ISSUE NO. 32

HIV Frontline

A Newsletter for Professionals Who Counsel People Living With HIV

This newsletter is supported through an unrestricted educational grant from **GlaxoWellcome**

Emerging Issues in HIV Treatment

What to Watch Out for in the Coming Months

Much has changed in the HIV-treatment arena over the past 2 years. Combination antiretroviral therapy (ART) using three or more drugs is now the standard of care. Viral load (the amount of HIV in an infected person's blood) has replaced CD4 count as the primary indicator for initiating ART, and driving the viral load below the level of detection has become the primary goal of treatment for most people with HIV. In addition, new issues continue to emerge at the forefront of HIV treatment. In this issue of **HIV Frontline** we focus on new treatments for HIV and explore the changing standards for measuring viral load.

New Treatments Are Emerging

Since 1995, the development of new drugs and the use of combination ART have greatly improved the prognosis for people living with HIV. The Food and Drug Administration (FDA) has approved 11 antiretroviral drugs and new formulations of several earlier treatments. In addition, several investigational treatments are headed for approval in the coming months. The table on pages 4–5 lists currently approved antiretroviral agents as well as three investigational drugs available through expanded access programs. When we published a similar table in 1996, only eight drugs were listed; now there are 15.

Drugs With New Formulations

Some of the new antiretroviral drugs are actually new formulations of existing agents. One new formulation combines zidovudine (ZDV) and lamivudine (3TC) in one pill, available under the brand name Combivir™. ZDV and 3TC make a highly effective combination, as documented in several studies, most notably the CAESAR study (CAESAR Coordinating Committee. *Lancet.* 1997;349:1413–1421). These two drugs also form an effective "nucleoside backbone" for multidrug combinations that include other agents, such as a protease inhibitor. It is hoped that the added convenience of the combined formulation will enhance treatment adherence for patients using Combivir™ alone or with other agents. ZDV and 3TC continue to be available in their separate formulations as well.

Another new formulation is the saquinavir soft-gel capsule. Saquinavir was originally available in a hard-gel capsule that was absorbed poorly and therefore was not as effective as other protease inhibitors. The new soft-gel formulation, available under the brand name Fortavase™, is absorbed better and is more effective than the original formulation. The hard-gel formulation continues to be available, but it will have a limited therapeutic role in the future.

Investigational Drugs Nearing Approval

Several new drugs are in development. The three agents that are closest to FDA approval are abacavir (formerly known as 1592), adefovir (formerly known as bis-POM-PMEA), and efavirenz (formerly known as DMP-266). Important clinical characteristics of these drugs are cited in the table on pages 4–5. These drugs are available to eligible

Inside...

Emerging Issues in HIV Treatment

☆

Focus on HIV Wasting Syndrome

☆

HIV News Briefs

(continued on page 2)

This newsletter is published by World Health CME, a division of World Health Communications Inc., and is supported through an unrestricted educational grant from Glaxo Wellcome. The views and opinions expressed herein do not necessarily reflect those of Glaxo Wellcome, World Health CME, or the Editorial Advisory Board. Statements regarding drugs, dosages, and procedures are not meant to serve as guidelines in the treatment of patients. Please see the full prescribing information before using any agent mentioned in this publication.

patients through expanded access programs sponsored by the manufacturers (see contact information in the table). To qualify, patients must have low CD4 cell counts and/or high viral loads as well as treatment failure with other regimens. Other new agents will be considered for approval after these, including the protease inhibitors amprenavir (141W94) and ABT-378.

The Role of New Medications

Advances in development of drugs to fight HIV and AIDS, coupled with advances in the control of opportunistic infections (OIs), have helped people with HIV live longer, healthier lives. The drugs currently nearing approval may provide additional options for patients who are initiating ART and for those who have to change regimens because of treatment failure. Medical providers, however, must make every effort to protect their patients from using up treatment options prematurely. As novel drugs become available, medical providers, patients, and counselors should keep the following precautions in mind:

- Don't rush to use a drug simply because it is new; a drug should be used because it is medically appropriate, based on the patient's treatment history, viral load, CD4 count, clinical status, and life circumstances.
- Any change in a treatment regimen should include at least two drugs that the patient has not used before.
- If possible, don't switch to a drug that is cross-resistant with drugs the patient has used before (in some cases, of course, there may be no other option).
- If possible, don't use two or more drugs that have overlapping toxicity profiles, and don't use a drug with a toxicity to which the patient has shown susceptibility. For example, don't use two drugs that may cause pancreatitis, and avoid using such a drug now if the patient developed pancreatitis while taking another drug in the past.

Finding two or three new drugs with appropriate resistance patterns and toxicity profiles may not be possible in the near term for people who have been taking antiretroviral drugs for a long time. Counselors, case managers, and treatment educators should encourage their clients to consult their medical providers regarding long-term therapeutic strategies that do not preclude future choices. For many people, that might mean waiting until new treatments become more widely available. The one crucial lesson learned from the use of new treatments in the past is that it is more important to use a new drug correctly than to use it right away.

Redefining "Undetectable"

Since the introduction of the protease inhibitors in 1995 and 1996, the primary goal of ART has been to drive viral load below the level of detection by the most sensitive assay available. The ultimate goal, of course, is complete suppression

Emerging Issues in HIV Treatment *(continued from page 2)*

of viral replication (reproduction). While it remains to be determined if complete suppression is possible, nearly complete suppression has certainly been achieved in many patients for sustained periods (more than 18 months in several studies and widely in clinical practice). The term "maximally suppressive" ART is sometimes used to describe treatment that can achieve sustained undetectable viral loads in many patients. But what is "undetectable"? The answer continues to change as viral load tests become more sensitive. Viral load is measured in copies of HIV RNA per milliliter of blood (copies/mL). When the first maximally suppressive regimens were studied, the most sensitive assays available measured HIV levels in the blood (or plasma) down to 500 copies/mL. Very soon, the commercially available standard became 400 copies/mL. In the coming months, the standard is likely to fall to 50 or even 20 copies/mL, as is already the case in most clinical research settings.

You may wonder what the difference is between numbers such as 50 and 500, when many untreated patients have viral loads in the hundreds of thousands. It is true that dramatic improvements in CD4 count and clinical status have been seen in patients on ART with viral loads below 400 copies/mL. However, there is evidence that the difference between 500 and 50 copies/mL has vast implications for the durability of response (ie, the length of time a treatment will continue working). Recent studies have shown a higher rate of viral rebound (significant increase in viral load) among patients whose lowest viral load was between 50 and 500 copies/mL than among patients whose nadir was less than 50 copies/mL. Another way of saying this is that the viral load nadir (low point) predicts the durability of response: the lower the nadir, the more durable the response; the less likely a patient is to experience treatment failure; and the more likely the viral load is to stay undetectable.

What This Means for Counselors

It remains to be seen how soon the more sensitive viral load assays will become commercially available and how soon after that they will be fully covered by most health insurance plans and adopted by medical providers. When these assays are introduced, counselors may have to explain them to clients. A client whose viral load was undetectable (less than 400 copies/mL) the last time it was tested may suddenly find that it is once again measurable, albeit at a number below 400 copies/mL. Clients may find this very confusing: *"I thought my viral load was undetectable. Now they tell me it's 275. What happened? Did it go up? Is my treatment failing? Am I going to get sick now? Am I going to get AIDS? Am I going to die?"* Some clients may be especially confused if they thought that "undetectable virus" meant "no virus at all." When these questions arise, counselors should remember the following key points and share them with their clients:

- Undetectable never meant that there was no virus in your blood. It only meant that the amount of virus, if any, was too small to be measured by the tests that were available at the time.
- The fact that your virus is now detectable (between 20 and 400 copies/mL using more up-to-date technology) does not mean that your viral load has gone up. It only means that your virus has now been measured with a more sensitive test that can detect smaller amounts of virus in your blood.
- The fact that your viral load is now detectable does not mean that your treatment is failing. Treatment failure is indicated by a viral load that *continues to rise*, as determined by at least *two consecutive* viral load tests, in the absence of immunization or another explanation for the increase, such as a cold, the flu, an outbreak of herpes, or any other kind of infection that might cause a temporary increase in HIV replication.
- The fact that your viral load is now detectable does not mean that you are going to get sick. Studies have shown that few patients develop opportunistic infections or AIDS even with viral loads as high as 5000 copies/mL. Driving your viral load below the level of detection may be the primary goal of therapy, but you may still experience significant clinical benefits with therapy that does not achieve or sustain that goal.
- The fact that your viral load is now detectable *most certainly* does not mean that you are at any immediate or increased risk of dying because of HIV or AIDS.

Donna Rochon, MA, contributed to the research and writing of this article.

Current and Emerging

Within each class, products are listed in order of FDA approval, and the order of drug classes does not imply a prescribe dosages different from those indicated below.

Nucleoside Analog Reverse Transcriptase Inhibitors

Zidovudine (ZDV, formerly known as AZT, brand name Retrovir®, Glaxo Wellcome)

Available since 1987. Now also available in combination with 3TC (see below) under the brand name Combivir™. Side effects include malaise, headache, and nausea, as well as anemia, inflammation of muscles, weakness, and pain. Combivir is one tablet taken twice daily; ZDV alone is 200 mg taken 3 times per day. No dietary restrictions. For information about manufacturer's patient assistance program, counselors may call (800) 722-9294.

Didanosine (ddI, Videx®, Bristol-Myers Squibb)

Available since 1991. The main side effects are peripheral neuropathy and pancreatitis. (Peripheral neuropathy often manifests as a tingling or burning sensation in the hands and legs.) Two tablets every 12 hours. Take 30 minutes before a meal. Avoid alcohol, which can increase the risk of pancreatitis in patients using this drug, and avoid antacids containing aluminum or magnesium. For information about manufacturer's patient assistance program, counselors may call (800) 272-4878.

Zalcitabine (ddC, Hivid®, Roche Laboratories)

Available since 1992. The most serious side effect is peripheral neuropathy (see explanation under didanosine, above); additional side effects include skin eruptions, canker sores, and mouth inflammation. One tablet every 8 hours. For information about manufacturer's patient assistance program, counselors may call (800) 285-4484.

Stavudine (d4T, Zerit®, Bristol-Myers Squibb)

Available since 1994. The most common side effect is peripheral neuropathy (see explanation under didanosine, above). One capsule every 12 hours. No dietary restrictions. For information about manufacturer's patient assistance program, counselors may call (800) 272-4878.

Lamivudine (3TC, Epivir®, Glaxo Wellcome)

Approved by the FDA in 1995. Now also available in combination with ZDV (see above) under the brand name Combivir. The main side effects are nausea, vomiting, and headaches. One tablet twice daily. No dietary restrictions. For information about manufacturer's patient assistance program, counselors may call (800) 722-9294.

Abacavir (Ziagen™, Glaxo Wellcome)

Investigational drug; will be available by April 1998 under an expanded access program. It is generally well tolerated; approximately 3% incidence of a hypersensitivity reaction characterized by fever followed by nausea (with or without vomiting) and malaise (which may be prominent); fever may or may not be accompanied by a rash. Symptoms resolve in 1 to 2 days upon discontinuation. Drug must not be rechallenged. 300 to 600 mg twice daily. No dietary restrictions. For information about manufacturer's expanded access program, counselors may call (800) 501-4672.

Nucleotide Analog Reverse Transcriptase Inhibitors

Adefovir (Gilead Sciences)

Investigational drug available under an expanded access program. The major side effects are nausea and vomiting; some patients have elevated liver enzymes, elevated bilirubin in the blood, and abnormal heart rhythms. One tablet once daily. Adefovir depletes blood levels of L-carnitine (a necessary amino acid); the manufacturer recommends daily supplementation with 500 mg oral L-carnitine. For information about manufacturer's expanded access program, counselors may call (800) 445-3235.

Antiretroviral Agents

a preference of any kind. Dosages are based on the approved prescribing information; medical providers may

Nonnucleoside Analog Reverse Transcriptase Inhibitors

Nevirapine (Viramune®, Boehringer-Ingelheim/Roxane Laboratories)

Available since 1996. Side effects include skin rash, fever, and muscle soreness. One tablet per day for the first 14 days, then one tablet twice per day. No dietary restrictions. For information about manufacturer's patient assistance program, counselors may call (800) 274-8651.

Delavirdine (Rescriptor®, Pharmacia & Upjohn)

Available since 1997. The major side effect is rash. Start with two tablets 3 times per day for 2 weeks; if no rash develops, increase dosage to four tablets 3 times per day. This drug should be taken 1 hour apart from any antacids. For information about manufacturer's patient assistance program, counselors may call (800) 711-0807.

Efavirenz (Sustiva®, DuPont Merck)

Investigational drug available under an expanded access program. Side effects include headache, dizziness, nausea, and vomiting. One tablet daily at bedtime. No dietary restrictions. For information about the manufacturer's expanded access program, counselors may call (800) 998-6854.

Protease Inhibitors

Saquinavir (Invirase®, Roche Laboratories)

Available since 1995. Now available in a soft-gel formulation (brand name Fortavase) that has better bioavailability than the original hard-gel formulation, which is now being phased off the market. Side effects include diarrhea, nausea, headache, and stomach discomfort. Invirase: three capsules 3 times daily. Fortavase: six capsules 3 times daily. Either form of saquinavir should be taken within 2 hours of a meal to assist absorption. For information about manufacturer's patient assistance program, counselors may call (800) 282-7780.

Ritonavir (Norvir®, Abbott Laboratories)

Available since 1996. Affects metabolism and absorption of many other drugs, including clarithromycin and oral contraceptives. Patients taking ritonavir should discuss possible drug interactions with their medical providers. Side effects include nausea, vomiting, weakness, diarrhea, and oral paresthesia (numbness of the mouth). Six capsules twice daily, preferably with food. For information about the manufacturer's patient assistance program, counselors may call (800) 659-9050.

Indinavir (Crixivan®, Merck & Co, Inc.)

Available since 1996. A common side effect is kidney stones. The risk of kidney stones may be reduced by drinking a lot of water, but this precaution does not guarantee prevention. Two capsules every 8 hours. Capsules should be taken on an empty stomach, preferably with no food eaten 2 hours before or 1 hour after a dose. A light meal (no more than 301 calories, derived from 2 grams of fat, 5.7 grams of protein, and 65 grams of carbohydrate) can be eaten during these times, if necessary. For information about manufacturer's patient assistance program, counselors may call (800) 850-3430.

Nelfinavir (Viracept®, Agouron Pharmaceuticals)

Available since 1997. The most common side effect is diarrhea, which is generally controlled with nonprescription drugs. Three tablets 3 times daily, with food. For information about manufacturer's patient assistance program, counselors may call (888) 777-6637.

HIV-Related Conditions Focus On: Wasting Syndrome

By Donna Rochon, MA

HIV wasting syndrome, named as an AIDS-defining illness by the Centers for Disease Control and Prevention (CDC) in 1987, is characterized by a profound, involuntary weight loss of more than 10% of body weight, accompanied by either chronic diarrhea (at least two loose stools per day for more than 30 days) or chronic weakness and fever lasting 30 days or longer. These conditions must occur in the absence of concurrent illness or any condition other than HIV that could explain the findings. In other words, no other causes of weight loss can be present.

Epidemiology

Since the revision of the AIDS case definition in 1987, HIV wasting syndrome has become the second most frequently reported AIDS-related clinical manifestation in the United States after PCP. Recent studies have reported incidences as high as 62% to 78%. Because of the narrowness of the CDC definition, wasting can only be considered present in a relatively small subset of patients with HIV-associated weight loss. Thus, the actual incidence is probably greatly underestimated.

Data indicate that patients with wasting syndrome are most likely to be African-American or Hispanic women and to have been infected through heterosexual contact, transfusion, or injection drug use. Casey (*J Assoc Nurses AIDS Care.* 1997;8:24–32) suggests that a difference in hormonal functions may predispose women with HIV to the condition, because they had a more significant loss of body fat than HIV-infected men. Further, premenopausal women have abnormally low testosterone levels, which have been associated with malnutrition. The higher incidence in drug users may be explained by their tendency to suffer from nutritional and immunologic deficiencies in addition to their HIV status.

Clinical Impact

A variety of factors contribute to HIV-related wasting, including altered metabolism, decreased food intake, malabsorption of nutrients, immune and endocrine system dysfunction, depression, fatigue, and muscle disease. Nearly all patients with HIV eventually experience a decline in nutritional status as a result of wasting syndrome. For patients with AIDS, nutritional wasting creates a vicious cycle in which malnutrition increases immune dysfunction that worsens wasting. Malnutrition negatively affects the ability of the gastrointestinal tract to absorb drugs, which can result in a general decrease in the effectiveness of HIV drug therapies. This can increase the severity of side effects and interfere with recovery from other infections. Further, many antiretroviral medications cause side effects—such as nausea, vomiting, taste changes, diarrhea, and dry mouth—that can affect patients' overall nutritional health.

A serious consequence of wasting is the loss of vital muscle and organ tissue, that is, lean body mass. This may be a more important indicator of disease progression than weight loss alone. Wasting can lead to physical debilitation; as the body weakens from insufficient caloric intake and as muscle strength declines, simple tasks become impossible to perform. Patients can very quickly become too weak to eat. Decreased food intake contributes to disturbances in physical and psychological well-being.

Treatment

Because wasting syndrome in HIV infection has many causes, its management is especially complex, requiring different approaches at different times. Healthcare providers must recognize its onset, quickly treat the controllable causes, and manage recurrent or ongoing symptoms.

Generally, wasting is treated with dronabinol, a synthetic version of tetrahydrocannabinol, which is a naturally occurring substance found in marijuana or with Megace, a synthetic version of the hormone progesterone. Megace increases fat synthesis, and dronabinol prevents vomiting. These drugs do not prevent weight loss; they treat the underlying symptoms and promote weight gain by acting on the central nervous system to stimulate appetite.

Recombinant human growth hormone (rHGH), a genetically engineered

(continued on back page)

H·I·V N·E·W·S B·R·I·E·F·S

The HIV Case-Reporting Debate

Currently, every state mandates the reporting of AIDS cases to public health officials, but 20 states—including New York and California—do not yet require reporting of HIV infections. AIDS advocacy groups have traditionally opposed such measures for fear that HIV registration might deter early testing and treatment because of a lack of confidentiality. Now, the tide of opinion may be turning. In a policy statement released in January, the Gay Men's Health Crisis (GMHC), an influential AIDS advocacy organization in New York City, urged New York State to require HIV case reporting using a coded identification system (often called a "unique identifier" system). According to GMHC, scientific advances and the need for the latest data necessitate new approaches, and tracking only AIDS patients is no longer sufficient. A decision to mandate HIV reporting would probably require a new state law. State Assemblywoman Nettie Mayersohn (D-Queens) has already introduced a bill for a name-based reporting system, but no action is likely until the New York State Advisory Council makes its recommendations on the issue this spring.

In related developments: A panel of San Francisco AIDS experts is recommending that the city require medical providers to report all HIV-infected patients to the Health Department using a unique identifier system. The controversial recommendation was made in January at an AIDS summit convened by San Francisco Mayor Willie Brown. In January, Alaskan health officials announced a plan to require the reporting of all HIV-infected individuals by name to the State Division of Public Health. In Washington, where name-based HIV reporting is currently the law, Governor Locke's advisory council has suggested switching to a unique identifier system.

HIV Frontline will continue to cover the fast-paced national debate on HIV case reporting.

Needle Exchange May Have Its Day

Renewed debate is swirling around the issue of needle exchange programs to curb the spread of HIV among injecting drug users, their sexual partners, and their children. Nearly one third of the more than 570,000 AIDS cases reported in the United States have been caused either directly or indirectly by injection drug use, and almost half of all new HIV infections can be traced to such behavior. Despite this problem, the United States has yet to provide easy access to sterile syringes.

On March 31, 1998, when the Congressional ban on federal funding for needle exchange programs is lifted, the Clinton administration has an opportunity to address this problem. Secretary of Health and Human Services Donna Shalala has not determined whether the White House will support those programs. This raises the concern among AIDS activists that President Clinton may refuse to endorse the programs. Yet, as argued in a recent editorial in *The Lancet*, a number of studies offer convincing evidence that such programs are effective against HIV and do not encourage drug use. In 1993, the CDC recommended the expansion of needle exchange programs in the United States. Last year, a National Institutes of Health panel argued that there is no doubt that needle exchange programs work. In December 1997, the President's Advisory Council on HIV/AIDS issued a report urging President Clinton to lift the ban on federal funding for needle exchanges immediately. The Council noted that as many as 11,000 preventable HIV infections may occur in the United States by the turn of the century if current policies are not changed. In a related development, New Mexico launched a needle exchange program in February; officials hope to have the program established in Roswell, Las Cruces, and Farmington by the spring.

HIV Frontline will continue to cover the important debate on needle exchange policy nationwide.

Source: CDC NCHSTP Daily News Update. Copyright 1998, Information Inc., Bethesda, MD.

NEW IN 1998

HIVFrontline

FAX NEWSLETTER

Reports from major medical meetings including the Fifth Conference on Retroviruses and Opportunistic Infections in Chicago and the International AIDS Conference in Geneva.

To receive this new publication, please provide the following contact information and return via fax to (212) 481-8534.

If you have already responded to this offer, please disregard this notice.

Name _____ Title _____

Agency _____

Address _____

City _____ State _____ ZIP _____

Phone ( ) _____ Fax ( ) _____

☐ ***Check here if you prefer to receive this newsletter in the mail rather than via fax.***

version of the hormone that stimulates normal growth in children, has been approved by the FDA for HIV-infected patients with wasting syndrome. One study demonstrated that rHGH increases lean body mass and reduces body fat, thereby correcting a metabolic abnormality and addressing one of the causes of wasting. The investigators concluded that it might be best to combine this hormone with an appetite stimulant to counterbalance its fat-reducing properties. Thalidomide, the drug that caused severe birth defects when given to pregnant women in the 1960s, has returned as an investigational compound for the treatment of wasting. It suppresses the production of tumor necrosis factor (believed to be a major factor in wasting syndrome) and promotes rapid weight gain, making it an effective alternative if used cautiously.

Low testosterone levels are common in men and women with HIV infection, either because of inefficient hormone production related to HIV infection or because of the side effects of anti-HIV drugs. Testosterone is an androgenic steroid, that is, a sex hormone; inadequate levels may result in weakness, loss of lean body mass, depression, fatigue, and decreased sex drive. Baseline testosterone levels should be determined for all patients who experience these symptoms. If the levels are abnormal, testosterone can be replaced in several ways. Injectable testosterone is often given in a 200-mg IM dose every 2 weeks (the same dosage used to help female-to-male transsexuals achieve masculinization). Testosterone can also be given in a patch, which comes in two forms: a scrotal patch (Testoderm®) or a patch for the torso (Androderm®) that is administered daily.

Anabolic steroids are given often with testosterone in the face of HIV-related wasting. Officially, such use is still investigational. Some anabolic steroids can cause serious toxicities, and in women, anabolic steroids can have problematic masculinizing effects. Nandrolone is a commonly used injectable form of anabolic steroid. Oxandrolone is an oral formulation whose manufacturers report that it has no masculinizing effects and less hepatic toxicity than other anabolic steroids. While many people with HIV are very anxious about the possibility of wasting illnesses, many others suffer from distorted body images. It is, therefore, vital for counselors to determine if a patient really needs to get anabolic steroids to control weight loss or if the patient is using such medications improperly.

Patients with moderate-to-severe wasting who also have problems eating enough food may require parenteral (intravenous) delivery of liquid nutrients. This is called total parenteral nutrition; it provides a combination of protein, carbohydrates, vitamins, minerals, electrolytes, and essential fats. It is a very expensive feeding method and is usually regarded as a treatment of last resort when all other attempts to increase body weight and body mass have failed.

Preventive Care

Careful monitoring of lean body mass and weight, prompt identification of the causes of wasting, and proper administration of available therapeutic interventions allow HIV wasting syndrome to be controlled and treated successfully. Consultation with a qualified nutrition professional (ie, a registered or licensed dietitian) to obtain guidelines about adequate nutrition can help prevent wasting and avoid the need for toxic drugs. Exercise that maintains body mass is a vital part of an overall wellness program, and high-protein drinks (Sustacal®, Ensure®, Advera®) plus vitamin and mineral supplements (eg, beta carotene and vitamins B_6, B_{12}, C, and E) offer a convenient way to supplement nutrition and counter weight loss. Ultimately, an increase in body weight associated with an increase in lean body mass may increase survival, decrease the incidence of opportunistic infections, and improve quality of life.

Mental Health Perspective

In addition to its physiological impact, wasting has important psychosocial effects. The cycle of malnutrition, weight loss, and physical debilitation can increase despondency and make it difficult to cope with the condition. The disruption in daily activities—such as eating, socializing, and family life—can further undermine psychological well-being. Wasting also has an effect on self-image and body image, with a correspondingly negative effect on such areas as sexual activity and self-esteem. Self-consciousness about loss of weight, muscle mass, and muscle tone can lead to self-isolating behavior (staying at home, not going to the gym, not going to parties). Since exercise is so important to maintaining muscle mass, this kind of behavior can accelerate the downward spiral of wasting.

Counselors can help clients dealing with HIV-related weight loss and related symptoms by encouraging their participation in various kinds of peer-related interaction, such as support groups and communal meal programs. For more severely impaired clients, buddy programs and home-delivery meal programs not only help the client meet his or her nutritional needs and get chores done but also provide much-needed social contact with caring individuals to help reduce the client's isolation.

To add your name to the mailing list for this publication, please send your request to
HIVFrontline, World Health CME
41 Madison Avenue, 42nd Floor
New York, New York 10010-2202