

# RATFA Bulletin

Rochester Area Task Force on AIDS

October 2008

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## NETWORK NEWS

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The November General meeting falls on Veterans Day and will be held as scheduled since most agencies are open on that day.

## NATIONAL NEWS

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### **CBS News Examines Presidential Candidates' Domestic HIV/AIDS Plans**

CBS' "Evening News" on October 14 examined what presidential candidates Sens. John McCain (R-Ariz.) and Barack Obama (D-Ill.) would do to fight the HIV/AIDS epidemic in the U.S. if elected president.

According to the "Evening News," both McCain and Obama support the President's Emergency Plan for AIDS Relief (PEPFAR) but have said the country needs a domestic plan, which currently does not exist. Obama's plan calls for a national HIV/AIDS strategy involving all federal agencies, and his plan also begins with a pledge to enact universal health care legislation by the end of his first term, according to the "Evening News." In addition, Obama has said he would work to prevent HIV transmission through sex education and testing in minority communities.

McCain has said his administration would seek to prevent HIV by emphasizing abstinence-only sex education. McCain wants to establish Guaranteed Access Plans, in which states would offer coverage to individuals unable to obtain private coverage because of pre-existing medical conditions such as HIV/AIDS, and create greater competition among drug companies to curb rising drug prices. The centerpiece of McCain's health care plan would be a \$2,500 tax credit for individuals to purchase health care coverage of their choice, the "Evening News" reports.

According to Phil Wilson, executive director of the Black AIDS Institute, "There's tremendous irony that while" the U.S. is "showing leadership on the global epidemic, we're showing complete neglect on the domestic epidemic." In addition, CDC Director Julie Gerberding said there are several reasons why blacks in the U.S. are disproportionately affected by HIV/AIDS. "One of them is shame," she said, adding, "People are ashamed to have the infection. The other is stigma. They're punished if someone else finds out they have it. And then the third is ignorance" (Source: Kaiser HIV/AIDS Daily Report, October 15, 2008).

### **Public Health & Education | CDC Releases Subpopulation Estimates from Data on Annual New HIV Infections; New Infections High Among Blacks, MSM**

The majority of new HIV infections in the U.S. in 2006 occurred among men who have sex with men, according to a study released recently in CDC's *Morbidity and Mortality Weekly Report*. In addition, blacks have the highest incidence rates of any racial and ethnic group in the U.S. The study was a follow-up to a CDC study released last month that found there were about 56,300 new HIV infections in 2006, the most recent year for which data are available.

According to the study, 72% of new HIV infections in 2006 among men were contracted through male-to-male sexual contact, including 81% of new infections among white men, 63% among black men and 72% among Hispanic men. Among MSM with new HIV infections, 46% were white, 35% were black and 19%

were Hispanic, according to the study. Blacks accounted for 46% of all new infections in 2006, although they account for 12% of the U.S. population, the study said.

The study found that the number of new HIV infections among black MSM ages 13 to 29 is about twice that of white or Hispanic MSM in the same age group. Most new infections among black and Hispanic MSM occurred in men ages 13 to 29, while most new infections among white MSM occurred in men ages 30 to 39, followed by those ages 40 to 49.

Girls and women accounted for 27% of all new HIV infections, and 80% of new infections among girls and women were transmitted through high-risk sexual contact with men, the study said. Among women, 61% of new infections occurred among blacks, 23% among whites and 16% among Hispanics. The rate of new infections among black women is almost 15 times higher than among white women; the rate among Hispanic women is nearly four times higher than white women, the study said.

An accompanying CDC fact sheet discusses redoubling HIV prevention efforts, especially among the black community, adding that the "alarming number of new infections among young black MSM underscores the need to ensure that each new generation has the knowledge and skills to prevent HIV infection beginning early in their lives". The fact sheet also noted that HIV prevention efforts have not reached 80% of MSM in 15 cities nationwide. CDC recommended increasing HIV testing programs and strategies to target prevention efforts toward people at high risk of HIV transmission (Source: Kaiser HIV/AIDS Daily Report, September 12, 2008).

### **Reaction**

Kevin Fenton -- director of CDC's National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention -- said CDC already has designed two prevention programs targeted toward black MSM, adding that other programs can be adapted for other groups. "We've already put in place a number of interventions," Fenton said, adding that the "response has already begun." According to Fenton, CDC this year will begin promoting HIV testing specifically to blacks. He added that he will testify in congressional hearings about the need for increased HIV/AIDS prevention funding.

Fenton said the study serves as a "powerful reminder that the U.S. epidemic of HIV disease is far from over". Fenton said the study will help health workers more effectively target prevention messages to "ensure that HIV infection doesn't become a rite of passage" for young MSM. Public health officials "need to reach each new generation ... early in their lives to provide the knowledge and skills they'll need to prevent [HIV] infection," Fenton said, adding, "At the same time, we must develop strategies for keeping [older MSM] HIV-free for life."

Richard Wolitski, acting director of CDC's Division of HIV/AIDS Prevention, said the high number of new infections among younger MSM can be attributed to factors such as a "lack of access to effective HIV prevention services and underestimation of personal risk." He added that "many younger men have not personally experienced the severity of the early AIDS epidemic". The *Times* reports that young black men are more likely to have been incarcerated, and HIV/AIDS among former inmates is high primarily because of behaviors outside of prison, according to studies. According to Wolitski, young black MSM, more so than white MSM, also tend to have partners who are older and therefore more likely to already be living with HIV.

Phill Wilson, CEO of the Black AIDS Institute, said CDC's response is insufficient to address HIV/AIDS among the black community. "The fundamental question is, 'Why aren't we doing a better job of responding to the epidemic in black America?'" Wilson said. Mark Cloutier, CEO of the San Francisco AIDS Foundation, said that the "house has been on fire for African-American gay men for many years," adding that HIV "keeps spreading" among black MSM but health workers "aren't bringing the fire corps to it" (Source: **Kaiser Daily HIV/AIDS Report, September 12, 2008**).

### **U.S. Conference on AIDS To Focus on HIV/AIDS Prevention Among Minorities**

The 2008 U.S. Conference on AIDS, sponsored by the National Minority AIDS Council, took place in September in Fort Lauderdale, Fla., and focused on ways to prevent the spread of HIV/AIDS in minority communities. More than 4,000 government officials, health care workers and those living with HIV/AIDS attended the conference, which had the theme, "Looking Back, Moving Forward."

Also at the conference, Univision and the Kaiser Family Foundation unveiled a new Spanish language awareness campaign, which uses personal stories of Hispanics living with HIV/AIDS and their loved ones to reach out to the Hispanic community. Damaries Cruz, a health educator for the Miami-Dade County Health Department who was diagnosed HIV/AIDS 17 years ago, featured in the public service announcement along with her mother, Milagros Pagan, who said it was difficult to cope with her daughter's condition because of stigma and lack of information. "I feel good about being in these ads," Pagan said if it "will help [Cruz] and others who may be in her situation or in the situation I was in". The campaign -- "SOY..." ("I AM...") -- features 12 original public service announcements that will air on the Univision network and radio stations nationally, as well as HIV/AIDS information in Spanish and online resources. The PSAs began airing on Oct. 15 and will run through 2009. (Source: *Kaiser Daily HIV/AIDS Report*, September 19, 2008).

### **"Survey Looks at Teens, Unprotected Sex"**

In a new study, young people asked why they had unprotected sex said they feared a condom would reduce pleasure or their partner would disapprove. The researchers - from Emory University, the University of Miami-Florida, and Bradley Hasbro Children's Research Center - recruited 1,400 youths (ages 15-21) who reported unprotected sex in the previous 90 days. Of these, 63 percent said they had not used a condom in their most recent sexual encounter. Participants reported, on average, two partners and 15 incidents of unprotected sex in the past 90 days. The report, "Condom Use Among High-Risk Adolescents: Anticipation of Partner Disapproval and Less Pleasure Associated with Not Using Condoms," was published in *Public Health Reports* (2008;123(5):601-607). (Source: CDC HIV/Hepatitis/STD/TB Prevention News Update, September 15, 2008).

## **INTERNATIONAL**

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### **"The Invisible Worldwide HIV Epidemic: MSM"**

In many regions of the world, national and locally sponsored HIV prevention initiatives have left men who have sex with men (MSM) out of the picture, advocates said at a Mexico City meeting on HIV/AIDS and MSM before the recent International AIDS Conference.

MSM "are systematically missing in most of our national surveillance systems," said David Wilson, head of the World Bank HIV program. In the last five years, data have shown that "HIV epidemics are far more concentrated than we had believed," he said.

"General population, heterosexual transmission is only the major source in two regions: Africa and the Caribbean," said Wilson. "Everywhere else, we are facing concentrated epidemics of sex workers, drug users, and [MSM]. They are the norm, not the exception. And our programs globally need to reflect this."

In Latin America, MSM represent 50-90 percent of local HIV infections. "It is massively higher than in sex workers," Wilson said. "I don't think that is sufficiently understood." And in Africa, even the scant data available show that MSM are about four times more likely than heterosexuals to be HIV-infected, he noted.

"What we are seeing today in Asia, in every single major city that we have looked at, are epidemics of [MSM] that remind me of what we saw in the US, and Western Europe, and Australia in the 1980s," Peter Piot, executive director of UNAIDS, told the conference. "Homophobia in all its forms" is "one of the top five obstacles to really stopping this epidemic."

The inclusion of programs for women is a default funding guideline for countries applying for grants from the Global Fund to Fight AIDS, TB and Malaria, said David Winters, a manager with the fund. Another assumption should be that MSM everywhere are disproportionately impacted by HIV, he said. "Make that the given and ask countries to prove otherwise" when competing for the funds, he suggested. (Source: CDC HIV/Hepatitis/STD/TB Prevention News Update, September 12, 2008).

### **"Child Deaths Fall Slightly to 9.2 Million in 2007: UN"**

The number of children worldwide who died before their fifth birthday was down slightly last year, UNICEF said recently.

In 2007, child deaths totaled 9.2 million, down from 9.7 million in 2006 and 12.7 million in 1990, according to UNICEF. "Since 1960, the global under-five mortality rate has declined more than 60 percent, and the new data shows the downward trend continues," said Anne Veneman, the agency's executive director.

Efforts to promote breastfeeding, immunizations, HIV/AIDS prevention and treatment, vitamin supplementation, and anti-malaria measures have contributed to the decline, UNICEF said, though a huge gap remains between rich and poor countries.

Globally, the death rate for children under age five was 68 per 1,000 live births in 2007, down from 72 per 1,000 in 2006 and 93 per 1,000 in 1990. Sierra Leone had the highest mortality rate with 262 of every 1,000 children dying before their fifth birthday; for industrialized nations, the rate was six per 1,000.

While Latin America and the Caribbean, Central and Eastern Europe, the former Soviet Union, and part of Asia have seen child deaths decline, sub-Saharan Africa has seen an increase in under-five child mortality. "Sub-Saharan Africa now accounts for almost half of the 9.2 million deaths among children in this age group annually," said UNICEF. "High levels of fertility, together with high levels of mortality in children aged less than five years have led to an increase in the absolute number of deaths [in this region]."

HIV/AIDS remains a major killer of children in the region, though countries such as Eritrea, Malawi, Mozambique, Niger, and Ethiopia have made significant progress in cutting mortality rates, UNICEF said. (Source: CDC HIV/Hepatitis/STD/TB Prevention News Update, September 15, 2008).

### **HIV Drug Resistance Spreading in China, Researcher Says**

As HIV spreads beyond high-risk groups into China's general population, drug-resistant strains of the virus also are appearing in parts of the country, Chen Zhiwei of the AIDS Institute in Hong Kong said recently. According to Chen, the two trends are "alarming" and people living with HIV in China could face treatment obstacles because relatively few antiretroviral drugs are available in the country. "All these drug-resistant mutations are in China now, they are emerging in Chinese patients," he said, adding, "The major worry is whether the drug-resistant virus will spread. We are studying whether that is happening, but that will be the case if you don't provide proper treatment. If drug-resistant virus (strains) spread in China, we don't have enough selection of (drugs) that are made available."

About seven of the more than 20 different antiretrovirals are available in China, meaning that HIV-positive people might be left with limited options if they develop resistance to certain drugs. In addition, treatment adherence can be low in rural parts of China because of a lack of knowledge among patients, low access to health care and inadequate numbers of health care workers to explain the importance of adherence.

Chen's comments follow a study published recently in the journal *Nature* that found how HIV cases are increasing among women and men who have sex with men in the country. "The virus is moving into the general population," Chen said, adding, "Signs are prevalent among women and" in mother-to-child transmission. Chen also said if "there is no good prevention, transmissions will suddenly explode." According to Chen, China's open southern border is a concern, and an HIV strain recorded in Yunnan province also has been detected in Thailand and Myanmar. He added that this could be explained by women working as commercial sex workers in other countries and returning to China. In addition, travelers crossing China's southern border could be contributing to the situation, Chen said (Source: Kaiser HIV/AIDS Daily Report, October 10, 2008).

### **Winners of Nobel Prize for Medicine Voice Concern for Future of HIV/AIDS Funding; Montagnier Discusses Therapeutic Vaccines**

Luc Montagnier and Francoise Barre-Sinoussi, two French scientists who jointly were awarded half of the Nobel Prize for medicine recently, spoke with French President Nicolas Sarkozy about the effect that the world financial crisis could have on global funding for HIV/AIDS. Both scientists voiced their concerns that international HIV/AIDS funding and research could decrease because of the recent global financial crisis. Montagnier also questioned whether assistance from the Global Fund To Fight AIDS, Tuberculosis and Malaria for medicines in places such as Africa could continue in light of the financial situation.

In related news, Montagnier discussed the development of a therapeutic rather than preventive HIV/AIDS

vaccine. Montagnier said that if financial backing is available, the results of a therapeutic vaccine as a possible treatment, which would prevent the virus from progressing in a person already living with HIV, could be published in three to four years. "I think it will be possible with a therapeutic vaccine rather than preventative vaccinations," Montagnier said, adding, "We would give it only to people who are already infected" .

Montagnier also praised Robert Gallo of the Institute of Human Virology at the University of Maryland and French scientist Jean-Claude Chermann. Montagnier said that Gallo and Chermann also deserved to be recognized by the Nobel Prize, adding, "One can feel regret that Dr. Chermann and Dr. Gallo weren't on the list". (Source: Kaiser HIV/AIDS Daily Report, October 09, 2008).

## **NEWS YOU CAN USE**

### **Early Antiretroviral Treatment for People With HIV/TB Coinfection Could Reduce Mortality by Half, Study Says**

People with HIV/tuberculosis coinfection who began antiretroviral treatment within six months of starting TB treatment had a 55% lower mortality rate than people with HIV/TB coinfection who did not begin antiretroviral therapy until after they had finished a six-month TB treatment course, according to a study conducted by researchers at the University of KwaZulu-Natal.

For the study, Salim Abdool Karim -- pro vice-chancellor of the university and director of the Center for the AIDS Program of Research in South Africa, or Caprisa -- and colleagues assigned 645 people with HIV/TB coinfection whose CD4+ T cell counts were less than 500 into one of three groups. One group received both TB and HIV treatment immediately; another group received TB drugs for two months before beginning antiretroviral therapy; and a third group began antiretroviral treatment after completing a six- to eight-month TB treatment course. All study participants were able to begin antiretroviral therapy "at any time if judged clinically necessary" by physicians, Karim said.

The study found that 26 of the 214 people in the group who did not receive antiretrovirals until completing TB treatment died and that the mortality rate in the group was 55% higher than the two groups receiving integrated HIV/TB treatment. Among the 431 participants in the two integrated HIV/TB treatment groups, 24 people died, the study found. The study's findings prompted the trial's safety committee to halt research on the delayed antiretroviral treatment group and provide antiretrovirals to those participants. Research will continue among the other two groups, Karim said.

According to Karim, 70% of the 353,000 people diagnosed with TB in South Africa last year also were HIV-positive. In addition, 150,000 people with HIV/TB coinfection had CD4+ counts between 200 and 500 and would have benefited from taking antiretrovirals before finishing TB treatment. Karim added that the study's findings could prevent up to 10,000 deaths annually.

World Health Organization guidelines indicate that HIV-positive people whose CD4+ counts are below 50 should begin taking HIV and TB drugs immediately; those with CD4+ counts between 50 and 200 should start antiretroviral therapy after two months of TB treatment; and those with CD4+ counts greater than 200 should complete TB treatment before beginning antiretroviral therapy. (Source: Kaiser Daily HIV/AIDS Report, September 19, 2008).

## **HIV VACCINE RESEARCH**

### **Study Identifies Proteins That Help Provide Immunity Against HIV Among Commercial Sex Workers in Kenya**

In a study published in September in the *Journal of Proteome Research*, researchers from the University of Manitoba, along with participants from Canada's National Microbiology Laboratory and the University of Nairobi, identified more than 15 proteins in a group of Kenyan commercial sex workers thought to have a natural immunity to HIV. The study of 3,000 sex workers found this apparent natural immunity among

140 women in the study. Many were completely immune while others were "late converters" with high initial resistance, according to Toronto's *Globe and Mail*.

The *Free Press* reports that researchers found eight proteins to be much more common in a group of women apparently resistant to HIV. The proteins are known to have anti-viral properties, which may prevent HIV from multiplying, or anti-inflammatory abilities that help prevent transmission of the virus. The researchers also found about seven other proteins were diminished in HIV-resistant women.

Blake Ball, one of the lead researchers and a professor of microbiology at the University of Manitoba, said that the relative concentrations of the proteins appear to be one of the keys to explaining the group's ability to avoid becoming ill, adding that immunity likely requires unusual protein levels in addition to genetic predisposition and a highly adaptive immune system. In addition, previous studies have shown that sex workers' apparent immunity to HIV increases the longer they are involved in sex work.

The study has "considerable implications" for future research on new treatments or HIV/AIDS vaccines. Ball said researchers next should determine how and why the women's protein levels provide them with immunity and find a way to replicate the effect in others. Although Ball said the study was relatively small-scale, he said that "we're excited by this result," which "may eventually lead researchers toward a vaccine" . Ball also added that studies by other researchers on HIV resistance among injection drug users, sex workers and couples in which one partner is HIV-positive and the other is not could provide more insight to the results of his team's study. "That's also one of the important next steps -- to see if other people who study similar groups to us can replicate our findings," Ball said (*Source: Kaiser Daily HIV/AIDS Report, September 8, 2008*).

### **Researchers Identify Gene That Could Help Develop HIV/AIDS Vaccine**

In an article published in the journal *Science* recently, researchers announced that they have discovered a gene, called Apobec3, that might help in the development of an HIV/AIDS vaccine. According to the researchers, Apobec3 helps mice develop antibodies against a virus that is similar to HIV. "The gene is crucial to HIV biology," lead author Warner Greene of the University of California-San Francisco said. HIV uses one of its nine genes to disable Apobec3 proteins, which could explain why people living with HIV rarely make antibodies against the virus, Greene said, adding, "If we could prevent HIV from destroying this key pivotal host factor, we might allow HIV-infected patients to develop neutralizing antibodies like they do in mice."

Greene conducted the study with a team from NIH's National Institute of Allergy and Infectious Diseases. The researchers conducted a series of experiments during which they genetically engineered mice to lack the Apobec3 gene. According to Greene, when the researchers "knocked out the Apobec3 gene," the mice "lost their ability to recover from" infection with a virus that is similar to HIV, called the Friend virus. Greene said that the "challenge now" is to make a "translation from mice to men." According to Greene, "[b]locking this degradation of Apobec3 is probably the most promising new drug target in HIV biology." Most vaccines against viral diseases stimulate the body to make antibodies against the target virus. Greene said that HIV vaccine efforts primarily have focused on building up CD4+ T cells to attack the virus but are "not proving adequate." According to Greene, researchers are "desperately seeking better approaches to creating neutralizing antibodies," adding that the research on Apobec3 might help (*Source: Kaiser Daily HIV/AIDS Report, September 8, 2008*).

### **Herpes Virus Changes Anti-Herpes Drug To Form That Hinders Aids Virus**

The drug acyclovir has long been used to suppress outbreaks of oral and genital herpes. Herpes viruses change acyclovir to a form that prevents them from reproducing.

Now, it appears that after acyclovir is altered by herpes viruses, it also interferes with the AIDS virus's ability to reproduce, report researchers from the National Institutes of Health and other institutions.

The study, conducted in cultures of human lymphatic tissue, was published online in "Cell Host & Microbe."

"The findings open up promising new avenues of investigation in the fight against the AIDS virus," said Duane Alexander, M.D., director of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the NIH institute where much of the research was conducted.

The most well known herpes viruses, herpes simplex virus-1 and herpes simplex virus-2, cause cold sores and genital herpes, respectively. Several other herpes viruses, however, are believed to be benign and don't cause any symptoms in adults, explained the study's senior author, Leonid Margolis, M.D., Ph.D., head of NICHD's Section on Intercellular Interactions. These benign viruses are so widespread that most people probably harbor one type or another and don't realize it.

On the basis of his experiments, it's reasonable to assume that most of these viruses have the ability to alter acyclovir so that it hinders HIV, Dr. Margolis said. Although it will take additional studies to confirm, Dr. Margolis added, the results of this study suggest that acyclovir might make a useful addition to the cocktail of drugs used to suppress HIV in people infected with both HIV and one of the many forms of herpes virus. Another prospect for future research would be to chemically modify acyclovir in the same way that herpes viruses do, an avenue which is currently under investigation.

The researchers began their study by culturing HIV and herpes simplex virus-2 together in tonsils removed during surgical procedures. The tonsil tissue provides an environment similar to the body and allows the viruses to reproduce much like they would during an infection.

Early studies of cell cultures failed to show that acyclovir had any effect on HIV, Dr. Margolis said. Yet other studies had shown reductions in HIV levels when people with both HIV and herpes simplex virus-2 (HSV-2) were treated with acyclovir.

When the researchers added acyclovir to the cultures, the levels of both HIV and HSV-2 fell. Next, the researchers grew HIV in tonsil cultures that were not infected with HSV-2. Surprisingly, when they added acyclovir to the HSV-2 free cultures, the levels of HIV in these cultures also dropped. But testing revealed that although the tonsil tissue cultures were free of HSV-2, they had been infected with other kinds of herpes viruses, presumably long before the tonsils were removed surgically.

The researchers took additional steps to avoid mixing HIV with any herpes viruses. They next added HIV to cultures of T-cells (a type of immune cell) that were free of herpes viruses. When the researchers added acyclovir to the T-cell cultures, the levels of HIV in the cultures were unchanged. Similarly, acyclovir did not alter HIV levels in tonsil tissue in which herpes viruses could not be detected.

Dr. Margolis explained that when acyclovir is taken up by a cell infected with herpes viruses, the virus chemically alters the drug, adding a chemical compound called a phosphate group. The chemically altered, or phosphorylated, acyclovir interferes with the herpes virus' ability to reproduce, he said.

The experiments with tonsil tissue strongly suggested that the phosphorylated form of acyclovir also hindered the reproduction of HIV, the study authors wrote.

Next, the researchers tested a phosphorylated version of acyclovir against reverse transcriptase, the molecule that HIV uses to reproduce. The genetic material of HIV is composed of RNA (ribonucleic acid). When it infects a cell, it uses reverse transcriptase to translate the information in its RNA into DNA (deoxyribonucleic acid), which it then incorporates into the DNA of the host cell. The researchers found that the phosphorylated acyclovir prevented reverse transcriptase from producing DNA.

The NICHD sponsors research on development, before and after birth; maternal, child, and family health; reproductive biology and population issues; and medical rehabilitation. For more information, visit the Institute's Web site at <<http://www.nichd.nih.gov/>>.

The National Institutes of Health (NIH) -- The Nation's Medical Research Agency -- includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. It is the primary federal agency for conducting and supporting basic, clinical and translational medical research, and it investigates the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit <[www.nih.gov](http://www.nih.gov/)>.

## **UPCOMING EVENTS**

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**SAVE THE DATE** - World AIDS Day Luncheon will be held on Friday, December 5 at the Wishing Well Restaurant.