sexual fluids have a way of entering the body through private parts or abnormal openings, such as cuts and sores. Although there have been a few scientific reports on possible transmission through razor sharing, these cases are far from definitive. Regardless, because there is a theoretical chance that blood from one individual could be transferred to another by sharing toothbrushes or razors, it is not recommended to use anyone else's hygienic products.

5. Can I get HIV from a tattoo or a body piercing?

RS: A risk of HIV transmission does exist if instruments that are contaminated with blood are either not sterilized or used inappropriately between clients. The CDC recommends that instruments that are intended to penetrate the skin be used once, then disposed of or thoroughly sterilized. Regardless of any country's safety requirements, one should always check with appropriate authorities to ensure proper sterilization procedures and/or single-use instruments are being used.

6. Can I get HIV from kissing or casually touching an HIV-infected person?

RS: As I said in my earlier answer, HIV is not transmitted via casual contact. Saliva itself is not a high-risk fluid, except when blood is in saliva because of cuts or sores in the mouth. It is impossible to transmit HIV through closed-mouth kissing or kissing on the cheek. Even if the other person has the virus and has blood in his/her saliva, unbroken skin is a good barrier to transmission. No one has ever become infected from such ordinary social contact as dry kisses, hugs, and handshakes. There is some theoretical risk with open-mouth kissing and deep kissing if sores or cuts are present, but even these activities are considered low-risk activities for HIV transmission.

7. Does pre-chewed food infect babies?

RS: It would be unusual for HIV to pass from a mother to her child in food that is pre-chewed by the mother. For this type of transmission to occur, the mother would need to have open sores that allow blood to get into the food. While the mucous membranes of the baby's mouth could allow transmission, infection would be more likely if the baby also had sores that would allow HIV to pass more easily into his/her body. The food itself is not the problem, but the presence of blood in the food could be.

8. How do I prevent HIV transmission when interacting with an infected person at home, work, or the doctor's office?

RS: It is very difficult for HIV to be transmitted between family members in a household setting. Those cases that have been reported are likely a result of contact between skin or mucous membranes and/or HIV-infected blood. It is reasonable to use universal precautions to prevent even such rare occurrences at home, work, or the doctor's office. For example, practices that increase the likelihood of blood contact, such as sharing of razors and toothbrushes, should be avoided. Gloves should be worn when there is any chance of contact with blood. This same precaution should be used for other body fluids, including urine, feces, and vomit. Cuts, sores, and breaks on either the caregiver's or patient's exposed skin should be covered with bandages. Hands and other parts of the body should be washed immediately after contact with blood or other body fluids, and surfaces soiled with blood should be disinfected appropriately. Moreover, needles and other sharp instruments should be used carefully. These basic universal precautions are present in most doctors' and dentists' offices. Even though the chance of HIV infection is low in these settings, one should always take reasonable measures to ensure his/her safety.

9. What are the different tests available for detecting HIV?

SK: When HIV transmission first occurs, HIV infects CD4+ T cells. The virus is able to reproduce within these cells very rapidly and is released into the surrounding tissue or blood. The virus spreads within the entire body, to different organs, within a few days, resulting in a high viral load. Viruses and viral proteins can be detected in the blood in the early infection stage. The infected person mounts an immune response to the virus and begins to make antibodies. These antibodies can be detected within a few weeks of infection. However, some individuals take up to a few months to make enough antibodies to be detected.

Commonly used HIV tests rely on the detection of HIV antibodies. These tests can be performed on blood or oral secretions and are very sensitive in detecting infections but occasionally can be positive even if there is no infection. It is, therefore, common practice to confirm the test by either using a different second antibody detection test or by directly looking for HIV proteins using a test called Western Blot.

If the body has not yet had the opportunity to mount an immune response, or make enough antibodies, it is important to understand that HIV antibody tests can be negative early in infection. This is called a "window period," meaning the HIV virus is present before enough antibodies are detectable using the above tests. It is, thus, recommended that people who may be at risk of infection return for HIV testing 3 to 6 months after a negative antibody test.

During the time after infection but before enough antibodies to HIV are produced, it is possible to detect infection by looking directly for viral particles and/or proteins. These tests are extremely sensitive in detecting infection but are labor-intensive and expensive to perform. Direct HIV detection methods looking for HIV particles or proteins are performed by blood banks in most western countries. They are sometimes used in research settings, public health departments, and medical facilities. Low positive levels may be inaccurate in identifying infection, and in such cases, the test needs to be repeated to confirm the diagnosis.



Talented hip hop artist and Idols East Africa Judge, "Scar" rehearsing his lines for the TeachAIDS Botswana animations.



10. What vaccines or medicines are there for HIV and AIDS?

SK: Vaccines are primarily designed to prevent infection by exposing the human to either dead or inactivated infectious agents (such as the polio or chickenpox vaccines) or by using protein pieces that resemble the infectious agent (such as the hepatitis B vaccine). Injection with these materials stimulates an immune response in the body and results in full or partial immunity to the infectious agent. The next time the individual is exposed to the infectious agent, the immune system will recognize the agent, and an immune response will be triggered to prevent the infection from taking hold. Now, many vaccines exist to prevent common illnesses. Unfortunately, research efforts have not yet resulted in a vaccine to protect against HIV infection. For infected individuals, medicines are available that can control HIV virus replication, thereby protecting uninfected CD4+ T cells by limiting the amount of HIV virus that is circulating in the body. However, available medicines do not cure people of the infection. Currently, there are 26 drugs called antiretroviral medications. They target different parts of the viral life cycle. Some are used simultaneously to decrease active replication of HIV, which then reduces the viral load.



Popular national radio host, “Jazelle” recording her lines for the TeachAIDS Botswana animations.

Recent research findings have shown that oral antiretroviral medications and microbicide gels that are inserted in the genital tract can be used to prevent sexual transmission of HIV. Further policy and research is being conducted to determine the best use of these agents. Circumcision of males has also been shown to decrease the risk of transmission from females to males, and circumcision is being implemented as a prevention tool in countries with high burden of HIV infection and low rates of circumcision.

11. What will happen if an HIV-positive person discontinues treatment?

SK: Dormant infected CD4+ T cells can remain in the body for long periods, and if the antiretroviral medications are interrupted, HIV can once again replicate. This will result in an increase of HIV levels in the blood and infection of CD4+ T cells, which, in turn, leads to a decline in the person’s immune functioning. Consequently, the individual becomes vulnerable to infections associated with untreated HIV infection.

Interruptions in HIV treatment can also allow the virus to develop resistance to the antiretroviral medications, and so starting and stopping of antiretroviral medications without the advice of a physician is not recommended. In general, based on our current knowledge, antiretroviral medications, once started, should continue for life.

12. How can ART minimize the chance of mother-to-child HIV transmission?

SK: An infant can become infected with HIV from its mother during pregnancy, delivery, or breast-feeding. About a quarter of babies are infected if the mother is HIV-positive and no interventions are made. The reason ART decreases the chance of vertical transmission is that it reduces the amount of infectious HIV circulating in the blood stream and other bodily fluids, thus, minimizing the chance of the HIV virus passing onto the baby. Different types of ART can be used safely during pregnancy. There are national and international guidelines to advise health care workers on the appropriate use of ART for prevention of vertical transmission. If there are safe alternatives to breast milk, like powdered milk, mothers are encouraged to avoid breast-feeding. However, this is not possible in many parts of the world, and in that case, exclusive breast-feeding is preferred. There are now studies that show that giving mothers or babies antiretroviral medications during breastfeeding can decrease the chance of transmission of HIV from mothers to infants, and the most recent international guidelines recommend such preventive measures throughout the duration of breastfeeding.



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“TeachAIDS has worked with an incredible team of world-class experts, governments around the world, and UNICEF to create a clear way to understand what you need to know about HIV and AIDS. Their tutorials are being used globally and are quickly becoming the standard in HIV and AIDS education. Explore and use this innovative tool. Challenge the myths and misconceptions that still exist in our society... Make use of this HIV knowledge and work hard to stay informed and protected. After all, there is only one you.”

**Festus Gontebanye Mogae,
Former President of Botswana
Chairman of the Champions for an HIV-Free Generation**



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