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CDC guidelines for HIV surveillance support call for name-based reporting

Follow guidelines or risk losing CDC funding

A year after releasing its proposed HIV surveillance guidelines and two years after first calling for HIV surveillance, the Centers for Disease Control and Prevention in Atlanta has issued its final recommendations, which include support for name-based reporting.

States and territories will have to follow the CDC's guidelines, which took effect Jan. 1, 2000, or risk losing CDC funding for monitoring HIV/AIDS. The guidelines require surveillance systems to use reporting methods that provide case reporting that is at least 85% complete and has 66% reported within six months of diagnosis. Also, there should be fewer than 5% duplicate case reports and fewer than 5% incorrectly matched case reports.

The final version of the guidelines is nearly identical to the proposed version. **(See *AIDS Alert*, February 1999, p. 13.)**

HIV surveillance will permit the CDC to track the epidemic with as current a snapshot as possible, says **Helene D. Gayle**, MD, MPH, director of the CDC's National Center for HIV, STD, and TB Prevention. Gayle is one of the authors of the CDC guidelines.

For example, when the CDC compares HIV reporting data from 25 states to AIDS data from all states, it finds that HIV data show a greater proportion of African-Americans and women and a trend of HIV spreading through heterosexual transmission. The AIDS data give an older picture of the infection rate because there often is such a long lag

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COMING IN FUTURE ISSUES

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- **Keep it simple:** The future might bring a once-a-day pill that meets all of a patient's antiretroviral needs
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time between when a person's HIV infection becomes known and when he or she is diagnosed with AIDS.

Tracking HIV infections is a laudable goal, but the CDC's emphasis on names reporting will defeat its purpose, charges **Daniel Zingale**, outgoing director of AIDS Action in Washington, DC.

"There are still hundreds of thousands of Americans living with HIV who don't know it, and they're at the highest risk of passing on the virus," Zingale says. "So there's still an urgent need to bring those people into voluntary HIV testing, and the implementation of names reporting is still one barrier to bringing people in for testing."

The guidelines, published in the Dec. 10, 1999, issue of the *Morbidity and Mortality Weekly Report*, refer to studies that suggest name-based HIV reporting has not served as a major deterrent to testing.

A study conducted by researchers at the University of California at San Francisco found that concern about name-based reporting of HIV infections to the government was a factor for avoiding HIV testing in 28% of men who had sex with men, 18% of injecting-drug users, and 13% of heterosexuals.[1] By comparison, nearly half of the respondents said they avoided testing out of a fear of finding out they had HIV infection or a belief they were not infected.

Zingale says while the primary deterrent to testing is that people are afraid to find out their HIV status, names reporting is still high on the list of disincentives, and it's counterproductive to do anything that could stand in the way of bringing in people for testing.

Plus, states could avoid the stigma that name-based reporting has and go with a unique identifier system, Zingale adds. "There's mounting evidence that unique identifier systems are more reliable, and I assume that's because of people's lack of confidence in a name-based system," he says.

The CDC report disagrees. "On the basis of studies of coded identifier systems conducted in at least eight states, published evaluations of name-based and code-based surveillance systems, and CDC's assessment of the quality and reproducibility of the available data, CDC has concluded that confidential name-based HIV/AIDS surveillance systems are most likely to meet the necessary performance standards, as well as to serve the public health purposes for which surveillance data are required," it states.

For instance, the CDC conducted a three-year evaluation of reporting systems in Maryland and Texas, which used social security number-based, non-named unique identifiers. The evaluation found that about 30% to 40% of the reports had incomplete codes and only 25% to 50% of the reports were complete. Plus, neither state could assess the number of duplicate case reports.

When the CDC conducted additional research in California and New Jersey, the agency concluded that neither state found a non-name system that performed as well as a name-based method.

Another recent study questions whether the government should even spend money on a name-based HIV surveillance program because its public benefit is apparently so limited. The study, published in the Nov. 16, 1999, issue of *Annals of Internal Medicine*, was conducted by a team of AIDS researchers from the University of California at San Francisco and Berkeley who say name-based reporting programs for HIV infection are not producing any specific public health benefits related to controlling the epidemic.[2]

Data showed no effect either way

"We found both the positive and the negative ways that name-based surveillance programs supposedly affect public health interventions — specifically partner notification and access to health care — to be exaggerated," says **Dennis Osmond**, PhD, lead author of the study and an associate professor in the UCSF department of epidemiology and biostatistics and the UCSF Center for AIDS Prevention Studies.

"Our data showed no effect one way or the other," he adds. "The findings do open up discussion as to whether public health funds spent on these interventions are being used in the most effective way."

Gayle says the CDC merely wants states to collect accurate and complete HIV data, and the agency doesn't dictate how they can do this.

"It's been a difficult issue, and people should decide what is the best policy given the epidemic in their state," she says. "There's enough of a concern about name-based reporting, and it's important these days to have people know their HIV status, so we definitely wouldn't want that to be overshadowed by surveillance needs."

This is why the CDC will work closely with states to assess whether their reporting practices have any impact on HIV testing behavior, Gayle adds.

However, if states do use a name-based system, and so far 34 states have passed laws to do so, then they should educate the public that the names are not sent to the CDC or stored and used for any purpose other than to make sure that one person with HIV isn't counted twice.

'That's how all surveillance is done'

"The only reason the name is used is because that's how all surveillance is done so far in this country. It's the way you are coded on your medical record, and it's the simplest way to enter somebody into a database," Gayle says.

There was one case in Florida where a state employee illegally disclosed the names of HIV-infected people, and that person was prosecuted. To prevent those types of occurrences, the CDC also recommends that states follow these security measures:

- Protect electronic HIV / AIDS surveillance data with computer encryption during data transfer.
- Place HIV / AIDS surveillance records in a physically secure area that is protected by coded passwords and computer encryption.
- Restrict access to the surveillance registry to a minimum number of authorized staff who have been trained in confidentiality procedures and are aware of penalties for unauthorized disclosures.
- Require security and confidentiality protections and penalties for unauthorized disclosures by all public health programs that receive HIV / AIDS information.
- Researchers using surveillance data should be approved by appropriate institutional review boards and must sign confidentiality statements.
- Surveillance data used for epidemiological analyses must not include names or other identifying information.
- State and local health departments should promptly investigate and report any security breaches in HIV / AIDS surveillance data.

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2. Osmond DH, Bindman AB K, Vranizan JS, et al. Name-based surveillance and public health interventions for persons with HIV infection. *Ann Intern Med* 1999; 131. ■

Public/private program boosts meds adherence

Study shows where to target state resources

A two-year-old Massachusetts HIV adherence initiative shows that when public and private health care professionals work together to convince patients to stay on their medications, the results can be promising.

The Massachusetts project involves 17 sites that use a variety of interventions to support HIV patients with taking their antiretroviral drugs. A survey of HIV patients at 14 of the sites showed that the percentage of people who took their HIV medication as prescribed over the previous week rose from 69% at baseline to 81% several months into the adherence program.

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Also, the percentage of patients who said they had never missed their HIV pills increased from 15% at baseline to 19% in the follow-up survey. And the percentage of people who had missed their pills sometime within the past month decreased by 11%.

Massachusetts started the adherence program as a pilot study to see where the state should target its efforts and resources to increase HIV drug compliance, says **Thera Meehan**, MSW, MPH, assistant director of the policy and planning unit for the AIDS Bureau of the Massachusetts Department of Public Health in Boston.

"We're trying to look at the bigger picture in Massachusetts, so we're looking at the existing programs and will target resources where the service is best utilized," Meehan says.

The AIDS Bureau launched the adherence initiative in January 1997 in cooperation with the Community Research Initiative (CRI) of New England in Brookline, MA. The program is funded through state grants, which were used to develop separate adherence programs at 17 sites across the state. CRI is in charge of evaluating the success of the various programs through surveys.

"Medication adherence is crucial at this juncture in HIV treatment, given the complexity of the dosing requirements, people changing therapies, and the many other challenges that people are facing," says **Julie Marston**, MPH, executive director of CRI.

When CRI began to develop the program, there was little information about HIV medication adherence because protease inhibitors and the multidrug antiretroviral therapies were new.

"So we worked with people who were experts on medication adherence in cardiovascular, epilepsy, and other diseases," Marston says. "We learned that the more medications people are on and the more specific the medication requirements are, the more difficulty people have with taking the drugs, especially in the long term."

HIV drugs, especially the early ones, required multiple doses to be taken per day in conjunction with very precise food and water intake requirements. "People generally adhere to their medication regimens 50% of the time, and we know that's not good enough with HIV," Marston adds.

Not a 'one size fits all' program

The initiative has encouraged funding sites to design an adherence program that works best for their population. The sites have selected a variety of models, including peer support, provider training, incentives, home visits, social case management, telephone support, check-in support, nutritional counseling, pharmacist support, medical visit escorts, and videotape education. **(See story on adherence support models, p. 18.)**

For example, the Boston Living Center, which has more than 2,000 HIV-infected clients, used a combination of strategies in its adherence program. These included peer advocates, who each had HIV and had mastered medication compliance; written educational materials in English and other languages; pill reminder tools; and check-in support.

The program targeted clients who said they had trouble taking their medication. The advocates delved into what barriers prevented clients from taking their medications and then developed reminder strategies. Advocates also took copious notes of their conversations with clients and reviewed those logs with a staff provider.

The peer advocates were a big success, says **David Gaulin**, RN, manager of the homestead program.

"We provided special training and had medical providers supervise the peer advocates," Gaulin

says. "The reason it was so successful is the [HIV patients] were getting the same information they were getting in the clinic, doctors' offices, and from pharmacists, but they received it at the living center, which is a comfortable setting, and they heard it from people who knew what it was like to take these pills."

Initially, the center hired 10 peer advocates who were expected to see five clients each. Now that most of the clients are adherent to their regimens, the center gets by with three peer advocates. The advocates, who are selected to reflect the population the center serves, represent different races and the disabled.

Peer advocates know better than anyone how difficult it is to remember to take HIV medications the third or fourth or even seventh time in a day, especially when patients have multiple doctor's appointments to remember and work or family responsibilities, Gaulin adds.

The Boston Living Center also gives clients reminder devices, including pill boxes with alarms, vibrating pill boxes, and filled pill boxes.

These strategies had immediate success, Gaulin says. Center managers divided patients into two tiers: the first for clients who are either new at taking HIV drugs or are in the process of switching to new drugs, and the second for patients who have already shown they can be compliant with the medications they have been taking.

Peer advocates focus most heavily on the first-tier clients, giving them intensive education and support. They check in with second-tier clients on a sporadic basis. If a second-tier client begins to slip in taking medication, the client is bumped up to the first tier again.

Don't forget to manage side effects

Side effect management is an important aspect of the adherence program, Gaulin says. "If they have a side effect, we show them how to alleviate symptoms."

Counselors might advise patients to make a diet change, or suggest HIV patients avoid certain over-the-counter medications that could make the symptoms worse. They also help clients simplify their medication regimens by educating them on less complicated therapies. But while the staff will educate clients and make suggestions, they are careful not to overstep clinical boundaries when making these suggestions, Gaulin adds.

"We taught people how to advocate for themselves and told them, 'It's OK to tell your doctor if you can't take pills five times a day,'" he says.

Each Tuesday, the Boston Living Center has a drop-in time for HIV patients. They receive a free meal and can learn more about their medications and meet with their peer counselors.

Gaulin says the peer advocate program has been an effective and inexpensive technique for increasing medication adherence. The only major concerns have been confidentiality issues and interference with providers.

"We did a lot of education about boundary issues and role clarification, and when you think about it, if you have 10 people who are not health care providers and who are not familiar with those boundaries, you can have problems," Gaulin says.

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The center taught advocates about confidentiality, communication skills, role clarification, and verbal harm reduction, which means being aware of what they're saying and how certain words can sound more judgmental than others. For example, instead of telling a client, "You failed on your meds," the advocate could say, "Your meds failed you."

Advocates spent one eight-hour day receiving education before they began to work and received refresher educational training at three months and at six months, Gaulin says. Plus, advocates met once a week for supervision with a nurse practitioner and hammered out strategies for working with particularly difficult clients.

CRI's study of the adherence initiative provided state officials with a clear picture of what kind of barriers and social issues prevent people from being compliant with their HIV medications. "We found a great variety of different things get in the way of people taking medications," Marston says.

The CRI survey revealed that the No. 1 reason people didn't take their medications was because they simply forgot. An HIV patient might have trouble remembering the evening dose because he or she goes out a lot at night and forgets to take the medications along, Marston explains. **(See story on barriers to medication adherence, p. 19.)**

Other causes are more complex. For example, an HIV patient might be on a drug that causes diarrhea. But if he or she has a daytime counter

job that lacks access to a bathroom during the shift, the person might well avoid taking the drug.

"So we've tried to work with HIV-infected people to build trust and honesty with providers so they can tell their doctor about their situation and whether they are able to take different drugs that have the potential to have side-effect problems," Marston says. "This requires early training and teaching prior to the patients experiencing side effects." ■

Innovative techniques improve compliance

Programs include counseling, medical assistance

A Massachusetts HIV adherence initiative uses a wide variety of support and educational techniques at 17 sites to encourage patients to closely follow their medication regimens.

Each site, which includes health centers, AIDS support organizations, and visiting nurse associations, has developed its own program, using one or more of these support programs. So far, the initiative has successfully increased medication adherence.

The Community Research Initiative (CRI) of New England in Brookline, MA, which helped launch the initiative, offers these descriptions of the various adherence support techniques:

• **Peer-based interventions:** This is a response to consumer input that support from others who have "been there, done that" can make a significant impact on motivation and capacity to adhere to highly active antiretroviral treatment (HAART). People with HIV and AIDS who had been successfully managing combination therapies were recruited to work as buddies, usually on a one-on-one basis, with adherence project participants.

• **Check-in support:** Adherence participants were contacted by health care providers, peers, and volunteers to provide reminders, emotional support, and supplemental treatment education. This additional support also helps build self-confidence as consumers experience a growing capacity to manage their medications. Frequency of check-in varied by participant and took the form of phone calls as well as home visits.

• **Group support and education:** Educational and support groups were generally led by peers who were managing combination therapy or by project staff. The groups served as support mechanisms and less formal venues for treatment education. They provided adherence education, information, and emotional support.

• **Provider training:** Educational programs have been developed for medical providers who are less experienced with HAART and the associated adherence issues. Training programs were provided for clinicians within participating adherence project agencies, as well as for regional audiences of local community providers. In addition to strengthening the capacity to provide a higher quality of HIV care, particularly in outlying areas of the state, educational sessions have increased provider referrals to the adherence service projects. The program worked closely with the New England AIDS Education and Training Center.

• **Individual adherence plans:** Developed jointly by provider and client, this model identifies a strategy to assist each person with managing adherence to medications. Similar to a clinical care plan, adherence planning includes identification of the appropriate mix of adherence supports, strategies for side-effect management, and information regarding access to the health care provider between scheduled visits. Project staff developed individualized adherence plans in collaboration with clients, including health care providers, case managers, and health educators.

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• **Reminder systems:** A variety of reminder devices have been made available to project participants, including watches with beepers and alarms; pill boxes that are often filled and counted by the provider; pill boxes that beep; calendars and reminder stickers; and treatment diaries for self-recording. Sites have worked closely with CRI to identify creative and cost-effective strategies for obtaining devices, including advocacy with pharmaceutical companies.

• **Treatment education:** Written, pictorial, and oral information is distributed to clients in order to explain the complexity of combination therapies, how the medications work, and the consequences of poor adherence. Written materials are being developed to reflect the language and literacy needs of diverse participants. Health care

providers and educators with a special expertise in HIV therapies provide education. However, each interaction with a client, whether a social case manager or a peer, provides an opportunity to review and reinforce the material and identify the need for further education.

• **Mental health services:** Enhanced mental health services were provided, including individual and family assessment, diagnosis, and treatment services. These services were targeted toward HIV-infected people who were coping with dual diagnoses, including mental illness and addiction.

• **Incentives:** Some sites provided incentives in the form of vouchers for purchasing food and other basic need items. These were distributed as a way to enhance motivation whenever adherence markers or goals were reached.

• **Nutritional counseling:** Because appropriate nutrition is critical for maintaining a strong immune system, nutritional counseling and support is important. Successful adherence and maximum therapeutic benefit may depend upon the timing of meals and the inclusion or exclusion of certain dietary components. Nutritional counseling was provided on a one-to-one basis.

• **Medical visit assistance:** Complex treatment information from clinical providers is sometimes better understood when it's also explained by a peer or volunteer who is present at the medical visit. On a one-to-one basis, individuals received medical visit escorts as support when patients were given complex treatment information.

• **On-site pharmacist sessions:** At sites providing this service, participants were able to contact a pharmacist who specialized in HIV at the adherence project site.

• **Internet training:** The World Wide Web has a vast array of treatment and adherence information. Project participants were provided access to the Web, and they were given training regarding how to find useful treatment and adherence information.

• **Video teaching tool:** One site designed a research intervention based upon the use of video as a key component of an adherence educational and support program. Clients view the video in conjunction with meetings with health care providers.

• **Pill-taking skill development:** This intervention was designed to teach children, even those as young as two and three years, how to take pills. It helped families address adherence issues with their HIV-infected children. ■

Initiative targets barriers to HIV drug adherence

Ten reasons cited for not taking medications

HIV patients have one thing in common with other people who have strict medication regimens: They sometimes forget to take their pills. The difference is that the repercussions of forgetting are more serious for most HIV patients. The fast-mutating virus only needs a small crack in the armor to renew its assault.

This is why Massachusetts health officials have launched an initiative examining which intervention programs work best in keeping HIV patients on their medications. And it examines why HIV patients don't adhere to their treatment regimens.

The Community Research Initiative (CRI) of New England in Brookline, MA, conducted a comprehensive, 16-page survey of HIV-infected people in Massachusetts who received HIV / AIDS support and health care services at one of 14 sites across the state. The survey was completed by 450 HIV patients at baseline and 280 in a follow-up.

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"What we found in terms of reasons why people missed taking their medications was similar to what we know from existing adherence literature," says **Julie Marston**, MPH, executive director of CRI.

The top 10 reasons cited were:

1. People forgot.

2. They were busy with other things.

3. They were away from home and didn't have their drugs with them.

4. They fell asleep and slept through the dose time.

5. They had a change in their daily routine, such as a weekend, vacation, or holiday.

6. They had problems taking pills at certain times, such as if they needed to take a pill two hours after a meal.

7. They felt too depressed or overwhelmed.

8. They were too sick from the side effects.

9. They had too many pills to take.

10. They wouldn't take the medication because they wanted to avoid side effects.

The Massachusetts initiative also found that HIV / AIDS support service and health care sites

had challenges of their own to overcome before their medication adherence programs could succeed.

These barriers typically fell into three categories: work burden and complexity, attitudes and beliefs, and confidentiality.

The sites found that it takes a lot of staff time to provide adherence support to HIV patients. Both staff and patients need to be trained, and providers must address all the issues that affect adherence. Plus, the sites that used peer advocates found that there was a fairly high turnover rate among advocates.

Secondly, both providers and patients have conflicting beliefs or attitudes that affect medication adherence. For example, some drug treatment providers didn't want to make referrals to an adherence program because it might compromise a patient's addiction treatment. And as HIV becomes more of a chronic disease that must be treated for possibly decades, patients may be reluctant or weary of staying on these medication regimens indefinitely.

The third barrier is that HIV patients recruited for the adherence projects were fearful that their HIV status would be disclosed or that they would lose their privacy. For example, if a patient had a peer advocate who is highly visible in the community as a person who has HIV, then someone the patient knows might recognize the patient with that advocate and assume the patient has HIV. This issue was addressed by giving advocates extensive confidentiality and communication training. ■

VA study shows increase in cost of HIV drug therapy

Study notes increased use of antiretrovirals

A recent study by the U.S. Department of Veterans Affairs (VA) shows a 434% increase in the cost of antiretroviral drugs prescribed for HIV / AIDS patients between 1992 and 1998.[1]

The study period encompasses several years before protease inhibitors and highly active antiretroviral therapies became widely used in the United States. It's the first large-scale study to document the increased usage of antiretrovirals.

When the costs of all HIV drug prescriptions, including prophylaxis and medications for opportunistic infections, are compared between 1992 and 1998, the increase is 222%, from $21.9 million in 1992 to nearly $71 million in 1998. The VA study also notes another trend of antiretroviral drugs taking a larger portion of the HIV medication expense pie. While the cost of antiretroviral drugs represented 47% of the total pharmacy costs for HIV patients in 1992, by 1998, antiretrovirals accounted for 78% of the total drug costs for HIV patients.

Outpatient clinic visits by HIV patients rose between 1992 and 1998, while hospital admissions dropped during the same period. The specific numbers will be released later this year as part of a published study, says **Abid Rahman**, PhD, an epidemiologist and chief investigator of the VA study.

VA facilities treat between 16,000 and 17,000 HIV / AIDS patients each year, making it the largest single provider of HIV medical services. VA medical centers provide free medical care and prescriptions to all eligible veterans.

"We are committed to providing state-of-the-art and the best quality care, and have a track record of doing so since the earliest days of the HIV epidemic," Rahman says.

For example, the VA's HIV program provides all needed services, including the latest federally approved therapies and diagnostics. It also includes national clinician education on current treatment guidelines and case management of HIV-infected veterans.

The VA's general policy is to consider adding a new drug to its national formulary one year after it has been approved by the U.S. Food and Drug Administration (FDA). However, antiretroviral drugs for HIV have been added to the national formulary more quickly. They are added based on recommendations by the VA HIV / AIDS Technical Advisory Group. Once they are added, they're placed on a systemwide computer package that lists the drugs in every VA facility's pharmacy database.

"We did a detailed analysis of the quantity of prescriptions and their costs," Rahman says. "The number of antiretroviral prescriptions filled increased by 546% from 1992 to 1998, reflecting the increased use of combination antiretroviral therapies in more and more veterans with HIV infection, as recommended by consensus guidelines."

The study shows that the largest increases in antiretroviral prescriptions began in 1996 after

national consensus recommendations called for earlier use of the drugs. By 1998, the nucleoside analogues, protease inhibitors, and non-nucleoside reverse transcriptase inhibitors accounted for about one-third of the 741,406 total prescriptions filled for HIV patients. Their costs represented more than three-quarters of the total HIV drug costs in 1998.

The study gives the VA a better understanding of how its resources are allocated for HIV / AIDS care, Rahman says. "The allocation of resources for patients is an important area for us, and we want to understand from a policy-making perspective if the cost is increasing."

The VA is the largest single provider of HIV services in the United States, and the data used in the study came from the VA's Immunology Case Registry (ICR) or HIV registry, the largest clinical HIV database in the world. The ICR contains access to complete medical records, including diagnoses, utilization, pharmacy, and laboratory data on more than 45,000 HIV patients in the VA system.

The VA's HIV registry of HIV patients groups people into four categories of disease progression. They are:

- HIV-positive people with CD4 cell count greater than or equal to 500 per cubic millimeter;
- HIV-positive people with a CD4 cell count of 200-499 per cubic millimeter;
- HIV-positive people with a CD4 cell count of less than 200 per cubic millimeter;
- AIDS patients with AIDS-defining illnesses.

The registry never moves patients from a higher and more severe category to a lower or less severe disease category.

The VA divides all its patients into two categories according to allocation of services and cost of services. Those in the basic care group are patients whose costs are typically $3,000 to $4,000 per year. Care for patients in the complex care group can cost 10 times that amount, and HIV patients are in the complex care category.

Despite the increased cost of providing HIV care, the disease's total cost ranks somewhere in the middle of all diseases that the VA treats.

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Lipodystrophy: Options widen for treatments

Anecdotal evidence supports naltrexone use

The bad news is that lipodystrophy and metabolic anomalies are on the rise among HIV patients. But the good news is that clinicians now have more choices for treating these problems.

Treatments include the human growth hormone Serostim; an over-the-counter nutritional supplement that research shows reverses the trend of AIDS wasting by promoting lean muscle mass growth; and combinations of drugs and exercise.

For example, a study published earlier this year in the *Journal of the American Medical Association* showed that an anabolic agent called oxandrolone, combined with a controlled program of progressive resistance exercise, resulted in increased lean body mass and strength in men suffering from AIDS wasting.

Earlier this year, a study showed that a mixture of β-hydroxy β-methylbutyrate, arginine, and glutamine, sold in an orange-flavored dietary supplement called Juven by MTI Biotech in Ames, IA, helped AIDS patients gain muscle weight and reduce body fat. **(See article on Juven in April 1999 issue of *AIDS Alert*.)**

But among the most surprising treatments promoted as a possible solution to lipodystrophy is the use of a narcotic.

New York family physician **Bernard Bihari**, MD, has gathered evidence from his own observational study of HIV patients showing that a small dose of the drug naltrexone can prevent and reverse lipodystrophy.

Bihari, who has had a large AIDS practice for 15 years, began to use naltrexone in 1986 as a way to help patients enhance their immune systems. It surprised Bihari to discover more recently that the drug has an additional benefit of protecting patients against the peripheral fat wasting, metabolic abnormalities, and other fat redistribution problems associated with the use of protease inhibitors and highly active antiretroviral therapy.

Bihari prescribed a 3 mg dose of naltrexone to each of his 136 HIV-infected patients Only four of the patients treated with protease inhibitors and other antivirals developed lipodystrophy. The patients, who had been treated for a mean of 24 months, also maintained undetectable viral loads in 90% of the cases.

Of the four patients who developed lipodystrophy, one patient had stopped taking naltrexone after moving away from New York. About eight months after stopping naltrexone, the patient saw signs of fat redistribution on his body. The same patient's serum cholesterol level rose to the high 400s, and his triglycerides and fasting blood glucose levels also increased. When the patient got in touch with Bihari and described his condition, Bihari recommended he start again the 3 mg dose of naltrexone once again. The patient began taking it again and has since seen improvements in his cholesterol, triglycerides, and blood sugar levels. Also, his abdominal girth decreased by one-third.

Patients returning to drug improve

Two more of the four patients had similar experiences after they moved to Europe and quit taking naltrexone. They also called Bihari, and on his advice resumed taking the drug. Their lipodystrophy problems also have improved.

The fourth case also involved a patient who had stopped taking naltrexone because he thought the drug no longer was necessary because the antiretrovirals had successfully suppressed his viral load.

"This is just an observational study in private practice, but because the results were so striking, it has more power and significance than observational studies," Bihari says.

DuPont Merck Pharmaceutical Co. of Wilmington, DE, manufactures naltrexone, which received Food and Drug Administration (FDA) approval in the early 1980s in a 50 mg dose, used as an adjunct to block addicts' heroin high for 20 to 24 hours. At that dosage, the drug has a variety of unpleasant side effects, including anxiety, insomnia, stress intolerance, and enhancement of the heroin craving. A decade later, researchers concluded the drug has a significant benefit in reducing drinking among alcoholics.[1] A DuPont study found the drug was safe, with the most common adverse effects being nausea and headache.[2] The FDA approved it for that use, as well.

Other studies have recorded less success in using naltrexone for treating autistic children, controlling food intake, and treating other addictions.

Bihari uses a 3 mg dose of naltrexone that most pharmacies can formulate on the premises by putting the naltrexone powder into a capsule. Patients take the 3 mg capsule each night at bedtime. The medication, which Bihari says is covered by insurers for half of his HIV patients, costs about $25 a month.

So far, no clinical trials have been scheduled to study naltrexone's use by HIV patients. But Bihari is trying to find a drug company that would invest in the research, and he has submitted a paper based on his own observational research to the 7th Conference on Retroviruses and Opportunistic Infections, to be held in early 2000.

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Research shows PI use linked to heart disease

Referrals to cardiologists may be needed

Clinicians' suspicions over the past few years regarding the link between protease inhibitors and heart disease were confirmed by a recent study showing that patients on protease inhibitors are more prone to coronary artery disease.

A pilot study conducted by University of Wisconsin Medical School researchers compared HIV patients taking protease inhibitors (PIs) with those on other antiretroviral medications. They found evidence of heart disease in the group of people on PIs, but not in the group receiving other types of HIV medication, says **James H. Stein**, MD, assistant professor of medicine at the University of Wisconsin Medical School in Madison. Stein also is a cardiologist at the University of Wisconsin Hospital in Madison.

"We started this research almost a year ago, right around the same time reports started appearing in the literature of people on protease inhibitors having heart attacks," Stein says. "One of the things that struck us was that all the research was observational, rather than designed like a research trial where you have a treatment group and a control group."

Without a control group, the observations might reveal a tendency to heart disease without revealing the cause. "Heart disease is very common, and with HIV patients living longer, it's likely they're going to start having the same

illnesses other people in the United States have," Stein explains.

"So it was unclear to us whether the metabolic changes we were seeing with protease inhibitors were going to be truly associated with vascular injury or injury of the blood vessels," he adds. Also, not all people with high blood sugar, high triglycerides, and high cholesterol are at risk for heart disease, he adds.

The Wisconsin researchers prepared a cohort study of 22 people who receive stable doses of protease inhibitors compared with 10 HIV-positive people who receive stable doses of non-protease inhibitor antiretroviral medication.

They found the people being treated with PIs had higher levels of triglycerides, cholesterol, and blood sugar. Most importantly, they had endothelial dysfunction, which is the first sign of atherosclerosis.

Researchers used an ultrasound technique to map blood flow through the brachial artery and to examine the lining of blood vessels in order to identify signs of endothelial dysfunction. The patients on PIs demonstrated a significantly impaired response to changes in blood-flow levels, while most of those not taking PIs did not.

The fact that PIs are associated with lipodystrophy does not necessarily mean that's what causes heart disease, although that also needs to be studied, Stein says.

"Superficially, we think lipodystrophy means heart disease because you're getting fat around the belly, but with heart disease you get fat around the belly and everywhere else," he explains. "With HIV lipodystrophy, the fat is going from the periphery to the center, and you're also getting the buffalo hump, which is a fat accumulation around the shoulder blade, and that's not heart disease."

Researchers still don't know whether lipodystrophy is a heart disease-causing distribution or even if it's related to PIs more than to the non-nucleoside reverse transcriptase inhibitors.

Because the Wisconsin study was small and preliminary, more research is needed, Stein states.

Stein and other Wisconsin researchers have applied for a five-year grant from the National Institutes of Health to study the effects of PIs on patients over time. A long-term study might be able to determine whether patients develop atherosclerosis.

In the meantime, the evidence presented in this study should convince clinicians to pay closer attention to their HIV patients' risk for heart disease, Stein says.

"This is a wake-up call to HIV patients and their clinicians to pay attention to the metabolic abnormalities associated with HIV, and that they may need to consider treatment in people who are at risk of having vascular artery heart attacks or strokes," he explains.

Stein recommends clinicians check patients' lipid levels and glucose levels regularly and be more aggressive about dietary and exercise recommendations. Also, clinicians should consult with a cardiologist if a patient on PIs has high levels of cholesterol, triglycerides, and blood sugar. ■

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Why are some HIV patients resistant to drug therapy?

Clinicians now see ample evidence that some HIV patients have developed resistance to one or more antiretroviral medications. But why does this happen? Researchers in Tennessee have identified an answer that may shed light on how drug companies can create more effective medications.

"We've identified in T-cells a gene that can transport the monophosphorylated form of AZT out of the cell," says **John Schuetz**, PhD, principal investigator of a study published in the September issue of *Nature Medicine*. Schuetz is an associate member of St. Jude Children's Research Hospital in Memphis, TN.

"Once AZT gets into a cell, in order for it to be retained and then inhibit viral replication, it needs to have a series of phosphate groups added onto it," Schuetz explains. "There are three phosphate groups added on, and that results in inhibition of the virus."

Schuetz and his colleagues' research shows that AZT-resistant cells will transport the AZT out of the cell as soon as the first phosphate is added because this feature is recognized by the transporter. The conduit for this revolving door action is a cellular gene called MRP4.

"What MRP4 does is circumvent effective therapy before it's even begun, because you are decreasing the amount of that drug in the cell," Schuetz says.

Researchers have preliminary data suggesting there is a variation among individuals in the amount of MRP4 in their lymphocytes and how effectively it gets rid of the AZT phosphates.

A future study will investigate whether there is a relationship between patients who have high levels of MRP4 and low levels of AZT monophosphates or patients who have low levels of MRP4 and high levels of AZT monophosphates. Then it will compare all of these groups by their viral loads, Schuetz says.

If research shows a significant relationship between MRP4 levels and AZT monophosphate levels, then clinicians one day may be able to screen HIV patients for MRP4 and prescribe medications accordingly, he adds. "For example, dideoxyinosine [ddI] was not affected by MRP4, unlike AZT, so that might suggest if you have an individual with high MRP4, you might use ddI instead of AZT." ■

CE objectives

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

- identify the particular clinical, legal, or scientific issues related to AIDS patient care;
- describe how those issues affect nurses, physicians, hospitals, clinics, or the health care industry in general;
- 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. ■

AIDS ALERT®
INTERNATIONAL

HIV worldwide shows no slowing in infections, deaths

More sub-Saharan African women are infected with HIV than men

If there was a billboard that highlighted the number of HIV infections worldwide, it would now read 50 million infected, including 16.3 million dead.

HIV has infected a population that is nearly the size of the United Kingdom, says **Peter Piot**, MD, PhD, executive director of UNAIDS of Geneva, Switzerland. Piot presented the grim update at a special international telephone briefing held by UNAIDS and the World Health Organization (WHO) of Geneva in late November in conjunction with World AIDS Day.

An estimated 5.6 million people became infected with HIV in 1999. Of these, more than half a million were children, according to UNAIDS statistics. **(See global summary chart, p. 2.)**

Plus, more women are infected with HIV than men in southern Africa.

"This year, we have new and overwhelming evidence that infected women far outnumber men in sub-Saharan Africa by two million," Piot says. "Studies that we have supported show that African girls are five to six times more likely to be infected than boys of the same age."

On the positive side, some nations that have focused on HIV prevention strategies, such as Thailand and the Philippines, have experienced a leveling off or decline in HIV infections, Piot says.

UNAIDS has made it a top priority that national leaders recognize the HIV problem and target young people with prevention efforts, he adds.

"We have to be very realistic that it's not feasible to just have one approach like advertising or condoms or so on," Piot says. "We need a combination of school education and using media and pop stars and all that, together with making sure condoms are there and affordable."

The major factor influencing the HIV epidemic is individual behavior, particularly among young people, says **Bernhard Schwartlander**, MD, head of the UNAIDS epidemiology team in Geneva.

About 50% of all new infections worldwide occur in people in the 15-24 age group. That's the age group when most people first become sexually active, and it's the age group most prone to injecting drug use. So countries like Argentina that target HIV prevention programs to that age group have a smaller HIV epidemic than other nations that fail to make that commitment to prevention strategies and education, Piot says.

"We have seen in some countries substantial behavior changes in the youngest population, 25-year-olds, and hope they will carry on as they grow older," Schwartlander says. "That will have an impact on the epidemic in these countries."

Piot and Schwartlander say it's not possible to predict where the epidemic is heading now that it's taken hold in Asian countries, such as India, where there are enormous populations at risk for the disease. **(See story on how the epidemic is progressing in various regions of the world, p. 2.)**

"What's happening in India and China with populations together of two billion is a question that will drive the epidemic in the future, and it's impossible to say where it's going to peak," Schwartlander says.

However, Africa's epidemic could peak at 50 million infected people within the next few years, Piot notes. "What you're seeing today is more than the worst-case scenario."

The HIV epidemic can gain little more ground once it has penetrated 20% to 30% of a population, as it has in some African nations, Schwartlander says.

Sub-Saharan Africa has an estimated 23.3 million people who have HIV infection or AIDS, which accounts for nearly 70% of the world's total HIV cases in a region that has only 10% of the world's population.

Global Summary of the HIV/AIDS Epidemic December 1999

People newly infected with HIV in 1999
Total — 5.6 million
Adults — 5 million
Women — 2.3 million
Children <15 years — 570,000

Number of people living with HIV/AIDS
Total — 33.6 million
Adults — 32.4 million
Women — 14.8 million
Children <15 years — 1.2 million

AIDS deaths in 1999
Total — 2.6 million
Adults — 2.1 million
Women — 1.1 million
Children <15 years — 470,000

Total number of AIDS deaths since the beginning of the epidemic
Total — 16.3 million
Adults — 12.7 million
Women — 6.2 million
Children <15 years — 3.6 million

Source: Joint United Nations Programme on HIV/AIDS. AIDS epidemic update: December 1999. Geneva: 1999, pp. 1-24.

"These numbers are unbelievably high, and if you had asked us 20 years ago, we would never have believed we would reach those levels," he adds.

Epidemiologists do not think HIV infection rates will reach 20% to 30% penetration in China or India, Schwartlander says. "But even if you reach one-quarter of that, you can estimate what that would mean in terms of the total epidemic."

The sub-Saharan African region also has a higher ratio of infected women than men. Studies suggest there are 12 or 13 African women infected for every 10 African men. UNAIDS and WHO estimate that at the end of 1999 there were 12.2 million women and 10.1 million men ages 15-49 who were living with HIV in sub-Saharan Africa.

This trend means HIV / AIDS organizations and public health officials need to focus on educating men about prevention efforts and offer women more options for protecting themselves from infection, Piot says.

"We need to empower women and make sure far more female-controlled efforts are available, and that's why we're trying to push the female condom, and everywhere we've done that it's been a success," Piot adds. "But there's a lack of funding, and that makes it less effective."

Meantime, HIV epidemiologists need better tools to measure the disease's spread. For example, until recently, UNAIDS had no data on how many women vs. men were infected with HIV, Piot says.

UNAIDS bases prevalence estimates on data collected through HIV sentinel surveillance, and estimates of HIV-related deaths are derived indirectly from mathematical models that are based on HIV prevalence data. ■

HIV is a time bomb in Asia and a brush fire in Russia

Developing world accounts for 95% of epidemic

Despite antiretroviral medications and widespread knowledge of prevention strategies, the world saw a record 2.6 million deaths from HIV / AIDS and 5.6 million new infections in 1999, statistics that prove the epidemic is far from over.

But the epidemic disproportionately affects people living in developing nations. These countries have 95% of the total number of people infected with HIV. And these nations also have the fewest resources to devote to treating and preventing the disease. This is why life expectancy in southern Africa, which had risen to age 59 in the early 1990s, now is expected to drop to 45 within the next 10 years.

And this is why illness and death have replaced old-age retirement as the leading reason why employees leave service in some commercial industries of Africa.

"I think we are now at the turning point in the nearly 20-year history of the HIV epidemic in Africa because the whole continent is facing a real crisis," says **Peter Piot**, MD, PhD, executive director of UNAIDS in Geneva, Switzerland.

"Everywhere I go, I hear the African leaders speaking out about AIDS, and they see this now as the major factor affecting their continent's development," Piot says. "And this is a positive change."

The HIV epidemic has taken different paths in various parts of the world. While heterosexual

transmission is the primary mode of spreading the virus in Africa, injecting-drug use and homosexual transmission are of greater concern in Europe and the United States.

Piot, who spoke recently about the state of the global HIV epidemic worldwide, offers this snapshot of the disease in different parts of the world:

• **Africa:** Southern African nations are struggling with providing basic treatment to people with AIDS and opportunistic infections while at the same time trying to increase efforts at counseling and HIV testing, Piot says.

"The overwhelming majority of people with HIV/AIDS don't know they're infected," he adds.

UNAIDS is focusing on helping these nations build up their health care infrastructure, and the organization is working with drug companies to bring down the price of antiretrovirals purchased by these developing countries. The latter effort has been somewhat successful, Piot says, adding that the price of AZT has declined by 75%.

Orphan problem has skyrocketed in Africa

But there's another major challenge in Africa, and that involves the problem of orphans who are left behind by parents dying of AIDS. There are an estimated 11.2 million children orphaned by AIDS, and 95% of them are in sub-Saharan Africa.

UNICEF Executive Director **Carol Bellamy** says the percentage of all children who are orphans has jumped to 11% in many African countries. Before AIDS, about 2% of all children in developing countries were orphans.

"Worse, the skyrocketing number of AIDS orphans is putting a severe strain on traditional support systems in Africa, in addition to the loss of life caused by AIDS," Bellamy says. "The grandparents who in many cases are taking care of their orphaned grandchildren have limited resources."

Because half of the people with HIV are infected before age 25, and most of these people die within 10 years of infection, they typically die of AIDS while their children are young, Piot explains.

• **Asia:** Asia still is in the early years of its epidemic. In eastern and southern Asia, the epidemic started in the late 1980s, and it still has a low prevalence rate among adults ages 15 to 49. **(See regional HIV/AIDS chart, p. 4.)**

But because a nation like India has such a huge population, even a small rise of 0.1% in prevalence among adults could mean 500,000 more HIV cases. An estimated 4 million Indians are infected with HIV.

The UNAIDS and World Health Organization "AIDS Epidemic Update: December 1999" reports that one major problem with the epidemic in India is that it is highly stigmatized, with many hospitals turning HIV-infected patients away.

Also, uninfected widows of men who have died of AIDS often are blamed for their late spouse's infection and are thrown out of their homes by in-laws.

China's HIV infection rate remains low at about 500,000. Most of these people are injection-drug users, Piot says.

"On the one hand, the government has declared AIDS as a national priority," Piot says. However, strategies like needle exchanges that have worked elsewhere are out of the question because drug use is illegal and even carries death penalties.

Plus, injection-drug users in China typically are young migrants who move from one area to another. So Chinese officials have begun to put HIV prevention messages on trains, and they've opened testing and counseling centers in major railway stations, Piot says.

The potential exists for the epidemic to spread to the non-drug using population because the country has four million prostitutes, most of whom do not use condoms.

Asia's success story so far is Thailand, where the government has made prevention efforts a top priority. One study of the northern Thai province of Chiang Rai found that the proportion of people infected with HIV fell from a peak of 6.4% in 1994 to 4.6% in 1997.[1]

• **Caribbean and Latin America:** The Caribbean region has among the world's worst HIV epidemics. In Haiti, for example, HIV surveillance of pregnant women in 1996 found that 6% tested positive. And in Guatemala in 1999, 2% to 4% of pregnant women tested positive for HIV.

But there is a wide variance among infection rates in the region, Piot says.

"There is an enormous difference among countries, with Haiti leading and the Dominican Republic having increasing rates," he says.

On the other hand, Mexico's HIV epidemic is relatively stable, affecting an estimated 140,000 people, and it's primarily spread through men who have sex with men.

Mexico is trying to build strong local coalitions to combat the epidemic, Piot says.

"The problem is, promotion in an aggressive way has been problematic and criticized by

Regional HIV/AIDS Statistics and Features, December 1999

Region	Epidemic started	Adults & children living with HIV/AIDS	Adults & children newly infected with HIV	Adult prevalence rate (*)	Percent of HIV-positive adults who are women	Main mode(s) of transmission (**) for adults living with HIV/AIDS
Sub-Saharan Africa	late '70s-early '80s	23.3 million	3.8 million	8.0%	55%	Hetero
North Africa & Middle East	late '80s	220,000	19,000	0.13%	20%	IDU, Hetero
South & Southeast Asia	late '80s	6 million	1.3 million	0.69%	30%	Hetero
East Asia & Pacific	late '80s	530,000	120,000	0.068%	15%	IDU, Hetero, MSM
Latin America	late '70s-early '80s	1.3 million	150,000	0.57%	20%	MSM, IDU, Hetero
Caribbean	late '70s-early '80s	360,000	57,000	1.96%	35%	Hetero, MSM
Eastern Europe & Central Asia	early '90s	360,000	95,000	0.14%	20%	IDU, MSM
Western Europe	late '70s-early '80s	520,000	30,000	0.25%	20%	MSM, IDU
North America	late '70s-early '80s	920,000	44,000	0.56%	20%	MSM, IDU, Hetero
Australia & New Zealand	late '70s-early '80s	12,000	500	0.1%	10%	MSM, IDU
TOTAL		**33.6 million**	**5.6 million**	**1.1%**	**46%**	

* The proportion of adults (15 to 49 years of age) living with HIV/AIDS in 1999, using 1998 population numbers.
** MSM (sexual transmission among men who have sex with men), IDU (transmission through injecting drug use), Hetero (heterosexual transmission).

Source: Joint United Nations Programme on HIV/AIDS. AIDS epidemic update: December 1999. Geneva: 1999, pp. 1-24.

parts of the Catholic Church," he adds. "But last year, the president stood up in favor of condom promotion."

Likewise, a few Latin American countries, like Brazil and Argentina, are providing antiretroviral therapy to HIV-infected citizens.

"That's a very deliberate political choice that has come under fire during the recent crisis in Brazil, for example," Piot says. "Brazil spent $300 million this year on providing drugs to about 75,000 people."

By contrast, in Guatemala, only about 185 people out of 50,000 HIV-infected individuals have access to antiretroviral drugs.

• **Eastern Europe:** Russia is a troubling example of a very recent addition to the worldwide epidemic. The proportion of the former Soviet Union's population that is living with HIV doubled between mid-1997 and the end of 1999.

UNAIDS and WHO estimate that 360,000 people are infected in central and Eastern Europe, a 33% increase during 1999. Most of these cases are caused by injection-drug use, Piot says.

"Once HIV is introduced in a circle of drug users, you have a real explosion," he adds. "It's a real problem among prisoners, and the key question is, how will the countries deal with injecting drug use?"

Public health officials have established outreach programs in St. Petersburg and some Ukrainian cities in attempts to reach drug users. But the efforts lack conviction, Piot says. "The sad reality is that preventing AIDS is not a priority in those countries, not a political priority or a priority for public spending."

Reference

1. Joint United Nations Programme on HIV/AIDS. AIDS epidemic update: December 1999. Geneva: 1999, pp. 1-24. ■

Common Sense About AIDS®

Here's what young people need to know about AIDS

CDC tells how to prevent HIV infection and how to prevent transmission of the HIV virus

Teenagers increasingly are at risk for HIV and AIDS as the epidemic spreads throughout the heterosexual population in the United States and worldwide.

The Atlanta-based Centers for Disease Control and Prevention (CDC) estimates that a teen in the United States gets a sexually transmitted disease, such as gonorrhea or chlamydia, every 11 seconds. HIV can be transmitted sexually, as well as by other routes.

To help you understand how to prevent HIV infection if you are uninfected or how to prevent spreading it to other people if you have HIV, the CDC answers a number of questions about the disease:

• **What is AIDS and what is HIV infection?**

AIDS stands for acquired immunodeficiency syndrome, a condition in which the body's immune system breaks down. Because the system fails, the person with AIDS typically develops a variety of life-threatening illnesses.

HIV, the human immunodeficiency virus, is a small germ that causes AIDS. Once a person becomes infected with HIV, he or she can spread the virus to other people, even if the person who has HIV has no symptoms. A special blood test can detect HIV in a person.

Because the virus can hide in a person's body for years without producing symptoms, anyone who has HIV should be under a doctor's care. Doctors can prescribe drugs that can help delay or prevent an HIV-positive person from developing AIDS.

• **How does someone become infected with HIV?**

There are three main ways HIV is introduced into a person's body. The first is by having unprotected sexual intercourse, including vaginal, anal, or oral sex, with an infected person. The second is by sharing drug needles or syringes with an infected person. The third way occurs when a pregnant woman with HIV does not take any AIDS drugs and gives birth. Her HIV can be transmitted to her baby either before, during, or after the birthing process (through nursing).

Some people have become infected through receiving blood transfusions, although the American blood supply has been tested for HIV since 1985, so transmission through blood transfusions is very rare today.

• **If somebody in my class at school has AIDS, am I likely to get it too?**

No. People infected with HIV cannot pass the virus to others through ordinary activities of young people in school. And you will not become infected with HIV by attending school with someone who has HIV or AIDS.

• **Can I become infected with HIV from "French" kissing?**

Not likely. HIV occasionally can be found in saliva, but in very low concentrations — so low that scientists believe it is virtually impossible to transmit infection by deep kissing.

However, the possibility exists that cuts or sores in the mouth may provide direct access for HIV to enter the bloodstream during prolonged deep kissing. So while there has never been a single case documented in which HIV was transmitted by kissing, scientists cannot absolutely rule out

the possibility of transmission during prolonged, deep kissing.

• **Can I become infected with HIV from oral sex?**

It's possible because oral sex often involves semen, vaginal secretions, or blood, all of which are fluids that contain HIV. During oral intercourse, the virus could enter the body through tiny cuts or sores in the mouth.

• **As long as I use a latex condom during sexual intercourse, I won't get HIV infection, right?**

Latex condoms have been shown to prevent HIV infection and other sexually transmitted diseases. But you have to use them properly, which means using them every time you have sex, whether it's vaginal, anal, or oral.

Still, the only sure way to avoid infection through sex is to abstain from sexual intercourse or to engage in sexual intercourse only with someone who is not infected.

• **My friend has anal intercourse with her boyfriend so that she won't get pregnant. She won't get AIDS from doing that, right?**

Wrong. Anal intercourse with an infected partner is one of the ways HIV has been transmitted. And whether you are male or female, anal intercourse with an infected partner is very risky.

• **If I have never injected drugs or have never had sexual intercourse with a person of the same sex, could I still have become infected with HIV?**

Yes. HIV does not discriminate. You do not have to be homosexual or use drugs to become infected. Both males and females can become infected and transmit the infection to another person through intercourse.

• **Is it possible to become infected with HIV by donating blood?**

No. There is absolutely no risk of HIV infection from donating blood because blood donation centers use a new, sterile needle for each donation.

• **A friend of mine told me that as long as I am taking birth control pills, I will never get HIV infection. Is this true?**

No. Birth control pills do not protect against HIV. Even if you are taking the pill, you should use a latex condom unless you are sure your partner is not infected.

• **I think I might have been infected two months ago when I had intercourse without a condom with someone I didn't know. Should I get an HIV test?**

You should talk with a health professional or your family practitioner about the need for HIV testing. You can call the CDC National AIDS Hotline at (800) 342-AIDS to find out where you can receive counseling about an HIV test. You don't have to give your name, and the call is free.

• **What is the proper way to use a condom?**

First, use a latex condom every time you have anal, oral, or vaginal sex. Latex serves as a barrier to the virus. Lambskin or natural membrane condoms may not provide as good a barrier because of the pores in the material. Look for the word "latex" on the package.

As soon as the penis becomes erect, put the condom on it by rolling it down the penis. Leave a small space at the top of the condom to catch the semen, or use a condom with a reservoir tip. Remove any air that remains in the tip by gently pressing toward the base of the penis.

When you use a lubricant, check the label to make sure it is water-based. Do not use petroleum-based jelly, cold cream, baby oil, or other lubricants, such as cooking oil or shortening. These weaken the latex condom and can cause it to break.

If you feel the condom break while you are having sex, stop immediately and pull out. Do not continue until you have put on a new condom.

After ejaculation, withdraw while the penis is still erect, holding on to the rim of the condom while pulling out so that it doesn't come off.

Never use a condom more than once, and don't use a condom that is brittle or that has been stored near heat or in your wallet or glove compartment for a long time. Check the package for date of expiration.

• **Where can I find more information about HIV/AIDS?**

You may contact the CDC National Prevention Information Network, P.O. Box 6003, Rockville, MD 20849-6003. Telephone: (800) 458-5231. Or you may visit the CDC's Web site at www.cdc.gov. ■

To the health care worker: *Common Sense About AIDS* is written especially for your patients and other laymen. It explains important issues concerning AIDS in a thorough, yet easy-to-understand style.