



Healthy Generations

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Education in Maternal and Child Public Health

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MCH in the New Era of HIV

Epidemiology of HIV and
AIDS Surveillance in the U.S.

Microbicides:
Promising Technology
in HIV Prevention

Linking Family Planning
and HIV Services

Mass Media Campaigns:
New Opportunities for
Teen Health

Breastfeeding and HIV

Supporting Women Living
with HIV: The Ilythia Project

Workforce Development:
Minnesota's Midwest
AIDS Training and
Education Center



UNIVERSITY OF MINNESOTA

School of Public Health



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LETTER FROM THE EDITOR

There is perhaps no more compelling a public health story than that of the HIV/AIDS epidemic spanning the past thirty years. While we have seen significant advances in the surveillance, treatment and prevention of HIV/AIDS, the story is far from over. Public health, clinical care and social service professionals, advocates, people living with HIV/AIDS and their allies have fought for treatment (and prevention) equity, to end stigma and discrimination, to ensure more inclusive (and just) approaches in the development and implementation of policies, programs and research. Yet more than 70 countries still criminalize homosexuality and there remains an organized campaign against providing comprehensive sexuality education to our nations school children and young adults. How far have we come as a nation that we continue to make our most vulnerable populations fight for the right to be seen, heard, and treated?

We present this issue with gratitude to the contributing authors and to the many public health, MCH and allied professionals charged with providing ongoing leadership in service to the public’s health. This collection of articles offers an exploration of some of the issues that persist for MCH populations in this new era of HIV. It is our hope that MCH professionals across the service spectrum will find something of interest to them in this volume. The articles presented here reflect only a small piece of the story, and the collection is admittedly far from complete. We have continued the discussion on our blog at www.healthygenerations.com, where we invite your comments.

—Julia Johnsen, MPH

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Epidemiology of HIV and AIDS

Surveillance in the U.S.

In the early 1980s the U.S. saw the emergence of an epidemic—highly contagious, stigmatized, and incurable—that for three decades has been one of the most politicized public health issues of our time. For health professionals, policy makers, and communities, the HIV/AIDS epidemic highlights critical issues regarding the importance (and evolving nature) of public health surveillance efforts.

Public health professionals have used HIV and AIDS surveillance data (e.g., case reports, survey data, administrative records) to:

- Track temporal and geographic trends in HIV incidence, prevalence and related health services utilization;
- Identify and monitor populations that are vulnerable to HIV infection; and
- Provide data to support and evaluate HIV clinical and behavioral services and interventions, and direct policies.

HIV is categorized into two types: HIV-1 and HIV-2. Most infections are HIV-1 (HIV-2 is largely confined to individuals in or from West Africa). Both types have the same route of infection and can result in AIDS. The CDC is examining mechanisms to report HIV by subtype,¹ but currently combine subtypes. The CDC estimates that HIV-2 contributed to about 0.01% of the more than 1.4 million U.S. cases of HIV infection diagnosed between 1987-2009.¹

HIV and AIDS Surveillance Methods in the U.S.

Most of the data about HIV and AIDS in the U.S. are generated by the Centers for



Surveillance data have also shown that the distribution of infections has changed: women now represent a larger share of HIV incidence compared to earlier in the epidemic, while perinatal transmission (i.e., from mother to infant) has declined significantly over time.

Disease Control and Prevention (CDC). The accuracy and completeness of HIV and AIDS surveillance data are affected by the quality of—and changes in—surveillance protocols, how many affected individuals have access to treatment and related services, and provider reporting practices. The diverse surveillance and HIV practice conditions in the U.S.—and changes in practices—present a challenge for merging data to create national estimates and for making geographic comparisons of HIV and AIDS risk.

The HIV epidemic officially began in June 1981 when the CDC reported unusual

clusters of *Pneumocystis pneumonia* in five gay men in Los Angeles.² The first U.S. surveillance efforts used AIDS case reports because they were the only data available. By 1986 all 50 states, the District of Columbia, and three U.S. territories were collecting AIDS case reports.³ In 1985, when the first diagnostic test was approved, Minnesota became the first state to make HIV infection a reportable condition.⁴

Case definitions, as well as national, state, and local protocols for reporting and surveillance, have changed substantively in the past 30 years, often in response to new

HIV/AIDS STRATEGY

Our Country's First Roadmap to Addressing the Domestic Epidemic



In recognition of this important milestone, the White House has developed a video in which doctors, researchers, policy makers, community leaders, and advocates discuss the National HIV/AIDS Strategy. It has also released an implementation update to keep you informed on the latest work and provide some reflections on key first-year achievements.

Video:

<http://www.youtube.com/watch?v=57vbf8AL4M>

Implementation update report:

http://www.whitehouse.gov/sites/default/files/uploads/hiv_aids_july_2011.pdf

Office of National AIDS Policy:

www.whitehouse.gov/administration/eop/onap

knowledge about HIV and/or AIDS. For example, in 1993 the AIDS surveillance case definition for adults and adolescents was significantly expanded to emphasize the importance of the CDC-4+ T-lymphocyte count (as a marker of immunosuppression) in the categorization of HIV-related clinical conditions.⁵ This 1993 expansion increased the number of *reported* cases. Another important protocol change that affected the quality of reporting was the implementation of name-based reporting. In 1999, CDC advised all states and reporting areas to implement confidential, name-based local surveillance systems to report confirmed diagnoses of HIV and AIDS to the CDC, after removing identifying information.⁶ Until all states had done so in 2008, compiling national data was a challenge for the CDC because of the differential quality (i.e., higher accuracy and reliability) thought to be associated with name-based reporting compared to reporting using other identifiers (e.g., numerical identification codes).

Geographic comparisons of HIV data can be difficult because areas of the U.S. vary in the availability of testing and treatment resources, as well as in priorities and policies related to testing certain subgroups. For example, some states offer anonymous HIV testing and do not report these results to the

confidential name-based HIV registries in state and local health departments.

It is most important to remember that surveillance data for HIV—as well as other conditions—only reflect individuals who have received testing and/or treatment. Despite the fact that routine HIV testing is recommended for all people aged 13-64 years, it is estimated that 21% of the people infected with HIV do not know they are infected.⁷ CDC thus provides a *minimum estimate* of persons who are known to be HIV-infected and/or have AIDS.

The following data are from the most recent CDC HIV surveillance report for 2009,⁸ unless otherwise noted.

Estimated Incidence of HIV in the U.S.⁹

Incidence is the number of new HIV infections that occur in a given time period (usually a calendar year). It is affected by testing patterns, specifically changes in recommended testing and/or increases or decreases in recommended testing. Recently it has been affected by the ongoing refinement to estimate the serologic marker of recent infection, Capture Enzyme Immunoassay (BED), as well as improvements in statistical modeling.¹⁰

In August, 2011, the CDC reported that

approximately 50,000 individuals, aged 13 years old and older, were newly infected with HIV annually in 2006, 2007, 2008, and 2009.¹⁰ The estimated incidence rate was 19/100,000 persons aged 13 years and older for the period 2006-2009. Compared with whites, the rate for blacks was about 7 times higher (representing about 45% of all new infections) and about 3 times higher for Hispanics.¹⁰ Males represented 75% of all new infections; men who have sex with men (MSM) represented about two-thirds of all new infections.¹⁰ About two-third of all new infections are estimated to be in 13-39 year-olds.¹⁰

Estimated HIV incidence data provide the best information about the nature of the HIV epidemic because they reflect both diagnosed cases and estimates about those who have not been diagnosed. Estimated incidence was highest in the U.S. in the mid-1980s (about 130,000/year) and has been stable since 2000. There was no significant change in incidence from 2006-2009 Rates may have increased recently in men who have sex with men, but such increases may also be related to changes in reporting and/or testing.

It is estimated that, since 1981, 1.7 million people in the U.S. have been infected with HIV and that every 9½ minutes someone in the U.S. is infected.

Estimated Number of Persons Receiving an HIV or an AIDS Diagnosis in the U.S.

This estimate is different than the HIV incidence estimate because it includes only those individuals who have been diagnosed with HIV, regardless of the stage of disease at diagnosis. This number includes a range of people from those newly infected to those with AIDS. The latest CDC estimate, from the 40 states and 5 U.S. dependent areas with sufficiently stable data, is that 42,959 received an HIV diagnosis in 2009. Of those individuals:

- 74% were males;
- 50% were black;
- 0.3% were younger than 13 years old; and
- 56% acquired HIV through male-to-male sexual contact.

The CDC estimates that 34,993 people received an AIDS diagnosis in 2009. Of those individuals, 73% were male; 48% were black; 0.03% were younger than 13 years

HIV and AIDS Surveillance

The Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) has developed various surveillance systems to collect, analyze and disseminate HIV and AIDS data from 50 states, the District of Columbia, and various U.S. dependent areas (<http://www.cdc.gov/hiv/topics/surveillance/reporting.htm>). The CDC supports several surveillance systems and data sources that provide data about HIV and AIDS to guide prevention, treatment, and policy efforts, including:

- **A Core HIV Surveillance** system for collection of data about HIV infection and AIDS, including demographic data about affected persons and data about mode of exposure to the infection, treatment utilization, and HIV infection progression.
- **HIV Incidence Surveillance** data are collected in the form of confidential case reports from some state and local health departments and include testing and treatment history data. They are used in conjunction with core surveillance data to estimate HIV incidence. The most recent incidence report can be found at www.cdc.gov/hiv/topics/surveillance/incidence.
- **Variant, Atypical, and Resistant HIV Surveillance** (VARHS) data have been collected since 2004 by some state and local health departments who provide CDC with genetic sequence data from leftover blood specimens from HIV testing or routine HIV care after removal of identifying

information. The genotypic tests are used to identify HIV strains and subtypes, monitor the frequency of important antiretroviral resistance mutations, and follow the outcomes of those with and without mutations.

- **Enhanced Perinatal Surveillance** (EPS) was created in 1999 to address HIV perinatal transmission by monitoring implementation of USPHS recommendations on testing pregnant women and ZDV use; to provide surveillance data to respond to Ryan White data requests; and to evaluate perinatal prevention efforts. There were 15 population-based and facility sites participating in this surveillance in early 2011. Data are collected for HIV-infected pregnant women and their offspring, from pregnancy until the offspring is 18 months-old. Data come from a variety of sources, including medical records. The most recent EPS data (2005-2008) can be found at http://www.cdc.gov/hiv/surveillance/resources/reports/2010supp_vol16no2/index.htm.

- The **National HIV Behavioral Surveillance System** (NHBS) was created in 2003 to collect behavioral data about populations at high risk for HIV: men who have sex with men (MSM), injection drug users, and heterosexuals thought to be at high risk for HIV. Surveillance activities are conducted by 20 university, community-based, or public health sites. A recent report from this surveillance system, about the prevalence and awareness of HIV infection in men from 21 cities may be found at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5937a2.htm>.
- The **Medical Monitoring Project** (MMP) was implemented in 2005 to collect nationally representative data about the clinical and behavioral outcomes of adults living with HIV infection or AIDS who receive care in the U.S. The survey involves 600-800 facilities in about 23 sites, every year and about 9,500 affected individuals. A 2010 report describing study pilot data and the survey design is at http://www.cdc.gov/hiv/topics/surveillance/resources/reports/pdf/MMP_2005_Report_6.pdf

REGIONAL SURVEILLANCE REPORTS

IOWA:	http://www.idph.state.ia.us/adper/hiv_aids_programs.asp#surveillance
MINNESOTA:	http://www.health.state.mn.us/divs/idepc/diseases/hiv/hivstatistics.html
NORTH DAKOTA:	http://www.ndhealth.gov/hiv/
SOUTH DAKOTA:	http://doh.sd.gov/Disease/statistics.aspx
WISCONSIN:	http://dhs.wisconsin.gov/aids-hiv/Stats/index.htm

old; and the mode of transmission was male-to-male sexual contact for 49%.

The *cumulative* number of people who have *ever* had an AIDS diagnosis through 2009 in the U.S. is 1,142,714. Of those individuals, 79% were males, 41% were black, 0.8% were younger than 13 years old, and 46% acquired HIV through male-to-male sexual contact.

Estimated Prevalence of HIV in the U.S.

Prevalence is the number of people living with HIV infection at the end of a given time period (usually a calendar year). Prevalence is influenced by both incidence (new cases)

and survival rates. At the end of 2006 it was estimated that 1,106,400 persons in the U.S. were living with HIV—and that 21% of them were undiagnosed.⁷ The estimated prevalence has slightly increased with time, as more people are living longer with HIV and new infections remain relatively stable.

Estimated Number of People Living with an HIV or AIDS Diagnosis in the U.S.

*These estimates are lower than the estimated prevalence because they are restricted to individuals who have been **diagnosed**.* Based on data from 40 states and 5 U.S. dependent

areas that have stable data from confidential name-based HIV reporting, the CDC estimates that, at the end of 2008, 490,696 people were living with an AIDS diagnosis and 682,668 people were living in the U.S. with a diagnosis of HIV (irrespective of stage of infection and including those who had progressed to AIDS).

Estimated Deaths of Persons with an HIV or an AIDS Diagnosis in the U.S.

Based on data from 40 states and 5 U.S. dependent areas, there were 17,374 deaths to individuals with an HIV diagnosis in

2008. Deaths due to any cause—and among individuals at any stage of infection—are included in the estimate.

In 2008, the CDC estimated that there were 16,605 deaths in individuals with an AIDS diagnosis in the U.S., due to any cause. The cumulative number of deaths of persons with an AIDS diagnosis in the U.S. through 2008 was estimated at 617,025, which includes 4,949 deaths to children younger than 13 years old.

HIV mortality rose steadily in the 1980s and peaked in 1995, after which it began to decline substantially because of improved treatment and decreased incidence. In 2007, HIV was the 6th leading cause of death for individuals aged 25-44 years; it was the #1 cause of death in 1994 and 1995.

Conclusion

In July 2010 the U.S. released its National AIDS Strategy.¹¹ Its goals—to reduce HIV incidence, improve access to care, and reduce HIV and AIDS disparities—cannot be achieved without surveillance data to guide programmatic and evaluation efforts. It is

FOR FURTHER INFORMATION

- CDC's surveillance system is described in a factsheet entitled, *Surveillance systems supported by the Division of HIV/AIDS Prevention*, available from: <http://www.cdc.gov/hiv/topics/surveillance/resources/factsheets/pdf/surveillance.pdf>.
- For information about the history HIV surveillance in the U.S. from 1981-2001, go to: http://journals.lww.com/jaids/Fulltext/2003/02011/HIV_AIDS_Surveillance_in_the_United_States.11.aspx.

through surveillance that we understand that HIV and AIDS, while affecting all Americans, have disproportionately affected some groups, such as young people and men. Blacks and Latinos account for about two-thirds of new HIV infections and about three-quarters of all HIV deaths, but they represent only about one-quarter of the U.S. population.⁹ Surveillance data have also shown that the distribution of infections has changed: women now represent a larger share of HIV incidence compared to earlier in the epidemic, while perinatal transmission

(i.e., from mother to infant) has declined significantly over time. Data have also shown that gay and bisexual men, especially young men and those of color, have consistently been at highest risk and are the only group for which new infections appear to be increasing.^{9,10}

We could not understand the challenges of HIV and AIDS—the disparities, the magnitude of effect, the fact that about one-fifth of those with HIV do not know it—without surveillance data. Nor could



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CITED IN NATIONAL HIV STRATEGY

“The plan is far too long in coming, but I’m pleased to see that the country has finally established a formal coordinated set of principles and goals around HIV prevention and care.”

— Keith Horvath, SPH Assistant professor

When the White House unveiled its first-ever national HIV/AIDS strategy in July, 2010—a plan that aims to reduce the number of new cases by 25% in the next five years—the focus was not on developing new drugs. Rather, much of the strategy is dedicated to preventing the disease, especially among populations that have persistently high infection rates, such as gay and bisexual men and African Americans.

Over the years, the federal government has spent tens of billions of dollars to develop and administer new drugs for HIV patients. But the number of new annual HIV infections has remained virtually unchanged for a decade. An estimated 1.1 million Americans are living with HIV, with 56,000 new infections annually.

Horvath’s study showing that HIV-specific laws do not deter high-risk sexual behavior among homosexual men was cited in the report

outlining the national strategy. His work was among the first to examine whether state laws that criminalize HIV transmission influence the attitudes and sexual behavior of gay men using a national U.S. sample.

While the study finds the laws to be ineffective in preventing risk-taking behavior among HIV-positive and negative men, Horvath stresses that there remains a lot to be learned on whether the laws impede HIV prevention by discouraging people from seeking out HIV testing and accessing the appropriate care. His next step is to investigate if and how HIV-specific laws act as a barrier for HIV testing and access to care. It’s an area of study that could benefit from the new national strategy, which highlights the need to steer federal funding toward prevention efforts.

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we understand some of the treatment successes in the U.S., such as those that have almost eliminated mother-to-infant transmission and that have allowed public health professionals to develop services for an aging population of individuals with HIV and AIDS.

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STUDY: Women's Interagency HIV Study

The Women's Interagency HIV Study (WIHS) is a longitudinal, observational cohort study of women infected with and at risk for HIV infection in the United States. Established in August of 1993, the study was designed to investigate the impact of HIV infection on women in the U.S. Various sub-studies in the areas of cardiovascular, metabolic, and neurological health as well as physical functioning continue to yield valuable information to researchers that informs clinical care and public health practice.

The WIHS is funded by the National Cancer Institute (NCI), the National Center for Research Resources (NCRR), the National Institute of Allergy and Infectious Diseases (NIAID), the National Institute of Child Health and Human Development (NICHD), and the National Institute on Drug Abuse (NIDA).

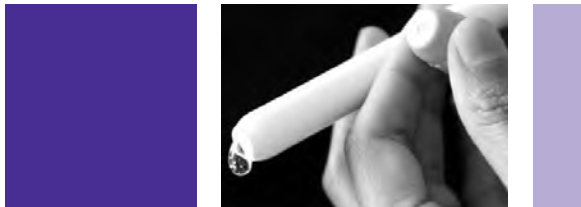
<http://statepiaps.jhsph.edu/wihs/>

REPORT:

Left Behind — Black America: A Neglected Priority in the Global AIDS Epidemic, Black AIDS Institute

In the U.S. HIV is as much a racial justice issue as it is a public health issue. This report describes the ongoing HIV/AIDS epidemic among African Americans and the perceived failure of the United States government to respond to this crisis. It presents data that show that incidence and prevalence rates of HIV/AIDS among U.S.-born African Americans rival those of many countries receiving funds as part of the President's Emergency Plan for AIDS Relief (PEPFAR). While African Americans bear a disproportionate burden of the HIV/AIDS epidemic in the U.S., the authors of the report assert that U.S. policy makers continue to respond as if HIV/AIDS were an epidemic suffered outside United States borders. The report discusses the causes contributing to the HIV/AIDS crisis among African Americans, looking at a range of issues including both structural and individual risk factors, gender bias, homophobia, stigma, drug use, imprisonment, and inequalities in health care. It then proposes an action agenda involving African-American communities, the public and private sector, researchers, and international agencies to address this multi-faceted health and human rights crisis.

<http://www.hivlawandpolicy.org/resources/view/296>



HIV Prevention:

Promising Technology in Microbicides

by Jared Shenk, BS, BBA

Treatment technologies for Human Immunodeficiency Virus (HIV) have been so successful that HIV infection has transformed from a terminal illness to a manageable chronic condition for those who have access to antiretroviral drugs. HIV prevention science has not moved as swiftly. Because unprotected sexual intercourse (oral, vaginal, or anal) increases the risk for HIV transmission, the primary prevention focus has been on behavioral messages that stress monogamy, condom use, and abstinence. These messages have had a limited impact on HIV incidence in women, especially those in Sub-Saharan Africa, where heterosexual transmission predominates and women may be at higher risk than men for infection.¹ Understanding the risk of women in patriarchal societies has challenged prevention scientists to consider technologies that have the potential to protect disempowered individuals who may not have the knowledge, or the social power, to protect themselves from HIV and other sexually transmitted infections (STIs). Specifically, unequal power in a sexual relationship affects the risk of women and some men if they are unable to assert decisions about safer sex. Disempowered individuals are also often receptive partners (i.e., those who receive penetration) in a sexual relationship and are at greater risk of HIV transmission than inserting partners.²

Recently several technologies that may reduce the risk of receptive partners, including male circumcision, female condoms, and HIV vaccines, have been tested with limited success.² Microbicides are another recent development that may also provide a safer sex option in relationships irrespective of power dynamics.

What are Microbicides?

Microbicides are topical substances (usually gels, creams, or foams) that can be applied in the vagina or rectum before receptive sex occurs to prevent sexually transmitted infections like HIV.³ Ideally, microbicides are easy to use, effective against a variety of sexually transmitted infections, easy to store, and empowering for receptive partners in a sexual encounter.³ Microbicides may work by:

- Killing or inactivating sexually transmitted infections³
- Stopping the attachment of HIV to receptor cells in the genital mucosa³
- Making the immune system stronger to fight off HIV (i.e., boosting the body's natural defenses)³
- Blocking the spread of HIV to other susceptible cells³

Effectiveness of Microbicides

Most of the initial microbicide research started with women and involved vaginal-use interventions in Sub-Saharan Africa.^{4,5} This area of the world is key to HIV prevention because two-thirds of individuals living with HIV—about 22.5 million people—live in Sub-Saharan Africa.⁶ More women than men are living with HIV—15–24 year-old women are up to 8 times more likely than same-age men to be HIV-positive in this region.⁶ Many cultural



issues about condom use, abstinence, and monogamy shaped interest in developing alternative methods of HIV prevention for women in Sub-Saharan Africa.⁷ Initially it was hoped that microbicides would provide bi-directional prevention (i.e., for both male and female partners).⁷ While many early trials showed few—if any—positive effects on HIV incidence, microbicide researchers improved their understanding of the biology of HIV transmission and infection.⁷ In 2010, the CAPRISA 004 study showed proof of concept of the effectiveness of an antiretroviral microbicide for vaginal use: highly consistent use—before and after sexual intercourse—of a 1% tenofovir gel by 900 HIV-negative women in South Africa resulted in a 39% reduction in HIV infection risk and a 51% reduction in genital herpes infection risk.^{8,9}

In addition to vaginal microbicides, there is interest in developing rectal microbicides

MICROBICIDE RESISTANCE

As microbicide research of the common HIV antiretroviral tenofovir (Viread or TDF) continues, there are concerns about medication resistance (i.e., decreased reaction to medication that could render the drug ineffective). Resistance—if it occurs—is likely to be an issue for populations in which the drug is heavily studied or distributed, including:

- HIV-negative people in higher risk sexual- and substance-using networks⁴;
- HIV-positive partners of a person using a microbicide⁴; and
- Undiagnosed HIV-positive people exposed to a microbicide¹³

Because of this, it is extremely important that any microbicide programs and studies include voluntary counseling and HIV testing.⁴

to address the needs of heterosexuals who have anal sex and men who have sex with other men (MSM).⁴ In some of the initial rectal microbicide studies, effect sizes were modest and adherence to treatment was an issue.¹⁰ Rectal microbicides are still in early development and there are many unanswered questions, including how HIV infection occurs in the rectum; the safety of rectal microbicides, including potential⁶ to damage rectal tissue; and optimal use patterns (e.g., how long does the microbicide need to remain in the rectum, when should it be applied; how much should be used). Assuming its effectiveness, researchers are also interested in understanding—and perhaps modifying—social norms about using lubrication for anal intercourse that may make it more acceptable.¹⁰ There may be strong support for microbicide development and research in gay and bisexual male communities,¹¹ which may facilitate research participant recruitment and eventual use of effective rectal microbicides.

Ongoing Questions about Microbicides

Microbicide research is in the early phases, with studies showing modest results and many questions unanswered. The rationale for microbicide development often includes its potential to defuse power dynamics in sexual relationships, but it is not clear that microbicide availability will empower receptive partners and shift

power structures. One criticism of vaginal microbicide research is that it does not include information about all modes of HIV transmission: study subjects may easily engage in just as much unprotected anal intercourse as they do vaginal.¹² How will studies tease out whether transmission did or did not occur because of the intervention without assessing other high-risk modes of transmission? Further, how can effective microbicide education be implemented—and use ensured—in industrialized and in resource-poor settings? Will medication resistance be an issue? The HIV pandemic will continue to fuel interest in microbicide development in the medical, public health, and advocacy communities. In the last decade or so, there is proof of concept that microbicides have the potential to reduce HIV infection. In the coming years, researchers will continue to assess effectiveness, safety, and palatability to the individuals for whom use is intended.

For further information

The National Institute of Allergy and Infectious Diseases coordinates the Topical Microbicide Research Program to support research to create safe, effective, and sustainable options for microbicide implementation domestically and internationally³.

The USAID prepared a 2009 report to Congress outlining its strategic plan to promote microbicide research (see http://pdf.usaid.gov/pdf_docs/PDACN500.pdf).

The National Institutes of Health created the Microbicide Trials Network (MTN) in 2006.¹⁴ Its website provides links to specific microbicide trials (<http://www.mtnstopshiv.org>).

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Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid

Center for Health and Gender Equity (2008)

<http://www.hivlawandpolicy.org/resources/download/175>

Advocates for female condom use argue that they could play an important role in HIV prevention. This report describes *how* and calls for the United States to be a global leader in efforts to educate about female condoms and to identify strategies for widespread distribution. The authors describe the imperfect nature of the female condom and discuss the challenges—due to stigma, cultural norms and values, and lack of availability—that influence use patterns. The report asserts that as funding and support continue to grow for efforts to increase the accessibility of male circumcision and for investing millions into vaccine development, governments and funding agencies should not overlook this effective woman-controlled HIV prevention method as an essential tool in the fight against HIV.

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Family Planning and HIV Services:

The integration of sexual and reproductive health (SRH) services—particularly family planning (FP), with HIV services—has the potential to produce multiple benefits, including increased uptake of services, improved quality of care, and greater support for dual protection (i.e., contraception and protection from sexually transmitted infections). The potential benefits of enhanced linkages between SRH and HIV at the policy, services, and structural levels have drawn international attention and are emphasized as part of the Millennium Development Goals¹ and the Global Health Initiative.²

Despite this increased attention, and the fact that linking of FP and HIV services makes intuitive sense, there is limited evidence about whether linked interventions actually produce the intended benefits. In 2008 we conducted an overall systematic literature review to examine the effectiveness, optimal circumstances, and best practices for strengthening linkages between SRH and HIV services generally,³ and a focused review of FP and HIV integrated services specifically.⁴ This article highlights the findings from our review of FP and HIV integrated services.⁴

Is There Evidence to Support Integrating Family Planning and HIV Services?

In our systematic review, linkages were defined as policy, programmatic, service and advocacy bi-directional synergies between FP and HIV services.⁵ In our examination of FP and HIV linkages, we defined FP interventions as:

- Contraceptive services and/or
- Commodities provision, counseling, and education.

HIV interventions were defined as:

- HIV counseling and testing;
- Any intervention intended to prevent HIV transmission from an infected mother to her child;⁶
- Clinical care of people living with HIV (PLHIV); and
- Psychosocial and other support services for PLHIV.

Our review included:

- Peer-reviewed literature published between January 1, 1990 and December 31, 2007 that provided post-evaluation data for FP-HIV linkage interventions that

had a pre/post or multi-arm comparison of those who received the intervention and those who did not; and

- Grey literature (i.e., “promising practices”) from the same time period that contained evaluation data or lessons learned from FP-HIV linkage programs that were implemented in low-income or middle-income countries.

Studies were analyzed for location, study design and rigor, type of intervention, and key outcomes. There were no studies about services provided to men, even though many authors acknowledged that men receive FP services and advocated for their inclusion in research.

Of the 16 studies that met our inclusion criteria the majority were conducted in Africa (11 studies), but overall target groups and settings varied widely. The most common study design was a cross-sectional design (i.e., a study of prevalence at one point in time). Overall study rigor was quite low, with an average score of 3.25 assessed on a 9-point scale, with range of 1 (low rigor) to 9 (high rigor). To allow for comparisons (when possible)

the intervention types were grouped into six common areas based on the available literature:

- FP provided to voluntary counseling and testing (VCT) clients
- FP and VCT provided to maternal and child health (MCH) clients
- FP services provided to people living with HIV
- FP and HIV services provided by community health workers
- VCT provided to FP clients
- VCT and FP provided to women receiving post-abortion care

The two most common intervention types were FP provided to VCT clients, and FP and VCT provided to MCH clients.

Is Linking Services Associated with Key Sexual Health and Programmatic Outcomes?

We intended to examine nine key outcomes: HIV incidence, STI incidence, condom use, contraceptive use, uptake of HIV testing, quality of services, stigma, cost, and unintended pregnancy. None of the 16 studies reported data on four of the key outcomes: HIV incidence, STI incidence, unintended pregnancy, or stigma. Eleven of the 16 studies reported on one or more of the following five key outcomes: condom use, contraceptive use, uptake of HIV testing, quality of services, and cost. Of these 11 studies, five reported only positive effects, three reported mixed effects, and three reported both positive and mixed effects. Mixed effects were defined as outcomes with both negative and positive effects, either across different measures of the same outcome or across measurements of the same outcome at different follow-up time periods. Importantly, none of the studies reported only negative effects on any of the key outcomes due to linkages.

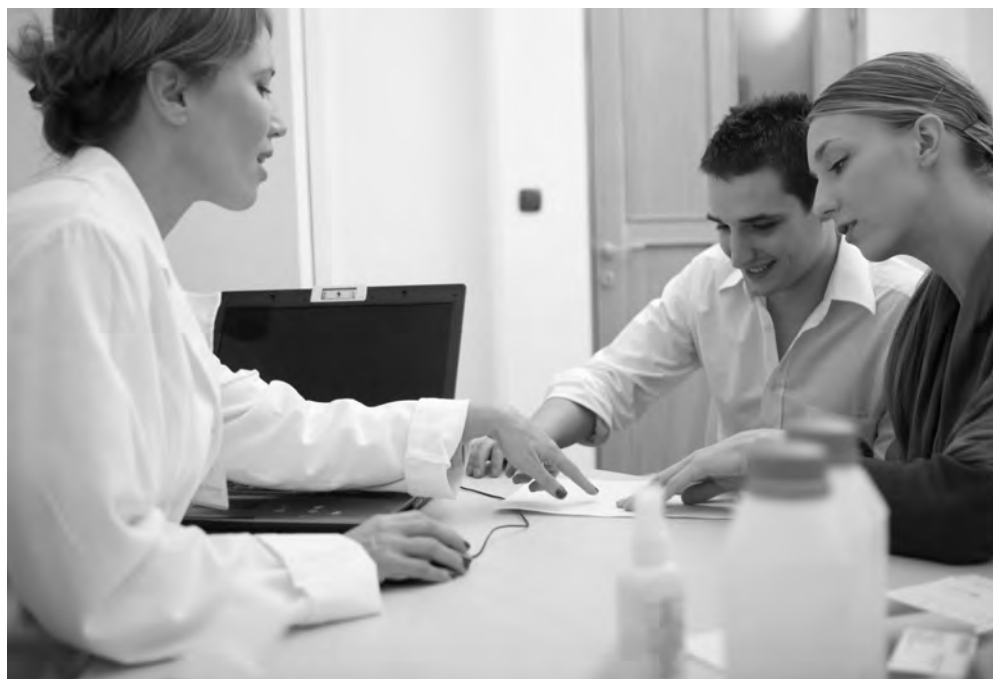
- Three studies (including samples from a community-based HIV clinic in Haiti, HIV-negative women in a FP clinic in Thailand, and among a sample of

A Review of the Evidence

by Alicen B. Spaulding*, Deborah Bain Brickley+, Caitlin Kennedy†, Lucy Almers+, Laura Packel+, Joy Mirjahangir+, Gail Kennedy+, Lynn Collins‡, Kevin Osborne‡‡ and Michael Mbizvo††

South African FP clients) examined the association of linked services and the *uptake of HIV testing*. All found a positive association.

- One study of HIV-negative women in a Thai FP clinic found a positive association between condom use and linked services and three studies (of South African FP clinic clients, a clinic sample of HIV-positive women in England, and a clinic sample of sexually active HIV-positive women in Zambia) showed mixed effects where condom use as the only form of contraception may have declined, but use in combination with another contraceptive increased or condom use increased (or decreased) depending on the frequency of use and time interval assessed.
- Two studies (of a clinic population in Rwanda and a hospital-based sample of women in Tanzania presenting post-abortion) found positive associations between *contraceptive use* and linked programs. Two studies (of a sample of pregnant/childbearing women in a Rwandan MCH clinic and a clinic sample of HIV-positive women in Zambia) found mixed effects.
- Three studies (from the UK, Ukraine, and Kenya) found positive reports about the *quality of services* in linked programs. The quality of service measures were documentation of service provision, quality of communication assessments, and the impact of integration training for service providers on improving providers' knowledge and attitude. One study from South Africa (VCT center) found mixed effects, specifically that full integration of services did not improve overall *quality of services* but that partial integration increased discussion about contraceptives between the provider and client.
- Three studies (all promising practices) reported cost data but the data were poor and did not compare linked and unlinked services.



... based on existing evidence, it appears that integration of Family Planning and HIV services may be beneficial and effective.

While none of the 16 studies reported on the feasibility of linking services, negative effects due to integration were not reported, leading us to conclude that integrating FP and HIV services was feasible.

Recommendations for Practice

While it is encouraging that a number of studies met our inclusion criteria, no studies directly compared the provision of integrated services to stand-alone services. Such studies would have allowed us to more clearly evaluate differences in outcomes that may be associated with linkages. However, based on existing evidence, it appears that integration of FP and HIV services may be beneficial and effective.

In an era of fierce competition for resources, and increasing demand for efficiency, accountability, and demonstrated capacity of programs to achieve desired health outcomes, linking SRH, specifically FP, and HIV services makes intuitive sense. We found few studies examined costs and none examined costs well, so it is not clear whether or not cost-effectiveness and efficiency—two main arguments for linking services—are improved.⁴ The findings from our focused review and the overall SRH and HIV linkages review³ resulted in the following recommendations for future research and evaluation:

- **Design rigorous studies** to evaluate integrated SRH and HIV services, particularly comparative assessments of integrated delivery services versus

CityMatCH ELIMINATING PERINATAL HIV: An Urban Strategy

Researchers estimate that somewhere between 100 and 200 infants in the United States are infected with HIV each year.¹ Perinatal (mother-to-child) transmission rates are particularly high among African American populations, as black women are about 15 times as likely to be diagnosed with HIV than their white counterparts, and 4 times as likely as Hispanic/Latina women.

CityMatCH, in partnership with CDC, developed and launched the FIMR/HIV Prevention Methodology Research Center to support local health agencies as they work to address this significant health disparity and develop best practices around the prevention of perinatal HIV transmission. The Research Center uses FIMR (Fetal and Infant Mortality Review) processes to improve existing HIV programming, and sites that currently receive funding and technical assistance have reported substantial progress in their work to integrate existing information networks and collaborate with diverse community partners.

For more on the FIMR/HIV Prevention Methodology Research Center, visit www.fimrhiv.org

To learn more about Fetal and Infant Mortality Review, check out our March 2009 issue, "Reproductive Health Surveillance Volume 1: Maternal and Infant," available here: www.epi.umn.edu/mch/assets/downloads/resourcepdf_hg_reprohealthsurveill-7.pdf

For a pdf overview of the original FIMR/HIV pilot project studies, visit: www.citymatch.org/downloads/FIMRHIV.pdf

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non-integrated delivery of the same services;

- **Evaluate key outcomes** such as HIV incidence, STI incidence, unintended pregnancies, stigma reduction, and cost-effectiveness;
- **Advocate for additional funding** of rigorous research to address important outcomes, such as health, cost, and stigma on integrated services as well as novel approaches to integration; and
- **Assess and report factors** contributing to the success or failure of interventions so that future programs can learn from these experiences.

HIV and FP service fields are dynamic and evolving with ever-increasing opportunities to provide some level of integrated service delivery. Our hope is that our reviews contribute to the evidence regarding linking HIV and FP and inform future research about the effectiveness and efficiency of such efforts.

UNFPA: <http://www.unfpa.org/public/home/news/pid/7788>

Global Health Initiative: <http://www.pepfar.gov/ghi/index.htm>

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The **Center for Leadership Education in Maternal and Child Public Health** is in the Division of Epidemiology and Community Health, School of Public Health at the University of Minnesota. Our mission is to provide professional education about emerging MCH issues, using a variety of modalities (e.g., conferences, workshops, publications, video, online modules). Our graduates find employment in domestic and international nonprofit organizations, research settings, public health agencies, and healthcare organizations. They assume leadership roles in health administration, program development and implementation, advocacy and policymaking, research, and public health assessment.



Mass Media Campaigns and Prevention Education: New Opportunities for Teen Health

by Laura Andersen, MPH

Reaching young people with health education messages—especially *sexual health messages*—has always been a challenge for public health professionals. Although adolescents made up 8% of all HIV/AIDS cases in the U.S. in 2007, African American teenagers are at substantially higher risk of infection than their non-African American counterparts.¹ African Americans between the ages of 13 and 19 represented 72% of all HIV/AIDS diagnoses in 2007.

The advent of new types of social media and the ongoing technological renaissance present us with new opportunities to reach young people who may be particularly vulnerable. They also leave us with some of the same questions about how we might best maximize public health education messages to have the greatest impact.

A 2009 article in the *American Journal of Public Health* describes an innovative HIV-prevention mass media campaign directed at this high-risk audience.² The campaign, implemented in two medium-sized cities (Syracuse, NY, and Macon, GA) with control groups in two matched cities (Providence, RI, and Columbia, SC), had two objectives: to promote safe sex behavior among African American youth and, more specifically, to encourage their use of condoms. Romer and colleagues designed the intervention to be culturally sensitive by using familiar/relevant “change agents,” situations, and environments to communicate the messages, and by crafting their approach to reflect how this target population might perceive specific behaviors and their relative health risks.

Market Research

To increase their messages’ relevance, interviews were first conducted with 124 low-income African American youth to learn what they identified as barriers to safe sex and strategies for resisting pressures to engage in unsafe practices. Researchers used this feedback to develop the campaign’s three major messages designed to: (1) debunk

myths that condoms are uncomfortable by emphasizing that condoms can increase pleasure by making sex safer and less stressful, (2) promote the norm that waiting to initiate sex demonstrates respect for one’s partner and one’s self, and (3) emphasis that condoms should be used even with steady partners.

The resulting media campaign used dramatic episodes to draw the audience into a “parasocial” communication that elicited their emotional involvement. The campaign ran for 15 months in each city via three different 30-second television ads and eight different 60-second radio ads. Researchers calculated that the average adolescent in each city was exposed to three television ads and three radio ads each month during that 15-month period. In addition to the media intervention, 1657 participants were randomly assigned to an additional small-group component following the initial assessment. Follow up was conducted in all four cities at 3, 6, 12, and 18 months after the small-group component ended. The results of the follow-up assessments are not discussed in the current article.

Hitting Home?

Preliminary results of the initial media intervention were striking: youth in cities that received the campaign not only recognized the ads, but described changes in attitude as a result of their exposure. These changes were particularly strong among high-risk “sensation seekers” and individuals with new sexual partners. Youth who were



sexually active described sex with condoms as “less stressful” and indicated “respect” for partners who waited to initiate sex. Youth who were sexually active and STI-positive found the third message (that a steady partner isn’t necessarily a safe partner) especially resonant.

In the past, public health professionals have been reluctant to consider mass media campaigns for several reasons: they can be expensive, difficult to evaluate, and potentially less effective than face-to-face interventions. But *mass media as an HIV-prevention strategy* presents intriguing evidence to the contrary, and should encourage additional work in this area.

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Is Breast Always Best?

Breastfeeding and HIV

by Rachel Clasen, MPH



Breastfeeding is regarded globally as the best way to feed infants within the first six months of life. It plays an important role in infant survival and maternal health: it provides optimal nutrition, reduces common childhood morbidity, significantly reduces infant mortality, and promotes infant survival and maternal health by facilitating child-spacing.¹ The social, political, cultural, and environmental contexts in which women breastfeed inform and shape their decisions—and ability—to do so.

Breastfeeding as a vehicle for HIV transmission has been well documented since the 1980s, making this type of transmission a serious concern faced by the 15.7 million women of reproductive age (15-49) infected with HIV across the globe.² Mother-to-child transmission is a particular concern in Sub-Saharan Africa, where 8 of every 10 women infected with HIV live² and 53% of infants under four months old are exclusively breast-fed.¹ Globally, breastfeeding is responsible for between a third and a half of HIV infections in infants (without intervention) and duration of breastfeeding is positively associated with rate of HIV transmission.³

Factors that may decrease the risk of transmission through breastfeeding:⁴

- Shorter duration of breastfeeding;
- Exclusive breastfeeding in the early months—first 6 months specifically;
- Prevention and treatment of breast problems;
- Prevention of maternal re-infection during breastfeeding;
- Early treatment of sores or thrush in the infant mouth; and
- Use of *antiretroviral therapy* (ART), which can result in undetectable levels of the virus by the time of delivery, leading to substantial reduced risk of transmission.

Mothers' Options

In resource-rich countries like the U.S., where alternative feeding options and antiretroviral therapies are more readily available, women with HIV are advised against breastfeeding. A 2005 American Academy of Pediatrics policy statement, and re-stated in the 2010 U.S. Surgeon General's Report on Breastfeeding, lists HIV infection as a contraindication to breastfeeding.⁵ In the U.S. this position should guide clinical care and education. The 2010 World Health Organization (WHO) *Guidelines on HIV and Infant Feeding* offer an alternative set of guidelines for application in global settings. Both reflect advances in knowledge (regarding the use of ART to prevent transmission during the pre- and post-natal periods, for example) and understanding of the critical role that context plays in supporting maternal and infant health.

In resource-limited countries avoiding breastfeeding puts infants at much higher risk of infection and death.⁶ To strike a balance between preventing HIV transmission, protecting infants from malnutrition and disease, while respecting mothers' choices, careful counseling must be offered to each mother based on her individual *situation, culture, community, environment, and capabilities*.⁷ In these

developing countries, choosing not to breastfeed should only be attempted if replacement feeding is *acceptable, feasible, affordable, sustainable and safe* (AFASS).⁸ If any of these criteria cannot be met, the WHO recommends exclusive breastfeeding for the first 6 months of life, after 6 months to be stopped only when a safe, nutritionally adequate diet can be provided.⁸ Any feeding option combined with ART for both mother and infant is seen as a major advantage because breastfeeding can continue to 12 months while avoiding many difficulties in trying to stop breastfeeding.⁸

Possible feeding options for all women with HIV include:

- **Exclusive Breastfeeding**—regarded as most effective at reducing the risk of HIV transmission where AFASS criteria cannot be met. It is associated with reduced infant mortality in HIV-exposed infants compared with both mixed feeding (which introduces foods and liquids alongside breastmilk, and can damage the delicate and permeable wall of the gastrointestinal tract, allowing more virus to be transmitted) and replacement feeding.⁹ Mothers must be counseled to minimize likelihood of breast problems like cracked nipples or mastitis.¹
- **Early Cessation of Breastfeeding**—if

ADDITIONAL RESOURCES:

AVERT is an international AIDS charity that provides an overview of breastfeeding and other HIV-related topics: www.avert.org/hiv-breastfeeding.htm

The **Centers for Disease Control and Prevention** website has helpful information on:

- HIV and breastfeeding in the United States at www.cdc.gov/breastfeeding/disease/hiv.htm
- General information on breastfeeding at www.cdc.gov/breastfeeding/index.htm

- General information on HIV/AIDS at www.cdc.gov/hiv/.

Microbicide Trial Network—conducting the first ever studies on the efficacy and safety of microbicides on pregnant and breastfeeding women: <http://www.mtnstopshiv.org/node/3420>

UNICEF addresses a number of issues related to maternal health, breastfeeding, and HIV in The Breastfeeding Initiatives Exchange at www.unicef.org/programme/breastfeeding/hiv.htm.

The U.S. Surgeon General's Report on Breastfeeding: <http://www.surgeongeneral.gov/topics/breastfeeding/>

The World Health Organization Guidelines on HIV and infant feeding: Principles and recommendations for infant feeding in the context of HIV and a summary of evidence (2010) is available at: http://whqlibdoc.who.int/publications/2010/9789241599535_eng.pdf

complementary foods that are nutritious and safe are available, women who wish to stop breastfeeding should stop as gradually as possible while avoiding mixed feeding as much as possible.⁸ How best to do this is under debate and will require more research to determine the optimal time for cessation.

- **Replacement Feeding**—commercial infant formula should only be used for replacement feeding when:
 1. Safe water and sanitation are assured at the household level and in the community; and
 2. The mother or other caregiver can reliably provide sufficient infant formula milk to support normal growth and development of the infant; and
 3. The mother or caregiver can prepare it cleanly and frequently enough so that it is safe and carries a low risk of diarrhea and malnutrition; and
 4. The mother or caregiver can, in the first 6 months, exclusively give infant formula milk; and
 5. The family is supportive of this practice; and
 6. The mother or caregiver can access health care that offers comprehensive child health services.⁸
- **Wet Nurses**—mothers must ensure the wet nurse is HIV-negative, and the wet nurse must accept the risk (very small) that the baby might transmit the virus to her.¹⁰
- **Milk Banks**—donated breast milk that is properly pasteurized carries no significant threat of HIV infection, and are already very popular in some countries like Brazil.¹⁰

- **Heat Treating Their Own Expressed Breast Milk**—although boiling consumes a lot of fuel, flash-heating or Pretoria pasteurization can make breast milk safe. This method can also be used during mixed feeding, when risk of HIV transmission is increased, and for use when a mother is healing from mastitis or cracked nipples.¹⁰
- **Microbicides**—although the safety has not been fully studied, preliminary findings suggest that alkyl sulfates destroy HIV and have little toxicity.¹⁰ The Microbicide Trial Network (MTN) is currently conducting the first ever study on the safety of tenovir gel on pregnant and nursing women (MTN-008).

Mechanisms of Transmission

Exact mechanisms of transmission are not completely clear, but

- Viral load tends to be lower in breast milk than in plasma, but distinct viral variants can be found in breast milk that are undetectable in blood;¹
- HIV is found in both cell-free and cell-associated parts of breast milk, and is found at higher levels in the colostrum¹¹—although there is *no significant evidence* to show that avoiding colostrum reduces the risk of transmission;¹
- 1997 article: In infants, the gut mucosal surfaces are the most likely transmission site (especially when lesions or other irritation expose the submucosa), underscoring the need for exclusive breastfeeding;¹² and,
- 1997 article: Infant tonsils may also allow for transmission because lymphocytes are in close contact with tonsillar M cells, which can replicate HIV.¹²

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Interview with Minnesota's former Perinatal HIV Coordinator, Peggy Thornton

H *Healthy Generations* (HG) sat down with Peggy Thornton, RN, BSN, ACRN (PT)—Minnesota's Perinatal HIV Coordinator at Children's Hospital and Clinics of Minnesota from 2003 to early 2011. Thornton coordinated care for women with HIV in Minnesota who became pregnant.

Healthy Generations (HG): What is the role of the Perinatal HIV Coordinator?

Peggy Thornton (PT): My job was to meet and coordinate care for any woman in the state who was HIV-positive and pregnant. I saw approximately half of all the HIV-positive women who gave birth in Minnesota. The majority of the rest delivered at Hennepin County Medical Center [where their care was coordinated]. If they were not in care [when they delivered] we tried to identify who those women were and why they fell through the cracks. I think we have a very strong network now.

HG: What was the primary pathway for a woman to be referred to you?

PT: The main pathway to referral was through a woman's HIV provider, largely within the Twin Cities, but also, Mankato and Duluth. The Rural AIDS Action Network provided referrals of women in rural areas. I also received calls from OB clinics and some self-referrals, especially from women who experienced a subsequent pregnancy [who I may have worked with previously]. I also got referrals from the Minnesota Department of Health if, during the course of an investigation into a new diagnosis, a pregnancy was discovered. I connected with [HIV and OB] providers to make myself available.

HG: What are some of the common challenges facing women living with HIV who are pregnant, or who wish to become pregnant?

PT: Many HIV-positive women who choose to get pregnant (by going to fertility clinics, for example) have stable lives. They have a home, job, and adhere to their treatment plan. Young women who find out when they visit their OB for their first prenatal visit that they are infected with HIV face the greatest challenges. The women who had no idea they were HIV positive have the hardest time. They are dealing with a new diagnosis,

which is difficult at any point in one's life—but especially during pregnancy. Care and treatment need to start very quickly for pregnant women.

Like in the general population, many pregnancies among women living with HIV are unplanned. A woman with HIV experiences a significant degree of stigma when (if) she discloses she is pregnant. This has an impact on the level of support she receives (or perceives) and on her care-seeking.

Stigma is still a huge issue. It hasn't gone away. Women are still afraid to tell partners, family, friends. Because of stigma, they can't share it [their HIV status] like you can when you have cancer, and get the support you need. This isn't to suggest that all the women I work with have limited support. There are some women who have wonderful support systems—and those networks are so important. I encourage women to identify at least one person they can confide in so they have someone to lean on, someone to help them through the pregnancy.

Other challenges that women face include those related to transportation, especially for women living in rural areas, but in the metro [urban] areas, too. A lot of appointments are missed because people can't get to them. Homelessness, or housing instability, is a challenge for many women. Initially access to insurance is viewed as a barrier to services, but with medical assistance programs these issues can be resolved fairly quickly. The women hit hardest with the financial burden of a chronic illness are those who have insurance, but not good insurance. Those who are employed and make money, but not good money. These women can't pay for their co-pays or medicine.

If we can link them to care and support there are resources available; but some don't want to get involved with multiple systems.

Especially when [she] has a new diagnosis. They don't even want to acknowledge it, much less get involved with the legions of case managers, social workers, doctors, and systems of services. They go from having one OB doctor to having ten people who want to get involved in their life. This can be overwhelming and time consuming for them.

HG: How did women transition out of your care?

PT: I helped women transition out of my care coordination following delivery, I tracked reporting of babies' test results (through the first year) and we will now have a social worker who will follow up with coordinating the care for mom and baby. Sometime during my relationship with them, I tried to get them linked with an HIV case manager. This way they have someone to take over in coordinating things or helping with ongoing issues.

HG: Did you discuss general women's health issues, preconception health, child spacing or other issues?

PT: My main objective was to ensure that each woman understood her treatment and delivery plan. We talked through the sequence of things that would happen when she went into labor, what she could expect in the hospital, and follow-up care for baby, including education about why we recommend she not breastfeed. HIV is found in breast milk, so breastfeeding is a mode of transmission, even if mom's HIV viral load is very low, there is a risk. I discussed the importance of planning [future pregnancies]. I found that many young women don't really think about their preconception health because they are thinking about so many other things. It may get missed in trying to cover so many issues and attend to the most emergent issues. I wish I had more time, there is so much more that could be done. In reality

“Women can expect to have the same life expectancy prior to infection. If they are plugged into care they can achieve desired fertility and be around to watch their kids grow up; IF they are taking care of their health. The disease trajectory has changed.” —Peggy Thornton

they go to their regular postpartum check, and if it's not talked about there, their HIV specialist might talk about it but it depends on the provider. The CDC has guidelines for preconception counseling available for practitioners. Some women are done [having children] and they might be looking for permanent birth control. The younger women are just not prepared developmentally to think about permanent birth control, and often not able to think about future pregnancies either, unfortunately.

HG: Can you tell us about how pregnancy, and childbearing, has changed for women over the past 20 years? What is your greatest source of hope in your work with women living with HIV and their babies?

PT: After 20 years of working in HIV I can say that with the treatments (HAART) available, if women stay in care, women can expect to have the same life expectancy prior to infection. If they are plugged into care they can achieve desired fertility and be around to watch their kids grow up; IF they

are taking care of their health. The disease trajectory has changed. But the key thing is that they are willing to manage their health. I think this is a shared feeling among HIV care providers.

Thornton identified the CDC guidelines for preconception counseling and offered some suggestions for providers caring for women with HIV during pregnancy in any context:

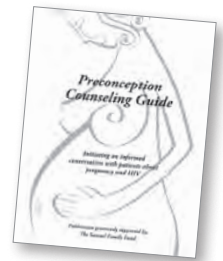
- Provide a safe space;
- Be open, honest, non-judgmental;
- Take time to listen and give consistent messages over time;
- Serve as a coach, give women options; and
- Facilitate communication between providers (diabetes, OB, neuro, HIV).

Jane Schulz, MPH, RN, CNP, is now the Perinatal HIV Coordinator: Jane.Schulz@childrensmn.org. Catherine Patterson, MA, is the HIV Family Case Manager for the program at Children's Hospital and Clinics of Minnesota: cathrine.patterson@childrensmn.org

PRECONCEPTION COUNSELING GUIDE—RESOURCE FOR PROFESSIONALS

Having children is a goal for many women living with HIV. The Mountain Plains AIDS Education and Training Center (MPAETC) has produced a pocket-sized **Preconception Counseling Guide** to assist practitioners in discussing reproductive health and pregnancy planning

issues with women living with HIV/AIDS. The guide offers strategies (including sample questions) for beginning the conversation and highlights steps the provider can take to support women planning for a healthy pregnancy and birth—now or later—to reduce the risk of perinatal transmission of HIV.



To download a pdf of the Preconception Counseling Guide, please visit: <http://www.mpaetc.org/scripts/prodView.asp?idproduct=143>

STIGMA

Stigma may be experienced in response to an attribute, behavior, or reputation that is *socially devalued*. Responses can range from individual expectations and stereotypes about the person with the stigmatizing condition to socially expressed prejudice and discrimination (e.g., discriminatory hiring practices). Stigmatized individuals can internalize these negative interpersonal or social experiences, and, in doing so, change how they perceive their own value and ability.

Stigma can profoundly affect every aspect of life, including individual health behaviors. For example, if a person expects that they may be embarrassed or discriminated against in certain situations because of their stigmatized identity, they may avoid them, including situations like

health care or gym membership. According to the AIDS advocacy organization, AVERT, “AIDS-related stigma and discrimination refers to prejudice, negative attitudes, abuse and maltreatment directed at people living with HIV and AIDS. They can result in being shunned by family, peers and the wider community; poor treatment in healthcare and education settings; an erosion of rights; psychological damage; and can negatively affect the success of HIV testing and treatment.”

Factors that contribute to HIV/AIDS stigma, according to AVERT, include its serious nature (causing people to react strongly); its association with stigmatized groups (e.g., injection drug users) and behaviors (e.g., male-to-male sexual activity); religious, moral, or

personal beliefs that blame affected individuals; and social messages that have conveyed HIV as a punishment or a crime.

For more information about stigma, read Link & Phelan's 2001 paper in the *Annual Review of Sociology*, *Conceptualizing Stigma*, at <http://www.annualreviews.org/doi/pdf/10.1146/annurev.soc.27.1.363>.

For information about the consequences of stigma and stereotyping, go to <http://reducingstereotypethreat.org/>.

For information about stigma specific to HIV and AIDS, go to <http://www.avert.org/hiv-aids-stigma.htm>



Program Profile: Supporting Women Living with HIV Through Pregnancy and Birth: The Ilythia Project

Alissa Fountain, Rachel Clasen, MPH

Over the past decade we have seen an increase in the number of HIV-positive women giving birth. In the United States effective interventions have decreased the risk of mother to child (or vertical) HIV transmission. The Centers for Disease Control and Prevention (CDC) estimates that the current risk of vertical transmission, with properly implemented drug therapy, is less than 1%.¹

HIV and Pregnancy

While it is medically possible for an HIV-positive woman to have a healthy pregnancy, her infection presents challenges that include managing medications (e.g., to prevent perinatal transmission of HIV), coping with medication side effects, and visits to additional providers (i.e., HIV medical specialists, case managers). Pregnant women may also experience stigma—discrimination, prejudice, maltreatment, abuse, and judgment—because of their HIV status.² HIV-related stigma—real or perceived—may shape how women approach HIV testing and treatment during pregnancy. Stigma can be a barrier to accessing health care and often causes fear of rejection and a loss of social support for pregnant women.³ Many pregnant women choose to have their partner, family members or friends present during labor and delivery to provide comfort and social support. When an HIV-positive woman fears that her status may be inadvertently disclosed—to friends, family, or other support person—she may choose to deliver her infant without personal support rather than take the risk of having her status revealed.²



Support for Women: The Doula Model

Doulas are trained birth professionals who provide support before, during, and after birth for the birthing mother and her family. Doula care may include the provision of emotional support, physical comfort, self-care, infant care, education, advocacy, referral, and partner/father or family support.⁴ Doulas are not medical professionals. They do not provide medical assessments or diagnoses. They are supportive advocates.

Benefits of Doula Support

The benefits of doula support are well documented. Doula care is associated with improved childbirth⁵⁻⁷ and breastfeeding outcomes,^{5,8-12} and facilitates maternal responsiveness and competence during the postpartum period.^{4,10,13} Women who receive continuous doula support are significantly more likely to:

- Have shorter stage II labor;^{5,7,10-12,14-16}
- Have a non-instrumental vaginal delivery;^{5,10,12,15,16}

- Experience timely onset of lactogenesis;^{5,8,10}
- Report positive perceptions of their infants, support from others, and self esteem;^{9,10,12,13}
- Be satisfied with their hospital care;^{9,16} and
- Report lower anxiety, less difficult labor, and more positive feelings about the birth experience.^{10,13}

Women receiving continuous doula support also have lower rates of cesarean delivery^{7,8,10,12,13,15,16} and are less likely to require epidural analgesia.^{7,10,12,13,15}

Such positive outcomes are particularly relevant to the increasing numbers of HIV-positive women giving birth in the U.S. In Minnesota, for example, over 70 HIV-positive women gave birth in 2009¹⁷ (a substantial increase over the 19 HIV-positive women who gave birth in 1997). Some women are first diagnosed with HIV during pregnancy. However, as antiretroviral therapies gain efficacy and the risk of vertical transmission continues to decrease, more HIV-positive women are choosing to have children.

The Ilythia Project: Doula Services for Women with HIV

A doula can assist HIV-positive women in understanding how the infection could affect their obstetrical care. A doula can also support the excitement and profound ritual of birth—a life-changing process that may otherwise be overshadowed by medical implications.

The Ilythia Project is a Twin Cities-based program that connects pregnant, HIV-positive women with doulas specially trained to meet their needs. Through the Ilythia Project, doulas attend to the prenatal, birth, and postpartum needs of women as they transition into motherhood, while addressing the important role that HIV plays in their lives. The project was established in 2004 by Alissa Fountain and Kathy Chinn, both doulas with experience in HIV prevention and care who saw the unmet needs of HIV-positive pregnant women and their families.

The Ilythia Project is operated almost entirely on a volunteer basis. The biggest barrier it faces is a lack of funding. Ilythia Project doulas receive regular training about HIV and pregnancy, blood-borne pathogens and universal precautions, and HIV resources in the Twin Cities. All Ilythia doulas have been trained—and most certified—by DONA International or another doula training organization. Once connected, the doula and client meet for 2-3 visits prenatally, to get to know each other and discuss labor comfort measures and potential birth choices. The doula reinforces education about the use of antiretroviral medication during labor and adherence to HIV medication for both the mother and her newborn. Often, Ilythia doulas find that these important topics have either not been fully explained by the client's medical provider or not fully understood by the patient.

Doula support for HIV-positive women can vary from doula support for HIV-negative women. First, doulas often support women in laboring at home for the majority of labor—but with HIV-positive women, there is a need for earlier medical interventions. Ilythia Project doulas work with clients to incorporate these necessary interventions, while still striving to reduce unnecessary ones. Second, doulas are well trained in breastfeeding support and provide extensive

AMANDA*

“Amanda’s” experience with the Ilythia project is fairly typical of those shared by other pregnant women with HIV. Amanda was pregnant with her third child and newly diagnosed with HIV when she self-referred to the Ilythia Project in the summer of 2007. In prenatal discussion with Amanda, her doula asked what her previous birth experiences had been, and she shared that she had very quick labors with both. Amanda’s infectious disease physician had informed her that she needed to receive HIV medication during labor, but had not specified that *ideally* she should begin receiving the medication a minimum of four hours before delivery. The doula bridged this communication gap and emphasized the importance of getting to the hospital early. Later, in a postpartum visit, Amanda mentioned that she was having trouble providing healthy meals for her older children while also dealing with a newborn and her own medical needs. The doula, familiar with HIV services in the Twin Cities area, connected Amanda with Open Arms of Minnesota, a meal delivery program for people living with HIV.

**Amanda’s story was provided by the Ilythia Project and is used with permission. Name was changed to protect identity.*

For more information, or to make a referral to the Ilythia Project, please contact: Alissa Fountain, project coordinator, 612-669-0964, Alissa.fountain@gmail.com

education to assist their clients in this area, but in the US, where safe alternatives to breastfeeding are readily available, HIV-positive women should not breastfeed their babies to reduce the risk of HIV transmission during the postnatal period.¹⁸ Ilythia Project doulas work with their clients to promote strong attachment with their babies while bottle feeding. Additionally, doulas can advocate for a woman’s privacy by helping to protect against inadvertent disclosure of her HIV-positive status during the labor and delivery process.

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Doulas may be trained and certified by organizations such as DONA International (formerly DONA www.dona.org) or self-taught. Visit: <http://www.dona.org/resources/research.php#birth> for more information.



Workforce Development:

Helping Providers Remain Current

by Sarah L. Rybicki, MSW, MPH

Since 1990, the number of people in Minnesota living with HIV/AIDS has steadily increased. Who is infected and diagnosed with HIV in Minnesota, and who is treated, also continues to change, with increasing numbers of women and people of color seeking care. People living with HIV/AIDS are living longer healthier lives than ever before. Managing the disease has become focused on diagnosing the infection early and ensuring stable access to expert treatment and services is essential to realizing that longer life. Therapies, recommendations, and the information needed to provide quality HIV care are constantly evolving. Thus, providers who serve people with HIV have an ongoing and essential need for HIV education. The U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) funds a network of 11 regional and four national AIDS Educational and Training Centers throughout the United States.¹

The **Midwest AIDS Training and Education Center** (MATEC), based at and coordinated by the University of Illinois at Chicago, serves Minnesota along with Illinois, Indiana, Iowa, Michigan, Missouri, and Wisconsin. The mission of the AIDS Education and Training Centers, including our regional center MATEC-Minnesota (MATEC-MN) located in the Twin Cities, is to help clinical care providers and public health planners stay abreast of HIV clinical care and management knowledge. MATEC delivers a variety of services to the HIV provider community to achieve this mission, including:

- Reaching out to health care professionals who provide direct care for HIV-infected patients;
- Targeted outreach to providers who care for minority, underserved, and vulnerable populations;
- Providing training about the clinical management of HIV disease, emerging issues, and how to implement recommendations; and
- Developing and adopting innovative training methods; and
- Facilitating interdisciplinary communication and networking.¹

Staying at the cutting edge of HIV clinical medicine is a significant challenge. Through its diverse interdisciplinary training and networking initiatives, MATEC and other regional training centers in the U.S. aim to help HIV professionals maintain awareness of new information and evolving best practices. There are now more than 20 antiretroviral drugs in four classes for managing HIV. Recommendations about when to start therapy, what regimens to use, and how to monitor patients for success or failure are continuously being updated.² Providers need to be aware of drug interactions and drug-related toxicities, including a number of serious metabolic abnormalities associated with these therapies. Besides testing for HIV itself, providers need to know how to screen for and manage a variety of potential co-morbidities, including infections such as hepatitis C and tuberculosis, malignancies such as cervical and anal cancer, and, for women, pregnancy. Care providers also need to monitor patients for metabolic abnormalities, including those associated with elevated lipids and blood sugars, which can lead to an increased risk for diabetes and cardiovascular disease.



Although HIV is in many ways a chronic illness, the long-standing stigma associated with infection persists. Stigma shapes how both providers and patients interact with the health care system—influencing communication, testing behavior, and adherence to medication.

Multidisciplinary and Multimodality HIV and AIDS Education and Training

MATEC-MN designs training for a range of professionals, including physicians, advanced practice nurses, physician assistants, nurses, oral health professionals, pharmacists, and other allied and mental health providers. Housed at the University of Minnesota's Division of Epidemiology in the School of Public Health, MATEC-MN has extensive linkages to other public and private health care organizations throughout the state. MATEC-MN relies upon a large network of volunteer trainers that include physicians, pharmacists, dentists, nurses, and other HIV-experienced health professionals to deliver their free continuing education opportunities. In Minnesota, MATEC's training programs use multiple

techniques including:

- **Didactic or classroom-based presentations:** 1 to 3-hour lectures and discussions designed to expand provider knowledge and/or change attitudes;
- **Interactive skill-building sessions:** intensive, participatory training including multidisciplinary group discussions, workshops, and case discussions;
- **Clinic-based training:** trainees receive intensive, clinic-based education to expand their knowledge of HIV, explore their attitudes about the infection, and improve their clinical skills and their level of comfort and confidence in caring for HIV-infected patients. Clinicians receiving such training are assigned to a preceptorship with an HIV expert. MATEC-MN also partners with the University of Minnesota Department of Medicine to offer an HIV clinical rotation for medical residents. In this program, residents attend several HIV clinics, where they are exposed to different patient populations and can see how various HIV experts approach clinical care. Written materials and access to web-based training on providing care to patients with HIV; and
- **Clinical problem solving:** a telephone consultation service with the Minnesota Department of Human Services, co-sponsored by MATEC-MN, offers free advice on clinical and patient-management issues to local HIV care specialists, including adult and pediatric infectious disease physicians, as well as dentists and pharmacists. The consultation service operates in concert with a National HIV/AIDS Clinicians' Consultation Center (www.ucsf.edu/hivcntr), a component of the AIDS Education and Training Centers that provides health care personnel with answers to clinical questions related to HIV infection.

The Changing Nature of HIV Demands Ongoing Training

One of the challenges for MATEC-MN is to make sure that its training initiatives remain current and relevant to Minnesota health care providers' needs. With a decline in AIDS deaths during the past decade, HIV has gone from being a fatal disease that progresses rapidly and primarily needs to be managed in the hospital, to a chronic illness that can be managed primarily in an



outpatient setting. Our understanding of the disease and its treatment is changing so quickly, and as a result, practice information on HIV care that is more than several years old may be obsolete. As more and more people are living with HIV and its complications, it has become essential for all health care providers, regardless of whether they provide HIV treatment, to have a current understanding of HIV care. MATEC-MN will continue to work with health care providers in the state to respond to this ongoing educational challenge.

Providers interested in additional information about MATEC-Minnesota can contact the project by phone at 612-626-3609, or by email at rybic001@umn.edu.

To learn more about MATEC and available resources:

- MATEC-MN visit: <http://www.mnmatec.umn.edu/>
- MATEC visit: <http://www.matec.info/>

The **AIDS Education and Training Centers (AETC)** website provides a central repository for AETC program and contact information and for training materials developed within the AETC network available at: <http://www.aidsetc.org/>

■ Sarah L. Rybicki, MSW, MPH, is Administrative Co-Director of MATEC-Minnesota.

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ADDITIONAL RESOURCES

For a catalog of HIV/AIDS care guidelines visit the National Institutes of Health AIDSinfo guidelines portal at <http://www.aidsinfo.nih.gov/guidelines/>

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HIV FRONTLINES PODCAST SERIES

HIV Frontlines is a podcast series from The Body.com focusing on frontline workers in the HIV epidemic in the United States. They talk with the men and women working at the forefront of HIV prevention and care—offering listeners a chance to hear directly from educators, researchers, advocates, journalists, policy-makers and health professionals about important issues, trends and interventions that cut across a variety of contexts.

To learn more about the series go to: <http://www.thebody.com/content/art47698.html>

Interested in Making a Difference?

Consider a Master's in Public Health (MPH) degree in Maternal and Child Health (MCH)



Kori Wilford, a health educator for the Larimer County Department of Health and Environment, Title X Family Planning Program in north central Colorado, has more than a decade of experience in health education. In her role she advocates for the development and implementation of evidence-based curricula and consumer information materials. In addition to content expertise, her work requires patience and diplomacy, particularly when working with diverse groups to develop educational products. For example, over the course of nearly five years Wilford worked with community members and professionals in the Poudre School District to help create a sexuality education curricula for 7th and 10th graders (http://schoolweb.psdschools.org/frhs/Academics/pdf/Human_Sexuality_Grade10.pdf). The curricula is both evidence-based and acceptable to parents with a broad range of perspectives on the topic.

“My position,” she said, “allows me to be the person in the middle. I can empathize with concerned parents as well as defend evidence-based sexuality education.”

When asked about the key to her success in advocating for comprehensive sexuality education, Wilford said, simply, “Trust. Time and trust are the keys to building relationships. You cannot succeed in public health without strong relationships in many communities.” Wilford also says that initiative is a critical professional quality: “Seeing something that needs to be done and approaching the issue with every intent to improve the situation.”

Her belief in the power of relationships and her ability to respond to a need are reflected in her work with the Young Women’s Journey Conference, which she has led for the past four years in collaboration with community members and young women students (<http://www.fortcollinsjourneyconference.org/>). The one-day youth-development conference

is presented to about 300 Fort Collins’ high school girls every year. Its aim is to instill a sense of leadership in girls and provide them a health and personal development education they would not receive elsewhere. In 2008 and 2009, Wilford extended her volunteer activities to the Himalayan region of Ladakh in northern India, where she helped at dental clinics (<http://www.globaldentalrelief.org/>) and provided reproductive health education.

Wilford’s accomplishments have been nationally and locally recognized.

In 2007, she was one of 10 professionals in the U.S. to attend the First Annual Family Planning Innovators Meeting in Washington, D.C., where her community outreach work was highlighted. And the city of Fort Collins honored her in 2009 with the

Marcile N. Wood award in recognition of her professional and volunteer efforts to improve the status of women.

Why is someone with so many public health accomplishments enrolled in an MPH program? “Education is important in my family,” she explains. “After traveling to India, I realized what I love to do. I want to build my public health skills and I want the credibility I will get with an MPH. I am a mother, a professional, and a community volunteer. I need a rigorous program that will challenge me and I need a flexible program to accommodate my very full life. This program is a perfect fit for me.” From the MCH perspective, Wilford is a perfect fit for the program as well.

To learn more about getting an MPH in Maternal and Child Health, Visit: www.sph.edu/programs/mch



VISIT OUR BLOG

Visit our Healthy Generations blog online to read more about MCH issues in this new era of HIV.

To learn more about national efforts to address HIV domestically and abroad,

GO TO: www.healthygenerations.wordpress.com





Additional Website Resources

Act Against AIDS features the 9½ Minutes Campaign, which draws attention to the statistic that every 9½ minutes in the U.S., a new HIV infection occurs. The site offers information on how individuals can protect themselves, as well as provides basic education and referrals to HIV prevention and testing services throughout the country. <http://www.nineandahalfminutes.org>

AVERT, an international HIV/AIDS charity, works to avert HIV and AIDS worldwide through education, treatment, and care, by building partnerships with local organizations dedicated to the same cause, providing educational resources, and offering information and advocacy to the public. <http://www.avert.org/>

The Body, the Complete HIV/AIDS Resource, uses the internet to reduce barriers between patients and medical providers, to demystify HIV/AIDS and its treatment options, to improve the quality of life of those infected with HIV/AIDS, and to foster community through human interaction. <http://www.thebody.com/index.html>

Care Access and Prevention Services: A Red Door Program of the Hennepin County Public Health Clinic offers one-on-one care advocacy, connections to HIV medical services, assistance with applying for medical coverage, support groups, free confirmatory HIV testing and free primary HIV care, offered through Ryan White Early Intervention Services. <http://www.reddoorclinic.org/caps/index.html>

Centers for Disease Control and Prevention provides leadership in helping control the HIV/AIDS epidemic by working with community, state, national, and international partners in surveillance, research, and prevention and evaluation activities. <http://www.cdc.gov/hiv/default.htm>

CDC National HIV and STD Testing Resources offers information on HIV/STD testing, transmission, and prevention, as well as an online search engine for local testing sites. <http://www.hivtest.org/>

Health Resources and Services Administration (HRSA) HIV/AIDS Program supports caring for the underserved population diagnosed with HIV/AIDS and in conjunction with the U.S. Department of Health and Human Services and HIV/AIDS Bureau, administers the Ryan White HIV/AIDS Program that works with cities, states, and local community-based organization to provide HIV-related services to more than half a million people each year who do not have sufficient health care coverage or financial resources for coping with HIV disease, and fills gaps in care not covered by other sources. <http://hab.hrsa.gov/>

HIPS, HIV/STI Intervention and Prevention Studies, works to advance the health of the community, locally, nationally, and internationally, through research, education, and service activities. <http://www.sph.umn.edu/epi/research/hips/index.asp>

International AIDS Vaccine Initiative (IAVI) works to ensure the development of safe, effective, accessible, preventive HIV vaccines for use throughout the world. <http://www.iavi.org/Pages/home.aspx>

Kaiser Family Foundation provides data on HIV/AIDS in both the United States and around the world, including policy updates, fact sheets, survey data, media partnerships, and journalist training programs, as well as initiatives occurring in South Africa. <http://www.kff.org/hiv/aids/index.cfm>

Midwest AIDS Training and Education Center (MATEC) is a federally funded center, providing AIDS and HIV clinical training and support to health care professionals. <http://www.matec.info/>

Minnesota AIDS Project is a statewide, nonprofit agency committed to enhancing the lives of people living with HIV, prevention education for those at risk for HIV, and advocating for the rights of all affected by HIV. <http://www.mnaidsproject.org/>

Minnesota Department of Health aims to protect, maintain, and improve the lives of all Minnesotans. By providing education, training, and funding opportunities, as well as by promoting awareness, MDH is a central resource on HIV/AIDS prevention in Minnesota. <http://www.health.state.mn.us/divs/idepc/diseases/hiv/index.html>

Minnesota HIV Services Planning Council, a diverse, community-based, volunteer organization, establishes priorities for the allocation of funds in Minnesota of the Ryan White Treatment Modernization Act of 2006. <http://www.mnhivplanningcouncil.org/>

The Office of National AIDS Policy (ONAP), part of the White House Domestic Policy Council, is assigned to coordinating the efforts of the federal government to reduce the number of HIV infections throughout the U.S., emphasizing prevention through educational initiatives and coordinating the care and treatment of those living with HIV/AIDS. <http://www.whitehouse.gov/administration/eop/onap>

UN Women: United Nations Entity for Gender Equality and the Empowerment of Women, Web Portal—Gender and HIV/AIDS, in collaboration with UNAIDS, has developed this comprehensive site to provide up-to-date information on the gender dimensions of the HIV/AIDS epidemic. The site aims to promote understanding, knowledge sharing, and action on HIV/AIDS as a gender and human rights issue. <http://www.genderandaids.org>

UNAIDS, Joint United Nations Programme on HIV/AIDS, using a set of commitments, actions, and goals adopted by the United Nations, works to stop and reverse the spread of HIV, as well as promotes universal access to HIV prevention, treatment, care, and support services. <http://www.unaids.org/en/>

UNICEF advocates directly on the behalf of children at risk for or infected with HIV/AIDS by preventing mother-to-child transmission, providing pediatric treatment, preventing infection among adolescents and young people, and protecting and supporting children affected by AIDS. <http://www.unicef.org/aids/>

U.S. Department of Health and Human Services offers a clearinghouse for information on federal resources, including HIV/AIDS programs, policies and issues, funding opportunities, and education, including an interactive search for HIV testing sites in your area. <http://www.aids.gov/> and <http://aidsinfo.nih.gov/infoSIDA/>

Wisconsin HIV/AIDS Training System provides statewide coordination of HIV/AIDS training, education, and information to increase the capacity of organizations and individuals to prevent HIV transmission in populations at highest risk. <http://www.wihiv.wisc.edu/trainingsystem/index.asp>

Women, Children, and HIV resources on the prevention and treatment of HIV infection in women and children targeted at health workers, program managers, and policy makers in resource-limited settings. Sponsored by the Elizabeth Glaser Pediatric AIDS Foundation, Center for HIV Information at UCSF. <http://womenchildrenhiv.org>

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OCTOBER 20–11, 2011

Fall 2011 Healthy Foods Research and Policy Symposium

Radisson—University Hotel, 615 Washington Ave.,
Minneapolis, MN, and the Minnesota Landscape Arboretum,
Chanhassen, MN

[http://www.hfhl.umn.edu/NewsEvents/
HFHLEvents/2011FallSymposium/index.htm](http://www.hfhl.umn.edu/NewsEvents/HFHLEvents/2011FallSymposium/index.htm)

*Sponsored by: The University of Minnesota Healthy Foods,
Healthy Lives Institute and the Minnesota Landscape Arboretum*

OCTOBER 20, 2011

Lessons from the Field: Trauma and Children: A Model Program for Trauma-focused Care and Why it Works

McNamara Alumni Center 200 Oak Street SE, Minneapolis,
MN, University of Minnesota—East Bank and broadcast to
various sites throughout Minnesota

<http://www.cmh.umn.edu>

*Sponsored by: The Center for Excellence in Children's Mental
Health (CECMH) in partnership with the Center for Advanced
Studies in Child Welfare, University of Minnesota; Co-sponsored
by the University of Minnesota Institute of Child Development,
University of Minnesota School of Public Health Center for
Leadership Education in Maternal and Child Public Health,
and MN Adopt*

OCTOBER 28–NOVEMBER 2, 2011

American Public Health Association 139th Annual Meeting and Exposition

Washington, D.C.

<http://www.apha.org/meetings/AnnualMeeting/>

DECEMBER 12–16, 2011

17th Annual Maternal and Child Health Epidemiology Conference

New Orleans, LA

[www.cdc.gov/reproductivehealth/MCHepi/conference/
aboutconference.htm](http://www.cdc.gov/reproductivehealth/MCHepi/conference/aboutconference.htm)

Sponsored by: Center for Disease Control and Prevention

FEBRUARY 11–14, 2012

AMCHP 2012 Annual Conference

Omni Shoreham, Washington, D.C.

www.amchp.org/conference

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