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Ryan White, ADAP, Medicaid funding problems could push HIV providers to the end of their tethers

Health care providers subsidize patchwork system

Optimism is difficult to muster these days, according to HIV providers and others who have dedicated their lives to helping HIV-infected Americans receive the treatment and care they need.

While Congress postpones reauthorizing the Ryan White Care Act, which was due for renewal in September, and funding budgets proposed from all fronts are inadequate to cover the growing need, HIV advocates say it will become increasingly difficult for the front-line workers and clinics to keep their HIV patients healthy.

"We're the silent glue that holds the fragments of our health care delivery system quilt in place," says **Michael S. Saag**, MD, professor of medicine and director of the University of Alabama at Birmingham (UAB) Center for AIDS Research in Birmingham, AL.

"We have a totally fragmented health care delivery system, especially when it comes to medications, and the only way you can keep people from falling through the cracks is through health care workers who give a damn," Saag says.

For example, Saag and colleagues have conducted research on health care expenditures for every HIV patient seen in one year's time, and what they found

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AIDS Alert International

COMING IN FUTURE ISSUES

- **Time-efficient adherence screening tool:** researchers have developed a tool that could work simply and inexpensively
- **Anal cancer has increased among HIV population:** investigators show increase in incidence
- **DART study shows continued response after two years:** data involved treatment-naïve patients
- **Black women with HIV:** new report provides prevention, counseling guidance
- **St. John's Wort interacts with some antiretrovirals:** research examines the dangers

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was that the average cost per patient per year was $18,300, he says.

If the patient's CD4 cell count was less than 50 copies, then the average care cost was about $42,000 per year, and if it was above 350 copies, then the treatment cost was about $12,000 a year, Saag says.

Between 75 and 80 percent of that expenditure goes toward medications, about 12 percent goes toward procedures, including lab tests, and 6 to 7 percent is for hospitalization, Saag says.

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"And the actual reimbursement to a clinic for providing care, and this is assuming for all of these costs that the patient is fully insured and collection rates are 100 percent, then the maximum we can collect per patient per year is $370," Saag explains.

So at clinics like the one at UAB, the reimbursement for caring for 1,000 HIV/AIDS patients comes to $370,000 to cover physician, RN, social worker, phlebotomist, and other salaries, as well as rent and overhead expenses, Saag says.

Now the reality is even starker, as only 30 percent of the clinic's patients are insured and the collection rate is only about 40 percent, so that brings the real world collection rate at $130,000 per year to cover all patient care, Saag says.

"That's the amount we can charge insurance companies or the federal government," Saag says. "Our cost of business is $2.1 million per year, and the difference is made up by Ryan White Title III funds, for which we get $500,000 per year, and UAB covers the rest of it."

When the universities and hospitals and HIV clinics dedicated to subsidizing the cost of caring for HIV/AIDS patients no longer have the financial ability to do so, or when health care staff become burned out from the bruising paperwork and thankless system and they quit and cannot be replaced, or when HIV clinics disappear altogether as many private practice HIV sites have, then the nation's patchwork quilt of health care infrastructure will fall apart, Saag says.

Ryan White is set to receive only flat funding, with a potential decrease if Congress decides to cut all programs across the board, as it has previously, says **Laura Hanen**, director of government relations at the National Association of State and Territorial AIDS Directors (NASTAD) in Washington, DC.

The only proposed increase for HIV programs is a $10 million increase for the AIDS Drugs Assistance Program (ADAP), Hanen says.

"We've had states with chronic waiting lists for five years plus, and the $10 million increase for ADAP, if we get it, is highly inadequate," Hanen says. "Also there likely will be a 1 percent, across-the-board cut that Congress continues to use in appropriations bills, so AIDS programs are going backwards."

At the same time, there have been some draconian cuts in a number of state Medicaid programs, all impacting people with HIV/AIDS, says **Christine Lubinski**, executive director of HIV Medicine Association in Alexandria, VA.

"One example is Tennessee where hundreds of thousands of people have lost TennCare, including people with HIV/AIDS," Lubinski says. "It's gone from being a pretty good state for access to AIDS care to one where there are huge challenges in meeting the basic needs of people."

TennCare was designed as a Medicaid waiver program that initially enrolled the traditional Medicaid population plus people who were uninsured and people who were uninsurable, but the state has had to make significant cuts in care and eligibility criteria due to budget problems. (See story on TennCare's problems, p. 4.)

Since Medicaid pays for HIV drugs for about 40 percent of HIV patients on antiretrovirals nationwide, any cuts to state Medicaid programs can have a significant impact on health services for HIV clients, says Greg Smiley, MPH, public policy director of the American Academy of HIV Medicine in Washington, DC.

"We really have to shore up the Medicaid program from the state and federal perspective and focus on an expansion of Medicaid," Smiley says.

When federal and state funding are inadequate to cover HIV patients' medication and treatment needs, then the costs fall on the health care providers who care enough to make up the difference, providers say.

The HIV clinic at UAB hires three fulltime social workers who spend their entire working days filling out forms on their clients' behalf to obtain drugs through pharmaceutical corporations' compassionate use programs, Saag says.

The reason it takes this much staff time is because Alabama is one of the poorest states with one of the most difficult eligibility requirements for Medicaid, and there are 350 people on the ADAP waiting list, Saag explains.

"To be eligible for Medicaid you have to have total disability and have a monthly income of roughly around $500," Saag says. "It's a catch-22 because most people have worked and paid into social security at least a few years, and when they're disabled they get an SSI check of around $510 a month."

This means that very few people receive HIV drugs through Medicaid, and Alabama doesn't fund its ADAP program well enough to cover all of the HIV-infected people who are uninsured and poor, he says.

As a result, clinics in resource-poor states like Alabama have to devote staff positions to the task of finding free drugs for poor HIV clients, and as ADAP and Ryan White remain underfunded on the federal level, this situation will only get worse, Saag predicts.

Alabama's health care funding problems are where the rest of the country's headed, he says.

"It's a question of how much catastrophe will happen along the way," Saag says. "The whole health care system is heading for disaster and it's affecting more and more people with costs rising at about 8 to

10 percent a year, and the majority of those costs are medications."

HIV clinics in Tennessee, as in Alabama and elsewhere, increasingly are having to make changes that will enable their services to survive the growing financial constraints.

"It's only a matter of time before resources are increasingly strained, and that will translate into us having to develop some new strategies in terms of how we treat people," says **Edwin C. Sanders**, II, senior servant with the Metropolitan Interdenominational Church of Nashville. The church has a primary care facility which provides health care services, transportation, clinic and pastoral counseling, and other programs for HIV clients.

"We work with a population that does not respond easily to traditional strategies and modes of treatment, and that population is the most difficult to reach," Sanders says. "So we don't only diagnose and prescribe, but we also do hands-on follow-up that allows us to make sure people are adhering to their medical regimens, and we make house visits to make sure people are taking their medications and eating properly and doing the things that will sustain their health."

Before the nation's disastrous hurricane season, which has resulted in billions of dollars in additional commitments by the federal government, AIDS advocates were hopeful that when Ryan White was reauthorized it would include additional funding.

More money is needed, partly because many smaller states in the Southeast have a disproportionate share of HIV-infected people, but do not have the large metropolitan areas which would enable them to receive additional federal funds to handle their caseloads.

So AIDS advocates were confident in late 2004 that Congress would rewrite Ryan White to give a bigger piece of the pie to these struggling states, which include North Carolina, Alabama, and others.

However, now advocates say they doubt here will be any more money for Ryan White, so any changes made to the reauthorized act to give more money to some states will come at the expense of other states.

"The trouble we're facing is that when you have everyone fighting over the same pie, groups that are advocating for their particular populations tend to one another," Smiley says.

Still, the disparities between the resource-poor Southeastern states and some of the Northeastern states are apparent, Smiley notes.

"I think in general we see some localities where folks have a lot of social services paid for, while in other localities they don't have access to HIV medications, so there are things we need to do to improve care," Smiley says. "We really need both improvements in the Ryan White Care Act and additional funds—we can't do it with the same money we have."

Some states, such as California, have significant state commitments to ADAP and they receive a huge amount of federal money, Lubinski notes.

"While it's a struggle every year, and they have to go out and ensure the state secures adequate money, it's a far cry from North Carolina where you have 800 people on a waiting list, waiting for drugs," Lubinski says.

NASTAD's position is that states with chronic problems in HIV funding need more money, and the goal is to expand care and treatment in the United States, Hanen says.

"And if we're not getting more dollars, then we're going backwards," Hanen says.

What's really needed is a universal health care system, Lubinski says.

"If we had that, we wouldn't be having these struggles with Ryan White," Lubinski adds. "And given that most of these drugs were developed with federal leadership in this country, we wouldn't have a situation where not everyone in this country has access."

TennCare once was model for public health care, but now is cautionary tale

Over 1,000 HIV patients left with no coverage

Tennessee's expanded health care system once was the envy of many, and a model to states that wanted to do something to assist the working poor.

Now, TennCare's chief features of expanding health care coverage to uninsured and uninsurable people have been eliminated, and many HIV patients will lose their health care coverage, says **Stephen Raffanti**, MD, MPH, chief medical officer of Comprehensive Care Center in Nashville, TN.

"From 600 to 900 HIV patients in our clinic will lose TennCare coverage," Raffanti says.

Statewide, probably more than 1,200 HIV patients are losing their TennCare coverage, says **Joseph Interrante**, PhD, chief executive officer of Nashville CARES (Community AIDS Resources Education and Service).

TennCare's new income and eligibility requirements are set so low that the only way a man with

HIV will qualify is if he's homeless and disabled, Raffanti says.

HIV-infected women who qualify for Medicaid through pregnancy will still receive care, but too few others will, he says.

"We went from being the most progressive health care in the country to one of the most restricted," Raffanti adds.

With so many former TennCare clients switched over to ADAP, it's likely the ADAP program will run out of funds by the spring of 2006, Raffanti predicts.

"We've had in our clinic at least a four-to-six-fold increase in ADAP enrollment," Raffanti says. "We've hired a full-time employee who does nothing except enroll patients in patient assistance programs."

These changes jeopardize the lives of Tennessee HIV patients, who will have increasingly problems accessing the drugs and care they need, Raffanti says.

"We have patients who have interpreted all of this change as one more reason why people think they have no value, and it's hard to make an argument against that when everything you see are people who have less support and power and whose lives are being jeopardized by cuts in social services in this country," Raffanti says.

"What's really amazing is when there's a huge push to treat HIV in developing countries when we have states with AIDS drug waiting lists," he adds. "I think it's great to have a huge push to treat HIV in sub-Saharan Africa, but nobody notices the disconnect when hundreds are on waiting lists in this country."

The reasons why TennCare has fallen into such hard times are debatable, but Raffanti and Interrante say it probably was a combination of mismanagement, poor decisions on the part of state officials, and the economic downturn in recent years.

TennCare wasn't more costly than the typical Medicaid program, but the number of people it originally covered was significantly greater, Interrante says.

"It covered expanded populations and all of these groups of people who were unable to find insurance because of life threatening illnesses, like breast cancer, diabetes, and other illnesses," Interrante says.

"No one denies there were fiscal management problems," Interrante says. "They privatized it by turning it over to managed care/managed cost organizations (MCOs), and most MCOs didn't do a good job of managing care or costs."

So the state of Tennessee went above and beyond its original, capitated cost deal with these organizations and assumed more of the risk, and then state officials began to cut out pieces of the program in a futile attempt to contain costs, Interrante explains.

"First they cut the uninsured population, which were the working poor, who were healthier than the other groups, so they increased the risk pool and increased the cost of the program this way," Interrante says.

"When you looked at the number of people covered on a per cost basis, Tennessee still was one of the most efficient Medicaid programs in the country, but given the fiscal problems the state was having like other states, these changes didn't resolve the problem," Interrante adds.

So the state began taking out more pieces of TennCare, including cutting the program for the uninsurable population it once served. The state also put in reforms that were supposed to eliminate waste and increase the program's efficiency, such as a retrospective drug utilization and requiring more accountability from the managed care organizations, he says.

"Many of us are still waiting to see if any of these other reforms get implemented," Interrante says. "The cuts this past summer and fall will be repeated and deepened in 2006 because the other reforms that would keep the program at a certain level of costs have not been implemented yet."

Meantime, the situation is dire for many in the HIV community.

"We need an increase in both federal funding through the Ryan White Care Act, as well as getting the state to realize that their one-time increased appropriation last year was not a one-time commitment and needs to be ongoing," Interrante says.

"The entire safety net we've built up in the last 10 years will begin to unravel as we redirect greater proportion of funds in care services strictly into medical care," Interrante says. "And even with that, it's only a matter of time before we have waiting lists in Tennessee."

CDC's most recent data on HIV epidemic now include stats from New York state

Overall picture shows little has changed recently

The new HIV epidemic data coming from the Centers for Disease Control and Prevention (CDC) of Atlanta, GA, includes statistics from New York state for the first time, which means that it finally provides a more comprehensive national picture.

It's most disturbing finding is that many people

still are diagnosed with HIV infection within a year of their AIDS diagnosis, public health officials say.

In all, 33 states have data from 2001 to 2004 that is based on confidential, name-based reporting, which is the only HIV surveillance data trusted by the CDC.

"We're presenting data from a national perspective, and it's the most complete picture of data to date in the United States," says **Ronald O. Valdiserri**, MD, MPH, acting director of the CDC's National Center for HIV, STD and TB Prevention. Valdiserri spoke about the report at a teleconference in November, 2005.

"In regard to advances in treatment, AIDS cases no longer provide a reliable indication of trends," Valdiserri notes.

"AIDS cases do provide an invaluable measure of the impact of the disease in various populations," Valdiserri says. "Over 40,000 Americans develop AIDS, and 18,000 die from AIDS every year, so AIDS remains a serious and fatal disease."

But there was nothing surprising in the 2004 AIDS death data, other than how it helps CDC officials analyze issues related to entry to care, Valdiserri says.

"We continue to see a substantial number of late diagnoses, meaning someone who has the HIV test and within that year develops AIDS," Valdiserri says. "That's about 38 percent, and that's a very important figure we need to keep our eye on because we are emphasizing early diagnoses of HIV infection for medical and epidemiological reasons."

"From the perspective of our members, the most distressing thing about the CDC data, and it's what providers see on a daily basis, and that is people newly presenting for care who have recently found out they are HIV infected and yet they are very late in the disease process," says Christine Lubinski, executive director of the HIV Medicine Association in Alexandria, VA.

The CDC is addressing this problem through its national push to expand rapid HIV testing, Lubinski notes.

Also, the CDC will announce early this year the new guidelines for HIV counseling and testing in medical settings, Lubinski says.

"They're going to push for making testing much more routine, and they'll push for making modifications to counseling requirements which they feel are a barrier to providers doing the testing," Lubinski says.

For instance, providers find it too time-consuming to have to counsel people before they test for HIV and then to counsel them again on risk reduction behavior if they test negative for the virus, Lubinski says.

"The idea is to make it more routine, so if someone comes in for an annual check-up, and the person is sexually active, then in addition to doing the basic sexually-transmitted diseases (STD) screening and cholesterol screening, then the physician will do an HIV test," Lubinski explains. "There's a feeling that if you have to have special people doing the test and counseling, then it just doesn't happen because the majority of tests are performed in private practice settings."

There now are 38 states that report HIV data by name, and as other state laws change and name reporting becomes available, those data can be added into the national surveillance figures, Valdiserri says.

The CDC collects name-based data from a state for a few years before including the information into its surveillance reports.

New York is a high morbidity state with over 20 percent of all HIV/AIDS diagnoses, Valdiserri says.

The inclusion of New York statistics provides a much bigger picture of the epidemic than what was available in prior analyses, Valdiserri says.

However, data from California and Illinois still are not included, and these also are high morbidity states, he notes.

Future HIV data will improve as more states move to name-based reporting and as the CDC is able to distinguish between new HIV infections and new HIV diagnoses, Valdiserri says.

CDC officials continue to point out that while new HIV diagnoses give some information about trends, these new diagnoses include everyone who has had an HIV infection for years to people who were infected a month ago, so it's difficult to pinpoint exactly why a particular state might have an increase or decrease in diagnoses.

Overall, the number of diagnoses in the 33 states decreased slightly from 39,207 to 38,685 in 2004, a decline that was not statistically significant, says **Lisa M. Lee**, PhD, senior epidemiologist in the CDC's Division of HIV/AIDS Prevention. Lee also spoke at the teleconference.

Diagnoses among men who have sex with men (MSM) remained stable from 2001 to 2003, and then it increased eight percent between 2003 and 2004, consistently for all races, Lee says.

"In terms of the upturn among MSM, it may reflect an increase in HIV incidence, consistent with increases in syphilis in MSM," Lee says. "We hope this increase is partly a reflection of efforts to increase HIV testing in this population."

One key finding is that from 2001 to 2004, the

rate of HIV diagnosis among blacks declined by 5 percent per year, from 88.7 per 100,000 population in 2001 to 76.3 per 100,000 population in 2004.[1]

This figure remains much higher than the diagnosis rate for whites, which was 9.0 per 100,000 in 2004.[1]

"Overall, we found that new HIV diagnoses continue to disproportionately and severely impact African Americans, both men and women," Valdiserri says.

"Despite that drop, the rate of HIV among African Americans remains over eight times higher than among whites and 2.5 times higher than Hispanics, which was 29.5 per 100,000 population," Lee says.

Just over half of all HIV diagnoses from 2001 to 2004 were among blacks, while whites accounted for 29 percent of the diagnoses, and Hispanics were 18 percent, Lee says.

"Overall, men who have sex with men (MSM) continue to account for the largest proportion of diagnoses of any risk group at 44 percent, followed by heterosexuals at 34 percent, and injection drug users at 17 percent," Lee says.

Among men, 61 percent of diagnoses were among MSM, she says.

Newly-diagnosed white men reported heterosexual behavior as the mode of transmission only 6 percent of the time, while 25 percent of black men said they were infected through heterosexual exposure, Lee adds.

"This underscores the need for prevention programs for minority men to target multiple ways of exposure," she says.

Although the data present the most accurate picture to date, there are many limitations, which hinder some meaningful analyses, Valdiserri notes.

For instance, the addition of New York data comes mainly from New York City and its boroughs, where considerable city and state resources enhance Ryan White funding for testing, treatment, and prevention. However, the data offer no clues as to how a higher-resource state like New York might compare in HIV diagnoses to lower resource states in the Southeast or elsewhere.

"I wish we could answer that question of the relationship of distribution and scale of prevention programs and HIV prevention outcomes, but these data don't enable us to do that," Valdiserri says. "What these data do tell us is we're continuing to have high levels of HIV in MSM, especially African American MSM, and we do need to mobilize communities to work on it."

Likewise, the CDC is working on responding to the recent increase in crystal methamphetamine use, which plays a significant role in high risk sexual behaviors, Valdiserri says.

"The concern is it might be likewise implicated in HIV infection, and we're looking at that very carefully right now," Valdiserri says. "Gay communities in New York, particularly, have mobilized very aggressively, and you find campaigns in New York and Chicago, and we're seeing an active response particularly among gay and bisexual communities to address this as a dangerous practice that could lead to an increase in HIV infection, as well."

Reference:

1. New HIV diagnoses, 33 states, 2001-2004. Report by Centers for Disease Control and Prevention, Atlanta, GA. November, 2005.

ADHERENCE STRATEGIES

Homeless HIV program uses creativity, myriad of approaches to improve adherence

Program even has staff at race track

HIV clinicians and researchers routinely note that one of the most difficult populations with which to achieve HIV antiretroviral adherence is the homeless.

Often, HIV-infected people who are homeless are coping with extreme psycho-social problems, including substance abuse, exposure to violence, joblessness, poverty, and mental illness.

Despite these issues and the inherent transient nature of a homeless population, the Boston Health Care for the Homeless Program in Boston, MA, has an HIV program that has succeeded in helping many patients stay on their medications and maintain undetectable viral loads.

In a recent outcomes analysis, the program found that 54 percent of the HIV-infected homeless people who worked with the program staff had undetectable viral loads six months after they were admitted into the program, says **Carole Hohl**, PA-C,

MHS, director of HIV services.

"Fifty-four percent actually is not bad," Hohl notes. "It's in the same ballpark as other populations that have been studied, so we're pleased with that and will look at what's happened with those who didn't succeed."

The program provides a multidisciplinary team approach to care, including case management, dental, and ophthalmological services at locations that are convenient to the area's homeless population, including medical care clinics at Boston homeless shelters, says **Peggi Marini**, ACRN, HIV chair manager.

"Our team is accessible to our patients all day, every day," Marini says. "It has made a huge difference for our population."

There also are clinics at Massachusetts General Hospital in Boston and at a local horse racing track, Hohl says.

"People are really surprised at this, but most of the workers at the race track are homeless and live in track rooms," Hohl says. "Most don't have insurance, including Medicaid, so we run the clinic out there two days a week."

The track has hundreds of workers, and when the HIV team is there they typically see 10-15 patients per day, Hohl adds.

In addition, when homeless patients become too sick or unstable to reliably seek care and take their medications, the program has a respite facility with 90 beds and a 24/7 nursing care staff, Hohl says.

Funded by Medicaid, the facility provides homeless patients with a much-needed break from the shelters and streets, and the patients can be seen by a physician and physician's assistant, as well as the nurses, Hohl explains.

"If someone is very ill, and we're not sure they can handle taking meds on their own in the shelter system or in the streets or if we're concerned about the side effects, then we put them in the respite facility and follow them there after they've started on their meds," Marini says.

From years of working with HIV-infected homeless people, the program's staff have learned to slowly develop relationships and trust with their clients, Marini says.

"We invite them to come to our clinic, and we have an open door policy and very few barriers to their coming into the clinic," Marini says. "A nurse case manager is available every day from Monday to Friday, 8:30 a.m. to 5 p.m.."

Also, the program's staff visit homeless shelters and meet with clients wherever they are located, she says.

A client's drug or alcohol problem does not mean he or she will be prevented from receiving medications, but it does result in the case manager incorporating those challenges into a treatment plan, Marini explains.

"We prefer clients to be clean and sober in treatment, but that's not always the case," Marini notes. "We frequently use harm reduction, which has been very successful with a lot of our clients."

To build up antiretroviral adherence, the staff assist homeless patients with taking prophylactic drugs, as well as using pill boxes, having nurses hand out their pills daily, and some directly observed therapy (DOT), Marini says.

The medical staff at the homeless shelter is taught the importance of antiretroviral drug adherence and are directed to notify the program when clients don't come in for their medication, she adds.

Most of the adherence strategies boil down to developing trust, Hohl says.

"We've done alarms and reminders and we call people—a lot of homeless people have cell phones, but going out to where they are probably is the key to getting them into care," Hohl says.

"We also help people have access to a phone service where they can receive messages," Marini says. "We can call and remind them of clinic visits."

A street team visits homeless people who may not frequent shelters and convinces them to be tested or to receive treatment if they have already been tested positive for the virus, Hohl says.

"Most of the time the people living on the street aren't ready for intense treatment, but we see them regularly to let them know the option is available for them," Hohl adds.

Since homeless people often are lost in health care systems, the program staff also visit local hospitals to meet new homeless clients and to assist them with access to primary care and HIV care, Hohl says.

The program's approach to initiating antiretroviral therapy is to take it on a case-by-case basis, looking at each person's issues with substance use, mental health status, and commitment, Marini says.

"Their commitment could be their understanding of the importance of medications and what their lab values mean," Marini says. "They could be committed to showing up for their appointments."

A client may not be able to remain clean and sober, but if he or she is able to cut the drug or alcohol abuse in half then that's seen as a commitment, she says.

"It's really individualized, and we don't demand that our patient always be clean and sober," Marini notes. "We look at a lot of different things."

Other examples of commitment might include these, she says:

- Does the client come in for appointments?
- What is their understanding of the disease?
- Are they willing to reduce the amount of alcohol

they're drinking?

• Do they show a willingness to take prophylactic medications?

• Do they see the nurse on a consistent basis?

When patients are put on antiretroviral therapy, they receive support, including psychotherapy and access to support groups, Marini says.

The staff often go to creative lengths to assist their clients.

For example, one nurse will meet with a client every morning for breakfast, which is when the client takes antiretroviral medications, Marini says.

In another instance, there was a homeless client who was drinking and had a very low CD4 cell count and a very high viral load, Marini recalls.

"We started him on prophylactic medication and had him come into the clinic on a weekly basis, and the nurse met with him at shelters at night," Marini says. "Eventually she gained his trust, and now he drinks about half of what he was drinking."

All of this means accepting the clients where they are at and not making the program structured in such a strict way that clients cannot qualify when they show small improvements, Marini says.

"The man now has been on medications successfully for about 10 months and he has an undetectable viral load," Marini adds. "His CD4 cell count is still very low, but his percentage has gone up, and his health is good."

The man even has received extensive dental work, and he is interested in finding permanent housing, so it works to meet him at his level, accepting that he is a drinker, Marini says.

"We hear from many clients that in previous experiences they were not offered medications because they weren't clean or sober," Marini says.

MMWR report on HIV and TB highlights challenges, needs

[Editor's note: In this Q&A story, Kevin Cain, MD, epidemic intelligence service officer in the National Center for HIV, STD, and Tuberculosis Prevention, and Michael Iademarco, MD, MPH, associate director for science in the Division of TB Elimination, at the Centers for Disease Control and Prevention in Atlanta, GA, answer questions about the report on "Screening HIV-Infected Persons for Tuberculosis - Cambodia, January 2004 -- February 2005," published Nov. 25, 2005, in the Morbidity and Mortality Weekly Report.]

AIDS Alert: The program the MMWR describes for screening HIV patients in Cambodia for TB seems intuitive—especially with such high percentages of TB infection among this population. Why wasn't this screening routine prior to the pilot project?

Cain: TB and HIV programs historically evolved as public health programs directed from the top-down, and our report helps document why it is so difficult to improve collaboration between programs. For example, changing from a disease-centered approach to a patient-centered approach requires building human resources and dramatic changes in the public health programs.

CDC, USAID, and the Cambodia Ministry of Health are working to improve collaboration between programs and address the needs of patients with both diseases. In this report, we were able to identify barriers to screening and found that by addressing these barriers with simple and inexpensive interventions, rates of screening improved substantially.

AIDS Alert: Once an HIV patient has been diagnosed with TB, what treatments are available in Cambodia?

Cain: After being diagnosed with TB, patients are started on standard therapy for tuberculosis. For most patients, this is 6 month treatment regimen, including 2 months of 4-drug therapy and 4 months of 2-drug therapy. In addition, HIV-infected TB patients are offered co-trimoxazole, which is a medication which has been shown to improve outcomes for these patients. Antiretroviral therapy is now being expanded in Cambodia, and most HIV-infected TB patients who live in an area with access to antiretroviral drugs are eligible for therapy.

AIDS Alert: Is TB screening among HIV patients common in other developing nations, such as India or countries in sub-Saharan Africa? If so, are there cost-effective models readily available for doing this, and if not, why not?

Cain: CDC, USAID, and other USG agencies continue to work with countries around the world to implement and enhance collaboration between TB and HIV programs through the President's Emergency Plan for AIDS Relief. Many different models are being tried, based on local needs and resources. In our project, we showed how a detailed program evaluation can help substantially improve screening rates. Such evaluations should be performed on projects in other countries to identify effective ways to improve patient care.

AIDS Alert: The MMWR article states that new diagnostic methods for TB disease are needed. Would you please explain why the best diagnostic tests don't work in resource poor settings now and what kind of new test could be more effective and practical?

Cain: As of now, there is no single diagnostic test which is highly sensitive for diagnosing TB in

patients with HIV. New diagnostic tests are being researched, but it will still be some time before such a test is available in areas with limited resources. Some of the best tests for tuberculosis include culture of the sputum, blood, or lymph nodes. These tests are not widely available yet in Cambodia and some other resource-limited countries because they are expensive and technically demanding; most countries do not have the human or financial resources to build and maintain the laboratory capacity for these tests.

Public health officials believe that it is essential to improve the diagnosis of TB in HIV-infected persons. The World Health Organization has recognized this as a tremendous problem and recommends that studies be performed to develop and validate clinical algorithms for diagnosing TB disease. Such an algorithm would be able to divide patients into three groups: 1) patients who have TB; 2) patients who do not have TB; and 3) patients who need more diagnostic tests. This type of evaluation would also help to determine which diagnostic tests are needed for those patients who need further testing. With this knowledge, we would know how best to scale-up diagnostic services to meet the needs of the HIV-infected patients in the country. With this type of an evaluation, we would be able to substantially improve the diagnosis of TB in HIV-infected persons within a short time—perhaps within a year. The results could be applied to all HIV-infected persons within the country, and the results could be used to make available the tests which are most important for the region—and do so in a way which is most effective and practical for the country.

AIDS Alert: Given the financial and health infrastructure realities of Cambodia and similar resource-poor countries, what do you think could be achieved with regard to TB screening and how could this best be achieved?

Cain: Clinical algorithms could be developed and implemented in a relatively short period of time. This would immediately help a large proportion of patients who could quickly be diagnosed with TB or have TB ruled out, even before more diagnostic testing can be made available. Algorithms can be simple and are inexpensive, so they are sustainable. By diagnosing TB earlier using an algorithm like this, it is our hope that outcomes for HIV-infected TB patients would improve.

AIDS Alert: Should more research and effort be put into developing an effective vaccine against TB that would work in adult HIV populations, and, if so, how close is the world's health community to having such a product?

Iademarco: Yes, more research and effort should be put into developing an effective vaccine. The Stop TB Partnership, hosted by the World Health Organization, places a strong emphasis on the development of new tools, i.e. new drugs, new diagnostics for TB and drug resistance, and new vaccines, to combat TB and TB/HIV. CDC is committed to helping WHO continue to research possible vaccines to combat TB worldwide.

FDA Notifications

Proposed changes to condom regulations

The Food and Drug Administration (FDA) recently published information about proposed changes in the way condoms are to be regulated, and draft guidelines for condom labeling.

FDA sets regulatory controls on medical devices. The least restrictive level is general controls. General controls can include good manufacturing practices/quality system regulation, registration and listing, adverse event reporting, and the prohibitions on adulteration and misbranding.

Another level of control is known as special controls. The way a device is labeled can be considered part of special controls.

FDA believes that special controls (in this case special labeling), when combined with general controls, will be sufficient to provide a reasonable assurance of the safety and effectiveness of latex condoms, with or without spermicidal lubricant.

FDA is proposing to amend the classification regulations to designate a special control for natural rubber latex (latex) condoms, with and without spermicidal lubricant. New guidelines (below) specify the kind of labeling that will be considered sufficient and appropriate for the products.

Three separate documents were published on Nov. 14, 2005 to support these proposed changes:

1. Proposed Rule-Obstetrical and Gynecological Devices; Designation of Special Control for Condom and Condom With Spermicidal Lubricant

www.fda.gov/OHRMS/DOCKETS/98fr/05-22611.htm. This document explains the regulatory structure for devices of this class.

2. Class II Special Controls Guidance Document: Labeling for Male Condoms Made of Natural Rubber Latex- www.fda.gov/OHRMS/DOCKETS/98fr/05-22610.htm. A Notice of Availability of the Guidance, which includes a very good overview of the regulatory history of condoms.

3. Draft Guidance-Class II Special Controls Guidance Document: Labeling for Male Condoms Made of Natural Rubber Latex - www.fda.gov/cdrh/comp/guidance/1548.html. The draft guidance, which explains the specific labeling requirements considered to be special controls, including labeling recommendations intended to help address issues related to nonoxynol-9 (N-9), used as a spermicide in the lubricant of some latex condoms.

The labeling recommendations in the draft guidance reflect an extensive review by FDA, in consultation with the National Institutes for Health (NIH) and the Centers for Disease Control and Prevention (CDC), of the available medical literature on the safety and effectiveness of condoms intended to prevent pregnancy and provide protection against sexually transmitted diseases (STDs). In addition, the agency considered other relevant information related to the barrier properties of latex condoms and the various routes of transmission of STDs.

Interested parties are encouraged to comment on the proposals. Instructions for submitting comments are provided within the linked documents.

FDA postpones CCR5 Antagonist Review Group meeting

After reviewing the current CCR5 antagonist development issue, the FDA CCR5 Antagonist Review Group and the Forum for Collaborative HIV Research have decided to postpone the meeting to discuss the long-term follow up of patients enrolled

CE/CME *directions*

To complete the post-test for *AIDS Alert*, study the questions and determine the appropriate answers. After you have completed the exam, check the answers **on p. 12**. If any of your answers are incorrect, re-read the article to verify the correct answer. At the end of each six-month semester, you will receive an evaluation form to complete and return to receive your credits.

CE/CME *questions*

1. According to the CDC's 2004 HIV surveillance data, what percentage of HIV-infected people develop AIDS within 12 months of receiving their HIV diagnosis?

A. 14 percent
B. 23 percent
C. 31 percent
D. 38 percent

2. The CDC's 2004 HIV surveillance data show what statistical breakdown of HIV diagnoses according to race?

A. Blacks-65 percent; whites - 23 percent; Hispanics-11 percent
B. Blacks-51 percent; whites - 29 percent; Hispanics-18 percent
C. Blacks-33 percent; whites 45-percent; Hispanics -20 percent
D. Blacks-47 percent; whites-41 percent; Hispanics-11 percent

3. A Boston program that works with HIV infected people who are homeless did an outcomes analysis that showed what percentage of the homeless people who worked with the program staff had undetectable viral loads six months after they were admitted into the program?

A. 48 percent
B. 54 percent
C. 69 percent
D. 82 percent

4. When working with homeless populations, HIV service providers often look for patients being committed to their own care. Since a total commitment of staying clean and sober might be unachievable for many, which of the following is another acceptable example of commitment?

A. Do clients come in for appointments?
B. Do they show a willingness to take prophylactic medications?
C. Do they see the nurse on a consistent basis?
D. All of the above

in CCR5 antagonist clinical trials until February or March of 2006.

The original Jan. 18th date was chosen to address the long-term follow up issues in as timely a manner as possible. However, because additional clinical trial data is accumulating, waiting until as much information as possible is available will ensure that the public discussion is as effective as possible.

An announcement will be sent once the exact meeting date is established.

We still encourage input from the patient and advocacy communities and academia to ensure your suggestions and concerns are taken into consideration as we prepare for this important meeting.

Please use the website at www.hivforum.org/CCR5/index.html to provide input. Please provide your comments by Jan. 15, 2006.

World AIDS Day comments by FDA's HIV/AIDS program director

From the first, isolated reports in 1981, AIDS has grown into a global pandemic. Despite efforts in every nation, the epidemic continues to grow. While HIV/AIDS seems to have faded somewhat into the background in the United States, rarely making front page headlines as it has in years past, the epidemic is still present in this country. There are more than a million people living with HIV and AIDS in the United States today, and an estimated 38 million worldwide.

AIDS and HIV infection have become part of the American narrative over the past twenty four years. It is a now part of the fabric of our nation, and that of nations around the world.

FDA has played a strong role in addressing treatment and prevention from the beginning of the epidemic. FDA has made significant contributions to the development and availability of potent antiviral drugs that have dramatically helped people with HIV and AIDS live longer, healthier lives.

The agency has played an important role in improving medical treatments, providing access to promising investigational products, helping to prevent the transmission of HIV through regulation of barrier products, protection of the blood supply, and oversight of the development of vaccines (both preventive and therapeutic) and microbicides.

World AIDS Day commemorates those that have died from AIDS. It also serves as an opportunity to think about how we can help support the individuals, families, and communities affected by HIV and AIDS, and renew our commitment to preventing the spread of the disease, developing and delivering more effective treatments, and finding a cure.

You can find a comprehensive chronology of significant events in FDA's involvement in the fight against HIV on the FDA website at www.fda.gov/oashi/aids/miles.html

CE/CME objectives

After reading this issue of *AIDS Alert*, CE participants should be able to:

- **identify** the clinical, legal, or scientific issues related to AIDS patient care;
- **describe** how those issues affect nurses and other health care providers;
- **cite** practical solutions to the problems associated with those issues, based on overall expert guidelines from the Centers for Disease Control and Prevention or other authorities and/or based on independent recommendations from specific clinicians at individual institutions. ■

CE/CME *answers*

Here are the correct answers to this month's CME/CE questions.

1. D 2. B 3. B 4. D

AIDS ALERT®
INTERNATIONAL

HIV epidemic continues to make major inroads in sub-Saharan Africa

AIDS deaths estimated at 2.4 million

There were a few bright spots in an otherwise bleak HIV picture in sub-Saharan Africa last year. Adult national HIV prevalence rates appeared to be declining in Kenya, Uganda, and Zimbabwe.[1]

But the overall news was sobering: An estimated 25.8 million adults and children were living with HIV in 2005 in the region, and AIDS deaths were around 2.4 million, an estimated 300,000 more deaths than in 2003.[1]

UNAIDS of Geneva, Switzerland, estimates that worldwide close to five million people were newly infected with HIV in 2005, and more than half of them were ages 15 to 24. More than three million people died from AIDS, including half a million children, **Peter Piot**, MD, executive director of UNAIDS, says in a speech in New Delhi, India, at the launch of the 2005 AIDS epidemic update campaign on Nov. 21. (See charts about AIDS epidemic worldwide, p. 4.)

Still, global health leaders take some comfort in the good news: "Adult HIV infection rates in Kenya have gone from a peak of 10 percent in the late 1990s to 7 percent in 2003," Piot says.

Likewise, in Zimbabwe, the levels of HIV infection among pregnant women fell from 26 percent in 2002 to 21 percent in 2004, and that was the first country in Southern Africa where such a decline was seen on a national scale, Piot reports.

"In the two African countries, the declines in HIV rates have been due to changes in behavior, including increased use of condoms, people delaying the first time they have sexual intercourse, and people having fewer sexual partners," Piot explains. "HIV information campaigns and voluntary HIV testing and counseling have encouraged those changes. In other words, HIV prevention efforts are working."

Uganda's HIV epidemic peaked in the mid-1990s at more than 15 percent prevalence, and then it began to fall due to a nationwide prevention strategy. Unfortunately, that success may be turning around, as recent data show continued high risk behaviors among men, particularly.[1]

Despite the encouraging news from a handful of countries, the worldwide picture shows that the AIDS epidemic continues to outstrip global and national efforts to contain it, Piot notes.

Also, the successes witnessed in parts of the developing world do not mean the global health care community can let go of its guard, says **Paul De Lay**, MD, director of evaluation for UNAIDS.

"If we reduce these [prevention] programs we'll see a resurgence of the epidemic," De Lay says. "This report highlights the need for comprehensive programs for this generation and the next generation."

And sub-Saharan Africa continues to have the world's worst HIV epidemic, with more than 60 percent of all people living with the disease, says Karen Stanecki, senior advisor for demographic and related data at UNAIDS.

The annual UNAIDS report about the epidemic has some limitations, including the fact that HIV prevalence data primarily reflect HIV incidence patterns of several years previously, Stanecki says.

As the UNAIDS report notes, several hundred thousand Zimbabweans were displaced by force in 2005, and this could have an impact on future data.

"The declines we're seeing are not the result of current situations," Stanecki says, explaining why Zimbabwe is showing declines at a time of economic and political turmoil.

"Until recently, Zimbabwe had the second best health infrastructure in all of Africa, with South Africa having the best," De Lay says.

"In Zimbabwe, we saw increases in condoms, declines in casual partners, and these came from pregnant women surveillance data and some localized research studies that were done," Stanecki says. "But that doesn't reflect the current economic and political situation, and we are very much concerned that the current situation will have major implica-

tions about what will happen with the epidemic."

Another explanation for Zimbabwe's success is that there has been a massive community response to the epidemic, and this has been invisible to the outside world, which has instead focused on the government's actions and policies, De Lay says.

Studies conducted in Zimbabwe show that condoms are being used in 80 percent of casual sexual partnerships, which is among the highest percentage of condom use in the world, De Lay notes.

"Somehow people are recognizing their risk and are doing something about it even in the current political crisis," De Lay says.

Unfortunately, the positive news does not extend to southern Africa as a whole. The report found that in South Africa, HIV prevalence among pregnant women has climbed to 29.5 percent of women attending antenatal clinics in 2004, and HIV prevalence among women aged 25-34 years is estimated to be more than one in three.[1]

To put the data in perspective, South Africa's HIV prevalence was less than 1 percent in 1990. By 2000, it had climbed to nearly 25 percent.[1]

"Having lagged behind most other epidemics in the sub-region, AIDS in South Africa is now taking a devastating toll in human lives," the UNAIDS report says. "A recent study of death registration data has shown that deaths among people 15 years of age and older increased by 62 percent in 1997 to 2002, with deaths among people aged 25-44 years more than doubling."

Also, Botswana, Lesotho, Namibia, and Swaziland also have very high HIV prevalence with rates often exceeding 30 percent among pregnant women.[1]

UNAIDS officials say that despite the severity of global AIDS deaths, these numbers would be significantly higher if it weren't for the universal access to HIV prevention, treatment, and support programs.

"Access to HIV treatment has improved over the past two years," Piot says. "Even if the 'Three by Five' goal will not have been reached as of June 2005, there are now more than one million people in developing countries living longer and better lives because they are on antiretroviral therapy."

The number of people who died from AIDS last year would have been 3.4 million instead of 3.1 million if it weren't for the antiretroviral access efforts, says **Jim Yong Kim**, MD, director of HIV/AIDS for the World Health Organization of Geneva, Switzerland.

"In some African countries, we're seeing a treatment dividend," Kim says. "We know that when treatment is available, the interest in knowing one's status goes up significantly."

The UNAIDS report includes these statistics about various African nations and the HIV epidemic:

- Botswana, Lesotho, Namibia, and Swaziland are nations with very high HIV prevalence, which exceeded 30 percent among pregnant women and soared to 43 percent in 2004 in Swaziland.[1]
- Mozambique's epidemic has risen with HIV prevalence among pregnant women rising at two thirds of the clinics surveyed in 2004, and the estimated adult HIV prevalence rate rose to over 16 percent in 2002 to 2004.[1]
- Pregnant women in Namibia have an HIV prevalence that ranges from 8.5 percent in the remote Northwest area of Opuwo to more than 42 percent in Katima Mulilo, which is in the Caprivi Strip between Angola, Botswana, and Zambia.[1]
- While data suggest Botswana's epidemic is stabilizing, the HIV prevalence among pregnant women remains between 35 percent and 37 percent, and the prevalence rate even has risen among pregnant women ages 25 and older.[1]
- HIV prevalence in Madagascar, Mauritius, and Seychelles is low compared with other areas in Southern Africa, but it has risen in Madagascar, reaching an estimated 1.8 percent prevalence in 2005. And in Mauritius, HIV prevalence among injection drug users (IDUs) is between 10 percent and 20 percent.[1]
- Nigeria is home to an estimated 3.2-3.6 million people who live with HIV infection, according to 2003 data, and the median HIV prevalence among pregnant women has leveled at 4 percent.[1]

The world's focus must continue to be on prevention, even as countries increase their treatment programs, Piot says.

World AIDS Day in 2005 was the first time the international community declared a single plan of action on HIV prevention, Piot says.

The UNAIDS report stresses that prevention and treatment are partners and should be conducted together.

"We should shoot for a universal offer of voluntary testing and counseling," Kim says. "We have a nice quiver full of arrows of effective prevention programs for every kind of transmission of the virus."

One of the first places to start a prevention scale-up project would be to reduce mother to child transmission (MTC), because without prevention efforts about 35 percent of children born to HIV-positive women will contract the virus.[1]

"Closing the gap on HIV prevention will also require a greater attention to the needs of children and young people," Piot says. "The response to AIDS has to be unprecedented because this is

an unprecedented epidemic, both as a crisis today and as a threat into the future."

Reference:
1. AIDS epidemic update: December 2005. Joint United Nations Programme on HIV/AIDS (UNAIDS), World Health Organization (WHO);05.19E:1-98. Available on-line: www.unaids.org.

Study of HIV risk in Africa shows women have very low risk behaviors

Even married women were at risk

A recent study of HIV risk among people in Moshi, Tanzania, found that women who had one sex partner had a five-fold increased risk of HIV infection when compared with similar men.[1]

"This analysis derives from a survey conducted among people presenting for HIV testing at the HIV voluntary and testing service organization called Kiwakkuki in Moshi," says **Nathan M. Thielman**, MD, MPH, associate professor in the department of infectious diseases at Duke University in Durham, NC.

"We simply asked a very straightforward question among 1,974 clients: we asked them how many sexual partners they had in their lifetime," Thielman says. "So, 72 of them reported they had none; they'd had lifetime abstinence, and 585 reported one sexual partner for their lifetime, which we took to mean faithfulness, and 1,317 had more than one partner."

As was expected, among the men and women who reported abstinence, the HIV seroprevalence was lowest at about 3 percent, Thielman says.

And among men who reported having only one lifetime partner, only 4 percent were HIV positive, Thielman notes.

However, women who reported having only one lifetime partner had a 22 percent infection rate, which made them five times more likely than men who reported similar behavior to be HIV infected, he says.

For women who reported more than one lifetime partner, the HIV seroprevalence rate was 33 percent, and for men who had more than one lifetime partner, it was 12 percent.[1]

Also, the median number of partners among women who had more than one lifetime partner was two, while the median number of partners among men who had more than one lifetime partner was four.[1]

"What is most concerning in this study is the difference in HIV seroprevalence among women who report being faithful and men who report being faithful," Thielman says.

"As such the key policy implication I draw from this is we need to advocate for prevention methods that empower women to negotiate safer sex even in the context of monogamous relationships," Thielman adds.

One possible limitation to the study is previous research that suggests that women in sub-Saharan Africa may under-report their sexual activity relative to men, Thielman says.

"It's somewhat controversial," he says. "So there are limitations in this study because it relies on self-reporting of sexual activity."

However, the overriding message is that men and women who are abstinent had the lowest absolute risk of HIV infection, and men with a single lifetime partner had a very low risk of HIV infection, Thielman says.

Governmental and non-governmental health organizations serving this population face considerable challenges in HIV prevention work, he notes.

"The greatest challenge is getting the money directly to the organizations that do the good work," Thielman says.

"I think there is an appropriate amount of emphasis on provision of treatment for those who are HIV infected," Thielman says. "And I'm a huge advocate of providing antiretrovirals to those in need, but we don't want to lose sight of providing prevention messages, as well."

One cost model of HIV prevention work suggests that for every $92 spent to offer free voluntary counseling and testing, one HIV infection could be averted, Thielman says.

"Compare that to the cost of treatment, and it's illustrative of the importance of a prevention message coupled with treatment in sub-Saharan Africa," Thielman says. "Those are the data we've modeled out through this program."

Reference:
1. Landman KZ, et al. Differences in the risk of HIV infection among persons reporting abstinence, faithfulness, and multiple sexual partners in Moshi, Tanzania. Presented at the 43rd Annual Meeting of the Infectious Diseases Society of America, Oct. 6-9, 2005, in San Francisco, CA. Abstract:768.

Global summary of AIDS epidemic—December 2005

People living with HIV in 2005
Total: 40.3 million
Adults: 38 million
Women: 17.5 million
Children > 15 years:2.3 million

People newly infected with HIV in 2005
Total: 4.9 million
Adults: 4.2 million
Children > 15 years:700,000

AIDS deaths in 2005
Total: 3.1 million
Adults: 2.6 million
Children > 15 years:570,000

• **Note:** the numbers represent estimates within ranges determined by available data collected and reported by UNAIDS of Geneva, Switzerland in the AIDS Epidemic Update: December 2005 (www.unaids.org). For example, the 40.3 million figure estimated for the total number of people living with HIV in 2005 represents a range estimate of 36.7 to 45.3 million.

Regional HIV and AIDS statistics for 2003 and 2005

Sub-Saharan Africa
2005 Total adults and children living with HIV: 25.8 million
2005 Total new infections: 3.2 million
2005 Adult prevalence: 7.2 percent
2005 Total deaths: 2.4 million
2003 Total adults and children living with HIV: 24.9 million
2003 Total new infections: 3.0 million
2003 Adult prevalence: 7.3 percent
2003 Total deaths: 2.1 million

Latin America
2005 Total adults and children living with HIV: 1.8 million
2005 Total new infections: 200,000
2005 Adult prevalence: 0.6 percent
2005 Total deaths: 66,000
2003 Total adults and children living with HIV: 1.6 million
2003 Total new infections: 170,000
2003 Adult prevalence: 0.6 percent
2003 Total deaths: 59,000

Eastern Europe and Central Asia
2005 Total adults and children living with HIV: 1.6 million
2005 Total new infections: 270,000
2005 Adult prevalence: 0.9 percent
2005 Total deaths: 62,000
2003 Total adults and children living with HIV: 1.2 million
2003 Total new infections: 270,000
2003 Adult prevalence: 0.7 percent
2003 Total deaths: 36,000

North America
2005 Total adults and children living with HIV: 1.2 million
2005 Total new infections: 43,000
2005 Adult prevalence: 0.7 percent
2005 Total deaths: 18,000
2003 Total adults and children living with HIV: 1.1 million
2003 Total new infections: 43,000
2003 Adult prevalence: 0.7 percent
2003 Total deaths: 18,000

South and South-East Asia
2005 Total adults and children living with HIV: 7.4 million
2005 Total new infections: 990,000
2005 Adult prevalence: 0.7 percent
2005 Total deaths: 480,000
2003 Total adults and children living with HIV: 6.5 million
2003 Total new infections: 840,000
2003 Adult prevalence: 0.6 percent
2003 Total deaths: 390,000

Caribbean
2005 Total adults and children living with HIV: 300,000
2005 Total new infections: 30,000
2005 Adult prevalence: 1.6 percent
2005 Total deaths: 24,000
2003 Total adults and children living with HIV: 300,000
2003 Total new infections: 29,000
2003 Adult prevalence: 1.6 percent
2003 Total deaths: 24,000

Western and Central Europe
2005 Total adults and children living with HIV: 720,000
2005 Total new infections: 22,000
2005 Adult prevalence: 0.3 percent
2005 Total deaths: 12,000
2003 Total adults and children living with HIV: 700,000
2003 Total new infections: 20,000
2003 Adult prevalence: 0.3 percent
2003 Total deaths: 12,000

TOTAL
2005 Total adults and children living with HIV: 40.3 million
2005 Total new infections: 4.9 million
2005 Adult prevalence: 1.1 percent
2005 Total deaths: 3.1 million
2003 Total adults and children living with HIV: 37.5 million
2003 Total new infections: 4.6 million
2003 Adult prevalence: 1.1 percent
2003 Total deaths: 2.8 million

• **Note:** the numbers represent estimates within ranges determined by available data collected and reported by UNAIDS of Geneva, Switzerland in the AIDS Epidemic Update: December 2005 (www.unaids.org). For example, the 40.3 million figure estimated for the total number of people living with HIV in 2005 represents a range estimate of 36.7 to 45.3 million.