

DIRECTIONS

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IN GLOBAL HEALTH

SPECIAL
ISSUE ON
**PATH's work
in HIV/AIDS**

Responding to the HIV/AIDS pandemic

**PATH strengthens technologies, systems,
and behaviors to save lives**

THE WORLD HAS STRUGGLED TO CONTAIN HIV AND AIDS FOR NEARLY three decades. Despite advances on many levels, the pandemic continues to devastate entire countries and regions. Maintaining a sense of urgency can be difficult against this backdrop. And yet, in a world where someone dies every 15 seconds from an AIDS-related illness, there has never been a more urgent need for truly sustainable solutions.

Responding effectively to HIV/AIDS requires addressing a host of interconnected medical, social, cultural, and economic issues. Underlying these elements are myriad social inequities, such as poverty and gender inequality, that contribute to the risk of HIV and subsequent disease, particularly in resource-poor settings. An understanding of these inequities must be at the heart of our global effort.

PATH's response to the AIDS pandemic unfolds on multiple levels. We work with individuals and communities to encourage behaviors and social norms that can prevent HIV infection. We collaborate with health care providers, governments, and other organizations to strengthen the health systems that bring HIV/AIDS services to families and communities. And we join with public- and private-sector groups to develop and introduce low-cost technologies to improve prevention, diagnosis, and treatment, especially in low-resource settings.

In the time it took to read this page, four more people have died from AIDS or its complications. How do we respond, now?



PATH/Mike Wang

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Behavior change communication

Project names

APHIA II (Eastern province, Nyanza province, and Western province, Kenya), Dialogues for Life, IMPACT, ROADS, Scouting for Solutions

Locations

Eritrea, India, Kenya, Nepal, Tanzania, Uganda, Vietnam

Methods

Magnet theater, dialogue groups, behavior change communication

Partners

Elizabeth Glaser Pediatric AIDS Foundation, EngenderHealth, Family Health International, Kenya Scouts Association, JHPIEGO, Society for Women and AIDS in Kenya, Uganda Scouts Association, World Vision

Funder

US Agency for International Development

For more information

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Visit www.path.org/projects/magnet_theater.php to learn more about magnet theater.

PATH is empowering communities to be arbiters of their own health.

Unlocking the doors to community dialogue

Interactive techniques engage communities in healthier behaviors

INVOLVING COMMUNITIES IN THEIR own health and decision-making can help populations mobilize themselves for HIV prevention. When people are engaged in open discussions about their sexual health, they can reduce fear, stigmatization, and a reluctance to talk about HIV and thus fuel wider social change.

In areas most affected by the HIV/AIDS epidemic, PATH is empowering communities to be key arbiters of their healthy behaviors through the use of dialogue groups, interactive approaches to understanding and addressing sexual dilemmas, and the magnification of success stories. PATH has pioneered several interactive approaches that encourage communities to engage in dialogue and adopt healthy behaviors.

Diverse groups for improved participation and dialogue

Individuals do not always feel comfortable talking about

reproductive health issues, especially when it means going against established conventions within families or communities. As part of a 2004 project in Kenya, PATH developed family discussion groups to help clusters of families—parents and their adolescent children—explore health issues together.

These heterogeneous groups challenge conventional wisdom about who talks with whom in communities. In western Kenya, for instance, women are described as hesitant to speak in the presence of their husbands; children, similarly, are said never to express themselves openly when parents are around. PATH designed new facilitation approaches that dissolve these barriers to communication. Trained facilitators continue to lead weekly discussions with groups of at least six peer families about family roles, relationships, and communication on health-related problems and solutions.

Key populations take part in HIV prevention

In India, PATH is engaging groups of people most directly and acutely affected by HIV—sex workers, males who have sex with males, people who inject drugs, and people living with HIV—to mobilize themselves for HIV prevention, treatment, and care and to influence interventions and services. With the support of the

UK Department for International Development and the Bill & Melinda Gates Foundation, PATH has developed a participatory, dialogue-based interpersonal communication approach known as InterAct to help these key populations identify and solve barriers to practicing HIV prevention and care in their own lives and within their own contexts. Since 2005, more than 5,000 people from key populations in India have been trained to facilitate InterAct methods.



PATH

Heterogeneous groups are now used in communities in Kenya and elsewhere in sub-Saharan Africa. Participating families discuss real-life situations, redefine their roles, and address health issues such as abstinence, condom use, family planning, alcoholism, domestic violence, and parent–child communication. The groups provide support and advice and give families a better understanding of reproductive health issues. They also link families to health services and resources in their communities.

Half-told stories encourage interactive discussion

Evidence suggests that interventions involving people in dialogue and interactive problem-solving may be more effective than didactic messages for changing behavior. The “half-told story” is another approach PATH uses to engage audiences, sustain their participation, and encourage healthy behaviors.

In this technique, audiences are presented with an imaginary story played out by actors who freeze when one of the characters is facing a behavioral dilemma—for example, a girl being pressured by her boyfriend to have sex even though she wants to wait until marriage, or a man who is HIV positive but torn about telling his wife. The facilitator persuades audience members to step into the performance and enact possible endings to the dilemma. The audience discusses each possible solution, then shares real-life community examples of similar situations and their outcomes. By avoiding endorsing any one solution as “correct,” the facilitator enables the discussion to migrate from street corners and community halls into living rooms.

Today, many PATH-trained facilitators use the half-told story in participatory theater, within family discussion groups, and as part of peer education programs. In India,

PATH/Mike Wang



Interactive community events that focus on real-life dilemmas can foster shared understanding and individual insights.

PATH and partners have trained a range of groups—sex workers, males who have sex with males, and people who inject drugs—to perform interactive “magnet theater” for audiences of their peers. The performances address community norms that influence HIV prevention, treatment, and care-seeking practices. In 2007, in ten districts in Andhra Pradesh state alone, nearly 11,000 people from these key populations attended the performances.

Community successes spur transformation

PATH believes that when communities identify and reflect on their predicaments and share their accounts, the chances that individuals will modify their behavior increase dramatically. One person’s real-life story of personal transformation can inspire entire communities to change.

PATH uses a process known as “magnification” to share these verified stories of personal change through a variety of platforms, from

community theater performances and local meetings to community radio and serial dramas. In sub-Saharan Africa, for example, PATH developed a nationally broadcast radio drama and talk show that brings together young people to share how they have improved their lives by using condoms, reducing their number of sexual partners, seeking voluntary counseling and testing or treatment of sexually transmitted infections, or making other healthy choices.

Influencing change

PATH has found that community participation can help influence behaviors and encourage people to improve their reproductive health. Innovative approaches that draw together families and neighbors can help people evaluate their perceptions and actions and take positive steps toward slowing the spread of HIV. ■

Tuberculosis

Integrating responses to tuberculosis and HIV/AIDS

Strengthening health systems to address dual epidemics

Project name

Integration of TB and HIV programs and services

Locations

Cambodia, Kenya, Tanzania, Ukraine, Vietnam

Methods

Advocacy, behavior change communication, systems strengthening, technical assistance

Partners

Cambodia: CENAT (National TB Program), Pharmacists Association of Cambodia, provincial health departments

Kenya: Division of Leprosy, Tuberculosis, and Lung Disease

Tanzania: Association of Private Health Facilities in Tanzania, Ministry of Health and Social Welfare, National AIDS Control Program, National TB and Leprosy Program, province and district health offices

Ukraine: All-Ukrainian Network of PLHIV, Coalition of AIDS Service Organizations, National TB Program

Vietnam: Hai Phong Provincial Health Department

Global: Health Strategies International, HLSP, Initiatives Inc., Stop TB Partnership, World Health Organization

Funder

US Agency for International Development

For more information

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LONG BEFORE THE EMERGENCE OF HIV/AIDS, tuberculosis (TB) was one of the chief villains of global health. Although widespread use of antibiotics and improvements in public health reduced TB's shadow in the 20th century, the incidence of TB has surged tenfold in some countries in recent years, due in part to its deadly synergy with HIV/AIDS.

TB is one of the major causes of death among people living with HIV, especially in sub-Saharan Africa. Globally, 12 percent of deaths among people with HIV/AIDS are due to TB, and the number reaches 50 percent in some settings.¹ In parts of Africa, up to 80 percent of adults with TB disease are also HIV positive. In a recent outbreak in South Africa, 98 percent of people with extensively drug-resistant TB, all of whom had HIV, died within weeks.²

Worldwide, however, only a small number of people with TB are tested for HIV, and even fewer people with HIV are screened for TB. To improve access to services among people co-infected with TB and HIV, PATH is working to integrate responses to these diseases, especially in resource-poor settings.

A two-tier approach

PATH works both nationally and locally to combat the TB-HIV problem. At the national level, PATH advocates for and provides technical assistance for integrating policies, strategies, and service-delivery models related to both infections. At the local level, PATH helps integrate detection and treatment services, including:

- Developing and implementing pilot projects to provide TB and HIV services under one roof.
- Strengthening laboratory systems needed for TB and HIV diagnosis and management.
- Improving access to and use of essential supplies and drugs for both diseases.
- Educating communities and health workers to reduce the stigma that keeps many people from seeking timely care.
- Cross-training TB and HIV/AIDS program staff to manage both diseases and provide referrals to other support services that make treatment accessible and feasible for patients.

PATH is currently working to integrate programs and services in Tanzania and Kenya, both of which have very high burdens of co-infection. We are also working in Vietnam, where there is a growing rate of co-infection, and in Ukraine, where services for people with both diseases are unavailable.

Building capacity in Africa

In Tanzania and Kenya, PATH uses TB-HIV coordinators to integrate services. They work hand in hand with district health facility staff to provide training, coordinate care, and support surveillance activities.

In Tanzania, where approximately one-half of those diagnosed with TB are also HIV positive, PATH is strengthening health care providers' capacity while educating communities about available services.

Working in more than 30 districts, including the islands of Zanzibar, PATH has trained more than 250 health workers in integrated TB-HIV services, and more than 120 health facilities now offer integrated care. PATH helped Tanzanian officials recruit seven new district TB-HIV coordinators and create three regional and eight district TB-HIV coordinating committees to ensure the long-term sustainability of the project. More than 13,000 patients have received integrated TB-HIV services since the project began.

In Kenya, where up to 55 percent of TB patients are now HIV positive,³ the project team has trained health workers in 15 districts in providing services for TB-HIV co-infection. Since the project's inception, 35 additional facilities have begun providing HIV testing and services for all TB patients, 65 additional facilities are providing comprehensive care for HIV-positive TB patients, and 30 more facilities are offering TB diagnostic services for HIV-positive individuals. More than 2,800 HIV-positive clients have received TB treatment so far, and more than 5,300 TB clients have been tested for HIV. PATH and our partners have also facilitated six province-level coordination planning meetings with representatives from TB and HIV/AIDS services.

Launching new work in Asia and Eastern Europe

On the national level, our efforts in Cambodia, Ukraine, and Vietnam center on policy development. On the local level, we focus on unique opportunities and challenges for integrating services in each of these countries.

In Cambodia, for example, PATH is building on previous collaborations with provincial health departments to develop “one-stop” services for individuals with TB-HIV co-infection, including screening for TB among people with HIV.

In Ukraine, where health workers typically have a more limited view of their responsibilities concerning service integration, programs continue to operate separately. To overcome this challenge, PATH has assessed existing services and facilitated planning with local officials to identify feasible approaches to better meet the needs of co-infected people.

In Vietnam, PATH has collaborated with leaders of Hai Phong City to select three districts for a project to involve pharmacies in improving and integrating TB and HIV services. About 200 pharmacists and pharmacy staff attended orientation workshops in early 2008.

Building on success

Strengthening countries' capacities to respond effectively to both TB and HIV should help mitigate the impact of these dual epidemics and protect millions of lives. Our future activities will include close collaboration with both the public and private sectors to integrate services. PATH and our many partners will develop strategies to improve joint planning and surveillance; strengthen health

facility and referral systems; upgrade provider skills in communication, counseling, and service delivery; and improve facilities' capacity to diagnose and treat both diseases. ■

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3. Chakaya JM, Mansoor JR, Scano F, et al. National scale-up of HIV testing and provision of HIV care to tuberculosis patients in Kenya. *The International Journal of Tuberculosis and Lung Disease*. 2008;12(4):424–429.

Strengthening laboratory systems is one of several approaches PATH is using to integrate TB and HIV detection and treatment.



Adolescent health

Project name

Teenpath

Location

Thailand

Methods

Advocacy, behavior change communication, technical assistance, training

Partners

Numerous offices in the Ministry of Education and Ministry of Public Health; AIDS Access Foundation; Faculty of Nursing, Prince Songklanakarin University; Health Counterparts Consulting; JWT; Lampang Provincial Health Offices; Office of Disease Control, Region 5; Prasri Mahapo Hospital; and ten Rajabhat Universities

Funder

The Global Fund to Fight AIDS, Tuberculosis and Malaria

For more information

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Teenpath is helping adolescents make informed and responsible choices about sexual health.

Protecting youth against HIV

Education and dialogue for adolescents in Thailand

ALMOST HALF OF ALL HIV INFECTIONS IN Thailand occur among adolescents and young adults. Too often, inadequate knowledge and poor sexual negotiation skills contribute to low rates of condom use and the continued spread of HIV, especially in low-income, urban areas.

Through the five-year Teenpath project, PATH is facilitating HIV/AIDS and sexuality education for young people, both to prevent HIV transmission and to promote responsible sexual behaviors. Teenpath is changing how Thai youth access information about sexual and reproductive health and building public support for dialogue.

Tailoring HIV education to youth

Teenpath targets youth between the ages of 11 and 18 years. To reach this audience, the project works through schools and informal education programs.

After reviewing existing sexuality-education curricula and available literature, PATH staff developed a comprehensive 16-hour education curriculum. The curriculum is based on the premise that young people will make good decisions when they have complete and accurate information; it is also tailored to students' needs, abilities, interests, and learning styles. In this environment, the teacher is a facilitator of learning, and learning is participatory and experiential.

The project includes supervised extracurricular activities, such as camps that incorporate sexuality education into computer games and



School programs, interactive games, and online discussions are helping Thai adolescents learn life skills and practice healthy behaviors.

drama. In addition, the Teenpath website, teenpath.net, serves as an engaging source of sexual health information. It reinforces content from the curriculum and provides a place for peers to talk about the challenges they face.

Integrating HIV education into schools

Working with regional partners, PATH identifies schools interested in implementing the Teenpath curriculum. Because sexuality education has not been widely or consistently taught in Thailand, and because the Teenpath approach represents a departure from traditional instruction methods, school administrators and teachers require training in both content and methodology. PATH and our partners train carefully selected local educators, who then train and coach others. The Teenpath team also works with ten universities throughout

Natarat Thani

Thailand to teach sexuality-education methods to aspiring teachers.

Teenpath encourages collaboration and dialogue between partners and project sites. For example, the project supports national and regional conferences on sexuality education for young people, experience-sharing workshops and refresher trainings for teachers and school administrators, and online discussion forums. In addition, the project produces an array of informational materials.

Nurturing conversations among youth

To empower youth to educate their peers and model healthy behaviors, Teenpath has held more than 50 camps at which young people make their voices heard using a variety of communication channels, including drama, information technology, and mass media. Project staff encourage participants to join in developing interventions to help others make informed and responsible choices about sexual health. For example, camp participants have developed a social-marketing campaign for condoms, surveyed adult attitudes toward condom sales at secondary

schools, and forged networks of youth leaders to encourage advocacy for sexual and reproductive health and rights.

Facilitating lasting change

Support for comprehensive sexuality education is needed from gatekeepers and stakeholders at multiple levels. PATH has met with key government ministries, including the Ministry of Education, to ensure support from the highest levels of government.

To ensure that sexuality education is lastingly integrated into school systems, PATH has advocated for supportive school policies and dedicated resources. This includes holding regular tours of project sites for policymakers and media representatives. Teenpath also works to build support among parents and communities through outreach activities such as workshops to promote parent-child communication about sexuality and sexual health.

Achieving results, meeting future challenges

The number of schools in Thailand using the Teenpath curriculum

grew from 135 to more than 700 from 2004 to 2008, and 5,000 teachers have received training. The curriculum has been adopted by a number of schools that are not officially part of the project but are eager to adopt the Teenpath model. In addition, in 2007, the Teenpath website received more than 50,000 visitors each month, making it one of the most frequently visited health sites in Thailand.

Improvements in young people's knowledge and skills with regard to sexual health will likely increase demand for sexual and reproductive health services in Thailand. To meet this challenge, Thailand's National Health Security Office has asked PATH to develop a model network for youth-friendly reproductive health services for low-income adolescents, including voluntary counseling and testing for HIV. Other services will include contraceptive counseling and provision, as well as the diagnosis and treatment of sexually transmitted infections. Thirteen pilot clinics will be opened in Bangkok in 2008, and PATH anticipates expanding to eight provinces over the next three years. ■

Healthy choices for youth in China

PATH has worked closely with local partners to bring reproductive health and life-planning skills training to young girls (aged 11 to 19 years) in rural areas in China since 2006. Initially implemented in 16 primary and secondary schools in Guangxi Province, the program has expanded to 126 schools over two years, reaching more than 85,000 students.

PATH and our partners evaluated the project's impact in increasing awareness of gender inequity issues, improving knowledge of reproductive health and self-protection, and enhancing life-planning skills among participating schools and students. The results show that participation in the project improved students' self-esteem significantly and increased knowledge of reproductive biology and drug abuse prevention. The results also showed that the project effectively provided students with the knowledge and skills

necessary to avoid behaviors that would place them at risk of HIV infection and other threats to health.

Students overwhelmingly welcomed the new curricula and activities, and parents and community leaders were impressed with changes in students' knowledge and attitudes. As China faces an emerging AIDS epidemic and increasingly early age of sexual debut, these changes will help adolescents make healthy, self-protective choices.



PATH/Lisa Mueller

Gender

Challenging gender norms to reduce the spread of HIV

Proven interventions encourage men to change their behaviors

Project names

Breaking Gender Barriers, Male Gender Norms Initiative

Locations

China, Ethiopia, Kenya, Namibia, Tanzania

Method

Behavior change communication, community mobilization, evaluation, and technical assistance

Partners

China: China Family Planning Association

Kenya: Kenya Scouts Association

Ethiopia, Namibia, and/or Tanzania:

EngenderHealth, HIWOT, Instituto PROMUNDO, LifeLine/Childline, Miz-Hazab, Research Facilitation Services, local partners

Funders

Nike Foundation, US President's Emergency Plan for AIDS Relief

For more information

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EVIDENCE INCREASINGLY SUGGESTS that common societal norms about sexuality and gender, such as pressure for men to have multiple sex partners, can lead to risky sexual behaviors and result in HIV, unwanted pregnancy, and intimate partner violence.¹

PATH is using strategies that challenge support for inequitable gender norms and promote improved sexual and reproductive health for boys and men and their partners. Adapting our successful work in India and Brazil, PATH and our partners use behavior change interventions in schools, community groups, and workplaces to foster gender equity and encourage safe sexual practices.

Merit-based programs foster skill-building, reflection

PATH promotes positive notions of masculinity by using incentive programs in Kenya and China. In partnership with the Kenya Scouts Association, PATH is introducing a new merit badge that encourages gender equity through skill-building and dialogue-driven activities. The project targets teens in more than 200 schools across Kenya. In China, PATH and the China Family Planning Association will implement facilitator-led discussion groups about gender issues and nonviolent behavior with young men in urban workplaces.

To measure the impact of both programs, staff will use the Gender Equitable Men Scale, developed by PATH and our partners, which evaluates attitudes about gender norms related to HIV/AIDS prevention, violence, sexual relationships, and domestic life.

Gauging the effects

As these initiatives are implemented in different contexts, evaluations of their effectiveness become increasingly important. PATH is now evaluating interventions in Africa that strengthen the capacity of local groups to implement gender-focused HIV prevention programs and address male gender norms associated with increased HIV risk.

In Ethiopia and Namibia, PATH will measure the outcomes of gender-focused activities among men, including group education and community mobilization activities, and compare these outcomes to a control group. The interventions, implemented by a partner organization, will involve young men in youth groups and adult prison guards. In Tanzania, PATH will evaluate the process of strengthening the capacity of local groups to implement gender-focused interventions.

PATH's work to improve gender equity to reduce the spread of HIV and other sexually transmitted infections and reduce gender-based violence will give organizations and governments evidence about which strategies are most appropriate and successful. It will also enhance the base of knowledge about how to scale up similar interventions and better protect the health of both women and men. ■

REFERENCE

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Converging HIV and reproductive health services

Using integration to make the most of every opportunity

Project name

HIV–SRH Convergence Project

Locations

India, Kenya, South Africa

Methods

Advocacy, technical assistance, training, behavior change communication, operations research, capacity-building, systems strengthening

Partners

Andhra Pradesh State AIDS Control Society, Bihar Network of Positive People, Bihar State AIDS Control Society, Indian National AIDS Control Organization, Indian National Institute of Research in Reproductive Health, Janani, Telegu Network of People Living with HIV, and many other local groups

Funders

The William and Flora Hewlett Foundation, the David and Lucile Packard Foundation, UK Department for International Development

For more information

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Visit www.path.org/projects/convergence_project.php to download a literature review, policy brief, and more.

SERVICES FOR HIV/AIDS AND FOR sexual and reproductive health (SRH) are often offered by different health care providers through separate programs. Given the inherent overlap between these health issues, however, a more integrated approach to HIV/AIDS and SRH programs and networks can help to increase access to services and improve care.

PATH uses the term “convergence” to describe our approach to strengthening and integrating health systems to meet HIV/AIDS and SRH needs. At a minimum, convergence involves setting up systems for mutual referrals and communication. Convergence can also mean integrating services—for example, by introducing family planning services in HIV clinics or by counseling couples on mother-to-child transmission of HIV during prenatal visits.

Exploring needs and approaches in India

In the first phase of our convergence work, PATH conducted formative research on opportunities for service integration and potential challenges in India. We started this research from the perspective of clients of health services and focused on integration of service demand. We interviewed hundreds of people living with HIV or at high risk of HIV, service providers, and policymakers in four states. A key finding was that sex workers and people living with HIV preferred using HIV service providers because of the stigma and discrimination

they experience when accessing mainstream health services.

In the second phase of this work, PATH is piloting convergence projects in two states, Andhra Pradesh and Bihar. Activities include helping to train hospital staff and private health care providers to reduce stigma and address the SRH needs of sex workers and people living with HIV. PATH is also working with civil society groups to develop communication strategies and materials to increase the demand for HIV and SRH services.

Expansion to Kenya, South Africa, and beyond

In 2007, PATH began similar efforts in Kenya and South Africa, where we are testing convergence approaches as leveraged initiatives within larger programs, such as the US President’s Emergency Plan for AIDS Relief. In Kenya, we are working in the rural Rachuonyo District to link married adolescent girls with family planning information and services. In South Africa, we are training selected health workers to provide family planning and counseling along with services to prevent mother-to-child transmission of HIV.

These efforts are providing a platform for expanding convergence activities and identifying lessons for additional countries with high HIV rates. We plan to thoroughly disseminate the results to help develop best practices that are appropriate to local needs. ■

Technologies

Technologies for HIV and AIDS

Advancing innovative tools for prevention, diagnosis, and treatment

Project name

Technology Solutions
Global Program

Locations

Global

Methods

Technology research, development,
and introduction; clinical trials;
public-private partnerships;
technology transfer

Commercial partners

BD, Boehringer Ingelheim,
PortaScience, Span Diagnostics,
Wiener Laboratories, Yayasan Hati
Sehat, and multiple syringe and jet
injector manufacturers

Other partners

Columbia University HIV Center
for Clinical and Behavioral Studies;
Concept Foundation; Elizabeth Glaser
Pediatric AIDS Foundation; Family
Health International; John Snow, Inc.;
Initiatives, Inc.; National HIV/AIDS
and STD Control Program of Kenya;
Profamilia; Queens University of
Belfast; University of Washington

Funders

US Agency for International
Development (through the
HealthTech program), Sapling
Foundation, US Centers for Disease
Control and Prevention, US National
Institutes of Health, Bill & Melinda
Gates Foundation, Doris Duke
Charitable Foundation, Imperial
College CD4 Initiative, US Food and
Drug Administration

For more information

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Visit [www.path.org/
publications/series.php?i=5](http://www.path.org/publications/series.php?i=5) to
obtain detailed information on
PATH technologies.

PATH'S APPROACH TO TECHNOLOGY
development hinges on a thorough
understanding of users' needs
and on productive collaboration
with both public and private
organizations. In all of our efforts,
we focus on products that are
"appropriate," meaning that they are
affordable, accessible, and culturally
acceptable to potential users. Many
prevent HIV infection or help in
diagnosis and treatment.

Preventing HIV transmission

Nevirapine pouch. Nevirapine is
a low-cost drug that can prevent
mother-to-child transmission of HIV
during labor and delivery. To facilitate
its use during home births, PATH
partnered with government agencies,
nonprofit groups, and the primary
manufacturer of the donated drug
to improve single-dose packaging of
nevirapine syrup for infants. After
developing and testing numerous
packaging candidates, we piloted the
most promising option in 2006 in
Kenya, where it received high marks

from health workers and mothers. It
is now being introduced countrywide
in Kenya and other countries.

Microbicide applicators. The world
eagerly awaits the development of
microbicides, topical compounds
that will protect against sexually
transmitted infections, including
HIV. Meanwhile, to ensure that
successful microbicides move
quickly into use, PATH has been
leading studies related to applicators
for delivery of the gels. Interviews
with almost 1,000 women in the
Dominican Republic and South
Africa have helped us understand
what women value and need in a
microbicide applicator. We are now
determining how new applicators
can be moved through the regulatory
process quickly and efficiently.

SILCS diaphragm. One potential
microbicide applicator invented
by PATH is a redesigned, user-
friendly, one-size-fits-most version
of the diaphragm. Originally
developed to meet women's needs
for another acceptable contraceptive

Wendy Stone



Technologies
such as this
nevirapine
pouch can
help minimize
the risk of HIV
transmission.
Others improve
diagnosis and
treatment
of AIDS.

method, this device, when combined with a microbicide, may be an appealing option for preventing HIV infection as well as pregnancy. We are now conducting technical studies to determine effectiveness for both purposes.

The PATH Woman's Condom. PATH also has developed a condom for women with input from couples in four countries. During testing, the PATH Woman's Condom proved easy to handle, comfortable, and highly acceptable for both partners. We will release results from an acceptability study of second-generation designs later this year. In the meantime, we are seeking funding for technology transfer to a validated manufacturer in China to ensure product supply and to facilitate clinical studies needed for product approval and registration.

Male condoms. PATH has facilitated local production of condoms through technology transfer. PATH also helped improve condom quality worldwide through the development of instruments for local quality assurance, research to improve storage in hot climates, and advocacy to improve international condom quality standards.

Safe-injection technologies.

Because an estimated 50 percent of injections in developing countries are unsafe, PATH has advanced a number of technologies to make injection safer and thereby prevent HIV transmission via accidental needlestick. For example, PATH developed the SoloShot™ syringe and Uniject™ prefilled injection device, which are autodisable, one-time-use syringes. We have also actively promoted the entire class of

UNICEF/HQ020263 / Giacomo Pirozzi



Safe-injection technologies help reduce the risk of HIV transmission. PATH has introduced several successful devices and is moving new innovations through the pipeline.

nonreusable or autodisable syringes, including other manufacturers' designs. Billions of these devices are now being used around the world.

Reduction of sharps waste. PATH is working with manufacturers of jet injector technologies that could eliminate the use of needles in immunization campaigns altogether. In addition, to address the dangers of used syringes and needles, we have pioneered needle-removal devices that isolate contaminated needles in secure containers and advanced other medical waste technologies.

Improving diagnosis and treatment

HIV dipstick. In the early 1990s, PATH developed the first low-cost, rapid HIV-1 and HIV-2 test on the market. Developed for use by small and medium-sized blood banks in developing countries, the dipstick is currently used in blood banks and public health laboratories for diagnosis of HIV infection and as a screening tool in HIV surveillance studies. PATH transferred the technology for production to local

firms in Argentina, India, Indonesia, and Thailand, which have since sold more than 13 million tests and upgraded the product.

CD4+ T lymphocyte test. Although the decreasing cost and increasing availability of antiretroviral drugs are making treatment of HIV-positive individuals more feasible, developing countries often lack laboratory facilities to monitor CD4+ T lymphocyte counts. To meet this need, PATH is developing a low-cost, point-of-care test that assesses CD4+ cell numbers as insufficient, borderline, or sufficient. The test can be completed in less than two hours by laboratory staff with limited training.

Partnerships for the future

PATH and our partners are poised to play an even larger role in the years ahead in developing technologies to prevent and treat HIV/AIDS. The back cover of this publication describes several collaborative initiatives that PATH and our partners are advancing. ■

SoloShot and Uniject are trademarks of BD.

Collaborative leadership for HIV/AIDS

PATH actively participates in a range of initiatives to alleviate the world's HIV/AIDS burden.

Global Campaign for Microbicides

The Global Campaign for Microbicides is an international coalition working to accelerate access to safe and effective microbicides. Headquartered at PATH, the coalition serves as an interface between the scientific establishment and the people whose lives will be influenced by microbicides. Global Campaign staff collaborate with hundreds of partners to support civil society's engagement in microbicide development.

Visit www.global-campaign.org to learn more or to download the Campaign's newest report, *The First 55 Steps: A Report of the Microbicide Development Strategy's Civil Society Working Group*.

aids2031 Science and Technology Working Group

aids2031 is an international effort to strengthen the long-term global response to HIV and AIDS. The consortium unites representatives from nongovernmental organizations, governments, industry, and academia in looking toward the year 2031, which will mark 50 years since AIDS was first reported. Over the next two years, aids2031 participants and other audiences will participate in activities such as

think-tank discussions, public debates, and television broadcasts.

Drs. Christopher Elias (PATH) and Michael Merson (Duke Global Health Institute) co-convene the initiative's Science and Technology Working Group, which will explore the landscape of discovery science and new technologies. The working group will host three conferences to explore critical trends in scientific innovation, opportunities and challenges in product development, and timely access to new and existing innovation. These events will focus on fostering a more enabling research environment and increasing access to new interventions.

To learn more about aids2031, visit www.aids2031.org.

AIDSTAR program

In 2007, PATH became one of seven prime contractors approved for the AIDS Support and Technical Assistance Resources Sector I (AIDSTAR) program, which is an indefinite-quantity contract managed by the US Agency for International Development. Our consortium includes Chemonics International, Dimagi, the Elizabeth Glaser Pediatric AIDS Foundation, Health and Development Africa, the International HIV/AIDS Alliance, the International Rescue Committee, International Relief & Development,

International Training and Education Center on HIV at the University of Washington, MIDEGO, Westat, and World Relief.

To learn more about the PATH consortium, including new awards, please contact Dr. Julie Pulerwitz, AIDSTAR director, at jpulerwitz@path.org, or Suzanne Rexing, AIDSTAR manager, at srexing@path.org or 202.822.0033.

Policy and advocacy in action

PATH is becoming increasingly active in US policy and advocacy, particularly on issues related to research and development of new technologies to prevent HIV/AIDS, tuberculosis, malaria, and other global health threats. As secretariat of the Global Health Technologies Coalition, PATH partners with colleagues to encourage increased resources and improved policies to accelerate access to new prevention tools, including new vaccines, microbicides, drugs, and diagnostics. PATH brings real-life experiences from our field staff to policymakers through meetings, publications, and events that highlight the challenges and solutions we encounter. To learn more about PATH's advocacy work, please contact Rachel Wilson, policy and advocacy director, at rwilson@path.org.

PATH is an international, nonprofit organization that creates sustainable, culturally relevant solutions that enable communities worldwide to break longstanding cycles of poor health. By collaborating with diverse public- and private-sector partners, we help provide appropriate health technologies and vital strategies that change the way people think and act. Our work improves global health and well-being. For more information, please visit www.path.org.

Directions in Global Health shares information about PATH's programmatic work with colleagues around the world. To subscribe, please send your contact information to publications@path.org. To learn more about PATH's work or sign up to receive email updates, contact the publications team by email (publications@path.org) or regular mail (PATH, 1455 NW Leary Way, Seattle, WA 98107, USA).

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