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HIV prevention clashes with politics over needle-exchange programs

Opinion polls mixed on public support for federal funding

It's been more than a year since national public health leaders sent a letter to U.S. Department of Health and Human Services Secretary Donna Shalala, advising her that needle-exchange programs were useful in preventing the spread of HIV and didn't increase drug use. But the controversy didn't end there, and AIDS activists contend that the government still has done too little to promote or fund these programs on the national or state levels.

"For some time we've had mountains of evidence that needle-exchange programs decrease the spread of HIV, and now we have studies showing they do not promote drug abuse and crime," says **Daniel Zingale**, executive director of AIDS Action in Washington, DC. "From our perspective, there are no more legitimate reasons against these life-saving programs being implemented."

New Jersey's Republican Gov. Christine Whitman is on the other side of the fence, encouraging state health officials to get drug users into treatment but permitting arrests of volunteers who distribute needles to heroin addicts. "The governor has made her position very clear: She feels needle exchange sends out the wrong message," says **Larry Ganges**, MSW, director of the intervention and care services unit for the New Jersey Department of Health and Senior Services in Trenton.

"If you check the literature, there are certainly studies that talk from both sides of the issues, including several studies that indicate needle-exchange programs do not serve the greater good," Ganges says.

AIDS Alert searched research papers on Medscape (**www.medscape.com**) for studies, letters, and editorials containing the words "needle exchange," and found 31,125 references. Among the top 125 references, 30 of these were first-time references to studies. Of the 30 studies, 28 concluded that needle-exchange programs were helpful in preventing the spread of HIV, and two had negative or mixed conclusions.

One 1998 study even concluded that illegal syringe-exchange programs can be effective HIV prevention programs, resulting in lower rates of needle-based risk behavior among African-American and HIV-positive injection drug users.[1]

Forty-two states have legalized the sale of hypodermic syringes without a prescription, with some permitting or even funding needle-exchange programs and others allowing pharmacists to sell needles over the counter.[2] However, some states — such as New Jersey and California — have actively enforced drug paraphernalia or prescription laws by arresting needle-exchange program volunteers. A 1997 study shows that this type of enforcement can deter addicts from using the program and volunteers from participating in it.[3]

Public opinion fickle on needle exchange

Public opinion surveys have shown that many Americans are conflicted about whether needle-exchange programs work and whether they should be federally supported. While the Menlo Park, CA-based Kaiser Family Foundation reports that 66% of Americans support needle-exchange programs, a recent poll by the conservative Family Research Council contradicts that finding.

The Washington, DC-based organization asked 1,000 registered voters nationwide in February to state which of the following opinions was closest to their own:

- "Voter A says that needle-exchange programs reduce the spread of the HIV virus and do not contribute to more drug use. Federal funds should be used to give syringes to drug addicts."
- "Voter B says that the science supporting needle-exchange programs is uncertain and that giving needles to addicts would increase drug use as well as send pro-drug messages to vulnerable teens."

The survey reported that 34% of the voters surveyed agreed with "Voter A" and 59% agreed with "Voter B." Another 7% said they were confused or didn't know. Also, only 29% of the voters polled said they support needle-exchange programs and 65% oppose them when asked this question: "Would you support or oppose giving clean needles to drug addicts to slow the spread of the AIDS virus if you knew that this might increase illicit drug use among America's youth?"

Perhaps partly because of uncertain public sentiment regarding such programs, some states have opted to stay away from needle exchanges and instead lend more support to programs that get drug addicts into treatment. New Jersey, for instance, has a comprehensive program aimed at getting IV drug users into treatment. **(See story on New Jersey's program targeting IV drug users, p. 63.)**

Some say the United States has opened Pandora's box for too long, and most of the evils caused by the spread of HIV through the drug-using community already have descended on the mainstream population. They cite the increasing numbers of heterosexual women and minorities becoming infected with HIV as evidence of this trend.

AIDS rises rapidly among women due to drugs

For example, the latest statistics from the Atlanta-based Centers for Disease Control and Prevention (CDC) show that the number of women with AIDS more than quadrupled between 1987 and 1997. The 2,900 female cases of AIDS in 1987 climbed to 12,119 cases by 1997. In contrast, the number of men with AIDS rose by only half, from 25,970 to 39,863. Also, unlike the five-year declining AIDS trend evident among men, women's cases have continued to rise in the past five years.

Moreover, injection drug use accounted for 39% of the AIDS cases among African-American men and 39% of Hispanic men. Drug use also was the cause of AIDS in 49% of African-American women, 44% of Hispanic women, and 45% of white women, according to 1997 data. Among white men with AIDS, only 13% were infected through injection drug use. **(See AIDS data charts, inserted in this issue.)**

"Heterosexual transmission of HIV is very much tied geographically and otherwise to where there's a lot of HIV infection among injection drug users," says **T. Stephen Jones**, MD, a CDC medical epidemiologist and associate director for science in the Division of HIV Prevention.

For example, heterosexual transmission of HIV is a bigger problem in the Northeast than in the Midwest because HIV is more prevalent among injection drug users in the Northeast, Jones says. "Injection drugs are a really efficient way to spread the virus through blood," he adds.

A 1997 CDC update cites several studies showing the benefits of needle-exchange programs, which the CDC recommends as a prevention strategy but is unable to fund due to a ban — in place since 1988 — on federal government money for syringe exchanges. One study of 543 users in six states found that injection drug users were more likely to have used a virus-free needle if they were in a city with a

NJ offers everything but needle exchange

State focuses on treatment, HIV testing

New Jersey health officials may have no programs to prevent HIV-infected drug users from sharing dirty needles, but the state does have an array of programs aimed at getting these users off drugs.

"We have 105 drug treatment programs in the state, and the division of addiction services now mandates those programs to provide HIV counseling and testing on the premises," says **Larry Ganges**, MSW, director of the intervention and care services unit of the New Jersey Department of Health and Senior Services in Trenton.

New Jersey had the nation's fifth-highest number of AIDS cases reported between July 1997 and June 1998, according to the latest statistics from the Atlanta-based Centers for Disease Control and Prevention (CDC). **(See most recent statistics on AIDS cases from the CDC, p. 64.)** And the state's HIV data show that women account for more than one-third of all HIV-infection cases.

Women who have been infected with HIV by men who inject drugs are one of the fastest-growing HIV populations, Ganges says. The state health department has attacked this problem with this two-pronged approach:

1. The state has developed a program specifically geared toward female sex partners of injecting drug users that teaches HIV prevention and offers counseling and testing. If a woman tests positive for HIV, she is guided to health care services for treatment. Moreover, the state health department offers women incentives to participate. These incentives include discount coupons for merchandise at local stores, vocational training, transportation services, and child care.

2. Together with the HIV Prevention Community Planning Group — a group consisting of community representatives, policy leaders, consumers, and others who address and identify HIV prevention needs and strategies — the state decided to focus on the injecting drug population, providing them with free drug treatment upon demand. The drug treatment program is called the Patient Incentive Program (PIP). To qualify for free treatment, a person must be an injecting drug user who is at risk for HIV and probably shares needles and must be eligible for admission to one of the state's four high-volume methadone maintenance programs. PIP tests participants for HIV and gives them a timetable during which they can be admitted to the free drug treatment plus methadone, detox services, and maintenance.

All four treatment centers have medical directors, case managers, and other clinicians. The program also counsels drug users on risk prevention, and counselors work with participants by introducing them to vocational training and assisting them with locating affordable housing. "If they're working, they can begin to pay for treatment on a sliding income scale, which goes to a maximum of $6 to $8 a week," Ganges says.

The program assists about 1,800 to 2,000 injection drug users each year. The funding includes $1.2 million from the state health department and additional money from the CDC.

The Eagleton Institute at Rutgers University in New Brunswick is conducting a study to assess how well the program has succeeded in keeping injection drug users off drugs and continuing with follow-up care.

"We're trying to measure success over time to see what is the initial impact and the long-term impact of these programs, and to see whether there is a need for follow-up interventions," Ganges says. ■

needle-exchange program. **(See article on CDC's suggestions for reducing HIV's spread through injection drug use, p. 66.)**

An Australian physician and AIDS researcher says the United States could have avoided that trend if the country had attacked the spread of HIV among drug users early on.

"We instituted needle exchange in Australia very early," says **Cassy Workman**, MMBS, associate director of AIDS Research Initiative and director of Ground Zero Medical in Sydney.

"We established needle exchange in a

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AIDS cases reported July 1988 through June 1998, by state of residence

State of residence	7/88-6/89	7/89-6/90	7/90-6/91	7/91-6/92	7/92-6/93	7/93-6/94	7/94-6/95	7/95-6/96	7/96-6/97	7/97-6/98
Alaska	16	29	16	14	29	73	79	37	44	41
Alabama	224	204	318	425	702	557	565	663	523	603
Arkansas	78	116	220	197	423	289	286	284	242	225
Arizona	260	370	237	366	1,098	645	559	650	529	548
California	5,995	6,791	7,352	8,398	15,075	14,171	10,824	10,459	8,108	6,336
Colorado	345	380	442	424	1,081	882	715	597	430	317
Connecticut	424	435	479	480	1,461	1,302	1,055	1,511	1,201	894
District of Columbia	535	535	712	813	1,077	1,575	1,216	1,051	1,191	943
Delaware	83	83	90	106	307	258	309	318	264	161
Florida	3,115	3,969	4,865	5,194	9,005	7,655	9,239	7,673	6,685	5,489
Georgia	994	1,219	1,197	1,729	2,237	2,235	2,294	2,486	2,107	1,362
Hawaii	115	190	185	166	201	316	263	207	144	128
Iowa	57	48	89	86	189	98	144	128	104	97
Idaho	20	23	23	39	66	55	57	44	44	39
Illinois	1,032	1,228	1,215	1,835	2,811	2,726	2,755	2,145	1,748	1,782
Indiana	235	328	283	378	757	725	521	651	562	487
Kansas	95	133	115	168	296	254	257	256	178	147
Kentucky	106	150	185	179	295	298	309	314	402	312
Louisiana	425	659	696	915	1,166	1,222	1,109	1,355	1,224	1,064
Massachusetts	771	816	944	861	1,909	2,023	1,367	1,294	1,117	784
Maryland	609	871	1,016	1,033	1,984	2,210	2,885	2,272	2,155	1,629
Maine	43	67	50	56	78	137	139	80	55	41
Michigan	504	528	574	841	1,543	1,076	1,057	1,033	940	804
Minnesota	173	173	200	238	588	382	406	322	246	177
Missouri	376	563	577	707	1,623	813	677	848	690	543
Mississippi	123	214	261	226	384	411	411	413	447	359
Montana	30	16	30	22	26	29	24	30	42	34
North Carolina	366	519	528	649	1,002	1,296	1,013	977	858	812
North Dakota	2	2	13	1	10	28	6	10	10	10
Nebraska	40	41	65	61	151	106	112	98	97	77
New Hampshire	43	57	46	53	89	90	115	99	68	60
New Jersey	2,382	2,233	2,419	2,193	3,408	5,202	4,724	3,980	3,753	2,507
New Mexico	78	102	109	108	279	164	229	113	229	220
Nevada	137	170	225	248	537	429	412	455	465	484
New York	6,368	7,642	7,678	7,976	13,968	15,077	12,537	13,226	12,472	11,329
Ohio	532	587	596	800	1,164	1327	1,181	1,108	937	785
Oklahoma	160	216	172	241	655	347	269	278	288	298
Oregon	197	276	288	290	658	577	506	500	356	234
Pennsylvania	1,013	1,149	1,094	1,392	2,134	2,810	2,661	2,256	2,124	1,897
Rhode Island	84	93	76	121	231	274	286	180	160	141
Puerto Rico	1,391	1,467	1,737	1,754	2,579	2,603	2,544	2,128	2,207	2,020
South Carolina	246	367	344	354	1,128	1,173	985	954	801	777
South Dakota	6	1	9	9	23	17	20	17	9	17
Tennessee	283	307	329	410	851	848	876	899	791	694
Texas	2,327	2,802	3,053	3,198	6,075	5,807	5,083	4,352	4,882	4,472
Utah	79	86	108	129	278	136	152	198	158	150
Virginia	392	610	645	659	1,360	1,368	1,140	1,506	1,253	999
Virgin Islands	28	7	12	21	47	40	58	33	55	64
Vermont	14	19	21	22	26	81	31	40	33	21
Washington	443	694	591	533	1,171	1,181	922	770	758	528
Wisconsin	115	179	197	224	623	399	358	325	252	222
West Virginia	38	62	51	72	76	79	113	146	113	130
Wyoming	14	7	11	11	34	20	14	15	17	5

Source: Centers for Disease Control and Prevention, Atlanta.

widespread manner, which is now entrenched as part of our drug culture in Australia, so we never had a cross-over [of the AIDS epidemic] into the IV population," she adds. "There's a critical window period in which you can do something about it, and if you do, you stop the cross-over, and if you don't, and do what America has done and wait, letting HIV get into the substantial IV population, then it's problematic."

Queensland gives out 3 million needles a year

For example, the state of Queensland in Australia distributed more than three million syringe kits through its free needle-exchange program last year, costing $500,000 (Australian) and saving the nation $279 million in potential health costs of treating IV drug users for HIV and all other diseases they might otherwise contract through contaminated needles.[4]

However, Australia did a lot more than just implement needle-exchange programs, Jones says. The nation also increased drug substance abuse programs by tenfold.

"What the CDC is recommending is for people not to put all their HIV prevention in one basket," Jones says. "Make sure syringes are available for people who want to inject drugs, and make sure you have good counseling and testing programs to reach drug users."

For instance, he adds, a state like New Jersey, which has a lot of injection drug users, should have a good medical program to help users reduce risks, and this program also should be available in jails and prisons.

Workman gives this anecdotal example of how different Australia's HIV demographics are from the United States': "I have 500 patients who are positive, and among them are four [male] heterosexuals, a dozen IV drug users, and four women."

The state of New Jersey, according to statistics through Dec. 31, 1998, has counted 26,238 people living with HIV, and 36% of these are women. New Jersey also has the highest AIDS rate among women in the United States, which at 31% is more than double the national women's AIDS rate of 15%.[5]

One of the latest studies to add weight to the argument in favor of needle-exchange programs comes from the Johns Hopkins University School of Public Health in Baltimore. Johns Hopkins researchers studied crime rates in neighborhoods visited by vans from Baltimore's needle-exchange program and found that crime rates in those areas remained the same as those in other neighborhoods over a two-year period.[6]

Baltimore's program, paid for with $321,000 from state and city funds, has dispensed 2.3 million needles to 8,300 addicts over 4.5 years.[6]

Johns Hopkins researchers also surveyed high school students, asking them whether seeing a needle-exchange program might lead them to use drugs. The survey found that 11% of the 500 students surveyed said it would, but about 50% said that seeing a family member or friend use drugs would cause them to try drugs.

Despite these studies and more like them, needle-exchange programs continue to have the orphan cousin status shared by contraceptive education programs in schools. While few states go to the extreme that New Jersey has to prevent these programs from existing, most do not provide adequate funding, AIDS advocates charge.

"In places where needle-exchange programs are operating, we are avoiding a significant number of new infections," Zingale says. "If we implemented them more broadly, we could significantly improve the HIV infection rate."

Wisconsin program could be model

Zingale points to a program in Wisconsin as an example of a well-run needle-exchange program. The Wisconsin project is funded entirely through private money and is operated by the nonprofit AIDS Resource Center of Wisconsin in Milwaukee.

The program has exchanged more than one million needles since its inception in February 1994 at 14 sites across the state, says **Mike Gifford**, deputy executive director.

"Needle exchange is legal in Wisconsin, and that has allowed us to grow this program into a successful program," Gifford says. "But the problem is the federal, state, and local governments refuse to fund needle exchange."

Gifford estimates the program reaches about one in four injection drug users in Milwaukee and one in 10 users statewide. But if the program was fully funded with $200,000 in government funds added to the $300,000 already spent in private money, it could reach nearly all Milwaukee injection drug users and about half of the state's users, he adds.

Wisconsin's ban on funding is particularly frustrating, Gifford says, because a recent local survey shows that Milwaukee residents support

CDC gives communities prevention strategies

Many AIDS cases involve drug use

More than one-third of all reported AIDS cases in the Unites States involve injection drug users, their sexual partners, and their children, a statistic that government officials say indicates the need for widespread prevention efforts targeting those populations. While critics claim needle-exchange programs are among the most effective means of preventing the spread of HIV through injection drug use, political opponents of such programs have succeeded in limiting their growth and effectiveness.

The Atlanta-based Centers for Disease Control and Prevention (CDC) has supported various prevention efforts aimed at stopping HIV's spread through injection drug use and has issued community guidelines that outline various strategies. Here is an excerpt from the CDC's 1997 guidelines:

• **Changing community laws:** In July 1992, Connecticut changed its state laws to permit purchasing up to 10 syringes without a prescription and possessing up to the same number. The CDC worked with the state health department to evaluate the effects of the new law, and found that 83% of Connecticut pharmacists sold syringes without prescriptions following the change. Also, injection drug users used the pharmacies instead of the street to obtain syringes, and users reported a substantial decrease in sharing needles. The total number of injection drug users and their age, duration of drug use, and frequency of injection did not change.

• **Substance abuse interventions must provide education:** Comprehensive programs must provide the information, skills, and support necessary to reduce risks from both drug-related and sexual behavior. According to research, many interventions aimed at reducing sexual risk behaviors among drug users have significantly increased the practice of safer sex among participants.

• **Clean needle is safest approach:** The CDC states that for injection drug users who cannot or will not stop injecting drugs, the once-over use of sterile needles and syringes remains the safest, most effective approach for limiting HIV transmission. Also, drug users must be advised to use sterile injection equipment, warned never to reuse needles or other injection equipment, and told that using syringes cleaned with bleach isn't as safe as using new sterile needles. Extensive scientific evidence has shown that needle-exchange programs can be an effective part of a comprehensive strategy to reduce HIV transmission, and these programs do not encourage the use of illegal drugs, the CDC says.

• **Communities should offer array of programs:** Programs targeting injection drug users should include efforts to prevent people from first using drugs, high-quality substance abuse treatment options, outreach services to drug users and their sex partners, and prevention services in jails and prisons.

• **The government should commit to drug treatment programs:** The CDC cites statistics showing that only 500,000 drug treatment slots are available at any given time, and yet the nation has an estimated 1.5 million active injection drug users. The need for substance abuse treatment outstrips the nation's capacity to provide it at a time when drug treatment could help eliminate the risk of HIV transmission from sharing contaminated syringes. ■

needle-exchange programs. When the center interviewed 409 Milwaukee adults, asking them whether they favor or oppose using needle-exchange programs to reduce the spread of AIDS in Greater Milwaukee, 57% said they were in favor; 36% were opposed; 7% were undecided.

"The state of Wisconsin has a remarkable track record of providing care and treatment of people with HIV through drug treatment and support care," Gifford says. "But the state has not made a commitment on HIV prevention and has not increased funding in the past 10 years."

Wisconsin does give the AIDS Resource Center money for HIV counseling and testing services for drug users. In fact, the center's green needle-exchange vans are accompanied by red vans where addicts may seek an HIV test. Also, the center's $9.2 million budget, which includes $6.2 million from government sources, has funding for drug treatment.

All drug users who use needle-exchange services are given HIV prevention information,

condoms, and safe sex kits, and they can receive a referral to a drug treatment center if they so choose, Gifford says. "We like to think of it as a real comprehensive needle-exchange program."

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Testosterone gel shows promise in Phase III trial

Research shows gel works as well as patch

Clinicians looking for a way to raise HIV-infected men's testosterone levels may soon be able to prescribe the hormone in the form of a gel that can be easily administered.

Early results from a phase III, multicenter, comparative clinical trial show that Androgel, a testosterone replacement gel developed by Unimed Pharmaceuticals of Buffalo Grove, IL, effectively restores testosterone serum levels. The results also show that the gel causes no skin irritation.

"With transdermal gel delivery, quite adequate levels of testosterone are delivered in a patient-friendly manner," says **Ronald S. Swerdloff**, MD, principal investigator for the clinical trials. Swerdloff is a professor of medicine at the University of California at Los Angeles and chief of endocrinology at the Harbor-UCLA Medical Center in Torrance, CA.

Unimed's multicenter study is evaluating 227 men, ages 18 to 68, who have been diagnosed with hypogonadism. Men were randomly assigned to apply either one or two doses of Androgel each day or to wear a testosterone patch. They are being monitored for 180 days, with primary monitoring points at 30 and 90 days.

The study has not targeted AIDS patients, but recent research has shown that testosterone-replacement therapy helps HIV-infected men regain muscle mass and improve physically and mentally. **(See story on testosterone therapy in the February 1999 issue of *AIDS Alert*.)**

A gel application has several big advantages, Swerdloff says. First, patients can easily apply it themselves, requiring fewer clinic visits. Also, it can be used confidentially, unlike a patch, which may be noticed by the patients' colleagues and friends. And clinicians can adjust the dose easily according to what the patient needs.

The gel, which dries rapidly and leaves no residue on the skin, is rubbed on the shoulders, abdomen, or chest.

Gel testosterone easy to dose

"It's easy to dose because it depends on how much you apply," Swerdloff says. The clinical trials are using bottles with a fixed amount of gel per squirt. But Androgel will be marketed in individual dosage packages of 25 mg that allow a wide range of application doses. Clinicians could prescribe two- to four-package doses.

"The gel gives fairly constant levels throughout the day, so there's not a lot of variation," Swerdloff adds.

Preliminary trial results indicate that a once-daily application of Androgel raised circulating testosterone levels to desirable levels at all evaluation time points. Patients sustained these levels throughout the 90-day treatment phase. The study also will evaluate serum testosterone levels after 180 days of continuous treatment.

"The results are highly favorable on all parameters that were looked at," Swerdloff says. "The gel seems to give responses that are at least comparable to any other male hormone preparation on all the different parameters, such as libido, lean body mass, muscle strength, bone mineral markers, and body fat."

Europeans have administered androgens in a gel form for more than 15 years, but this will be the first such product available in the United States. Unimed plans to submit the gel this year to the Rockville, MD-based Food and Drug Administration (FDA) for review. ■

All sites up and running on AIDS vaccine trials

AIDSVAX trials enroll 5,000 in North America

Three-year phase III trials are fully under way at about 50 sites in more than 25 states for one of the nation's most promising AIDS vaccines under study.

AIDSVAX is a genetically engineered, aluminum-adjuvanted subunit investigational vaccine developed by VaxGen, a biotechnology company in San Francisco. The vaccine is made from a copy of a protein from the surface of HIV and contains no HIV DNA, so there's no chance the vaccine could cause HIV infection.

AIDSVAX trials also have opened recently in Amsterdam and in Canada. "We plan to continue volunteer enrollment throughout the summer," says **Nicole Lynch**, VaxGen spokeswoman.

The randomized, double-blind, placebo-controlled trial will enroll 5,000 people between the ages of 18 and 60 who do not have HIV-1 infection but are at risk of acquiring it through sexual contact. The North American trial will not use injection drug users.

At least one trial site has had no trouble finding volunteers interested in the study. "We've been overloaded with more than 100 calls in the week after a television program featured the study," says **Veronica Pettigrew**, RN, research coordinator for the Community Medical Research Institute of Community Hospitals in Indianapolis. The Indiana site will enroll a minimum of 100 people.

Vaccine volunteers had no allergic reactions

Indiana trial participants, who first enrolled in March, have responded well medically to the vaccine, Pettigrew says.

"We haven't had an allergic reaction," Pettigrew says. "The only side effects we've seen are the same effects a person will have with any shot in a muscle — no cellulitis and not a lot of fevers related to the drug."

The trial's participation level also has been good, she adds. The site's early participants readily showed up for their first two vaccination shots, which are given a month apart.

Two out of three AIDSVAX participants receive the vaccine, and the other group receives a placebo. Counselors advise volunteers to continue safe sex practices because they will not know whether they have received the vaccine or the placebo.

Volunteers receive seven shots over a three-year period, at these times: baseline, one month, six months, 12 months, 18 months, 24 months, and 30 months. Research coordinators draw blood and assess the participant's tolerability to the vaccine every 14 days after each immunization. They'll continue follow-up for six months after the last vaccination is administered, and volunteers will be tested for HIV infection at six-month intervals throughout the study period. Researchers will follow volunteers who become infected with HIV for 24 months at four-month intervals or until the study ends, whichever is longer.

New formulation covers many viral strains

Research on AIDSVAX began in 1984 by a research team at San Francisco-based Genentech Inc., which now is the manufacturing and development partner for the vaccine. The first-generation vaccine, while found to be safe and effective, did not cover all strains of HIV circulating in the population. Researchers then began researching a second-generation vaccine that contains additional gp120 protein and has a much broader representation of circulating HIV strains.

Clinical trials on the first-generation vaccine began in March 1992 in cooperation with the Washington, DC-based National Institutes of Health. Once the phase I trials showed the vaccine was safe for humans, researchers began phase II trials.

Then in 1995, two top vaccine researchers led a spin-off of the Genentech HIV vaccine effort and formed VaxGen to concentrate on its further development, eventually leading to the formulation of the AIDSVAX vaccine, which is designed to protect against the two major strains of HIV found in the Americas, Europe, and Asia. The Rockville, MD-based Food and Drug Administration approved the phase III trial in June 1998.

Pettigrew says she's optimistic she'll see the day when the AIDS vaccine is as readily available as the many other immunizations.

"I'm real excited because I'm pregnant right now, and I'm hoping that in a few years the AIDS vaccine will be like vaccines for mumps, rubella, measles, or hepatitis," she says. "I think of how this child of mine might be out there doing things I wouldn't want him to do, and with the vaccine he'll be protected." ■

HCFA reverses ruling on AIDS wasting treatment

Wasting drugs used for more than just cosmetics

Until this spring, AIDS patients in Texas could not receive Medicaid funding for a drug called Serostim that has been shown to reverse some health problems caused by AIDS wasting. Texas officials denied Medicaid coverage based on a federal government definition of the drug, which says it is used for cosmetic weight gain.

AIDS advocacy groups protested both the definition and Texas' decision, and after a year and a half, they've convinced the Baltimore-based Health Care Financing Administration (HCFA) to reverse the decision.

"What's so important about this is we want to ensure that every person in the country has equal access to the drugs they need to help keep them alive," says **Cornelius Baker**, executive director of the National Association of People with AIDS in Washington, DC.

Serostim, manufactured by Serono Laboratories in Norwell, MA, is a protein-sparing and protein-building agent that causes a significant increase in lean body mass and weight, along with a decrease in body fat. A human growth hormone, Serostim is administered via small needle injections just under the skin daily at bedtime. Clinical trials showed that 76% of AIDS wasting patients given Serostim gained weight, and 70% gained significant lean body mass.

Because AIDS wasting causes patients to gain fat mass and lose muscle mass, which could lead to a host of health problems, Serostim's potential to reverse this trend offers much-needed help. However, the drug costs $36,000 per patient per year, according to a cost-containment program Serono implemented in 1996.

Texas, which has about 20,000 HIV-infected people, denied Medicaid coverage of Serostim because the state doesn't cover cosmetic treatment, a decision that left AIDS patients on Medicaid without access to the drug. Texas officials had asked HCFA to determine whether Medicaid programs could deny reimbursement for Serostim based on its use as a weight-gain drug. HCFA initially said the state could assume Serostim was solely used for weight gain.

"Clearly this is a case where one state, Texas, had chosen to not cover this as a drug, and that wasn't fair to people with HIV living in Texas," Baker adds. "We're glad we have proven that human growth hormones like Serostim are not just cosmetic, but have medical benefits."

Earlier this year, HCFA reversed its decision, acknowledging that Serostim is used to fight the life-threatening condition of AIDS wasting. AIDS wasting or cachexia is a major contributing factor to the high death rate among AIDS patients because it's a destructive metabolic process that uses the patient's own muscles and organs to supply the body with energy.

HCFA's decision followed a letter to HCFA from the Food and Drug Administration (FDA) in Rockville, MD, in which the FDA stated, "Serostim is approved for the treatment of AIDS wasting or cachexia, which is associated with increased morbidity and mortality."

With Medicaid providing health care coverage to about 60% of adults with AIDS and 90% of children with AIDS, the recent HCFA reversal is crucial, Baker says.

The National Association of People with AIDS will continue to work with federal funding vehicles, such as the AIDS drug assistance programs, to make sure Serostim is covered for patients who do not receive Medicaid coverage, Baker adds. ■

Two-protease regimens may work better than one

Drug combo good alternative for some patients

While some recent studies have followed patients on drug combinations that have no protease inhibitors, additional research is showing positive results from combinations that include two protease inhibitors and a nucleoside. Research also is being conducted on regimens consisting of two protease inhibitors without other antiretroviral medications.

The studies show that patients tolerate the protease inhibitor combinations very well, says **Cassy Workman**, MMBS, an associate director of AIDS Research Initiative and director of Ground Zero Medical in Sydney, Australia.

Workman's research has involved giving patients the protease inhibitors ritonavir and indinavir, along with two nucleoside reverse transcriptase inhibitors (NRTIs). She gave patients

twice-daily doses of 400 mg of ritonavir / Norvir and twice-daily doses of 400 mg of indinavir / Crixivan. The doses are not 12-hour regimens, so patients can easily take one dose in the morning and one in the evening. They also can take the doses without food restrictions and additional hydration. This regimen compares with the more typical daily dose of 1600 mg-2400 mg of indinavir, plus ritonavir and two NRTIs.

A second study assessed the new advanced-generation protease inhibitor ABT-378, manufactured by Abbott Laboratories in Abbott Park, IL, combined with ritonavir, stavudine, and lamivudine. Clinical tests of ABT-378 are continuing, and the drug has not yet received approval from the Food and Drug Administration.

ABT-378 is taken with a small amount of ritonavir and is well-tolerated, says **Robert Murphy**, MD, an associate professor of medicine and director of the HIV Treatment Clinic at Northwestern University in Chicago.

Patients ultimately will be able to take the ABT-378 / ritonavir combination in the form of three capsules twice daily that can be taken without food restrictions. The most common side effects observed in the study were diarrhea, asthenia, and headache.[1]

The 24-week study treated 101 patients with four different dosage combinations of ABT-378 and ritonavir. "Only four people have discontinued the study, and none did so because of any side effects," Murphy says. "It's very well-tolerated, and some patients actually thought they were taking a placebo."

All patients received some treatment with ABT-378, although some received smaller doses of the drug, he adds.

Another study assessed the tolerability and antiviral activity of a two-protease inhibitor combination of ritonavir and saquinavir.

"It's been successful in potency, and most of the people who started the trial three years ago are still in it," says **Calvin Cohen**, MD, research director at CRI New England in Brookline, MA. "While not everyone can tolerate all the drugs, most people are staying with it."

Clinicians gave patients 400 mg twice a day of each drug instead of a full dose of 600 mg twice a day. "That clearly helps people tolerate the drug ritonavir," Cohen says.

The lower dose is potent because the ritonavir prevents patients' livers from breaking down the saquinavir as quickly, so more of the saquinavir remains in their bloodstream, Cohen says.

"We're in year three, and people who had viral suppression two and a half years ago still have it now," Cohen says. "For some people, these two drugs are enough, and this is particularly important because some patients have taken the other compounds and are no longer responding to them."

The two-protease inhibitor combination is a good option for patients who cannot rely on other medications, he adds.

The open-label randomized study included protease inhibitor-naive HIV-infected patients, who had CD4 counts of 100 to 500 cells / mL.[2] After 12 weeks of dual protease inhibitor therapy, clinicians gave reverse transcriptase inhibitors to patients whose viral load maintained more than 200 copies / mL. About 70% of patients remained in the study at week 96.

Combining ritonavir with indinavir also solved some of the problems of intolerance seen with these drugs in Workman's study. For instance, patients on ritonavir often have gastrointestinal side effects, and patients on indinavir may have problems with kidney stones. Patients on the ritonavir / indinavir combination studied in Australia didn't have these side effects, even though patients were told not to increase fluid intake, Workman says.

Workman's study of 57 patients on the indinavir / ritonavir combination examined patient records for incidences of nephrolithiasis and found no cases of it.[3]

In addition, the two-protease inhibitor combination is easier to take and tolerate. For example,

COMING IN FUTURE MONTHS

- ADAPs' progress in helping working poor studied
- New compliance program shows immediate behavior change
- Keeping provider-to-patient HIV transmission rare
- Longest-running AIDS study yields surprising findings
- No end in sight to AIDS funding battles

a single-protease inhibitor regimen of indinavir requires patients to take the protease inhibitor three times a day, and it must be timed perfectly to keep the patient's drug levels high enough to be effective. Also, patients are not able to eat for a three-hour window with each dose of indinavir.

The dual protease inhibitor combination requires none of those restrictions, and the ritonavir is soon expected to be available in capsule form, Workman says. The combination still is potent, providing strong viral suppression and significant CD4 count increases, Workman says.

Few patients had adverse effects

Cohen's study of a ritonavir and saquinavir combination found that a few patients experienced some initial side effects of nausea, upset stomach, vomiting, and diarrhea. For most patients, these side effects wore off in about a month.

Although the protease inhibitors are thought to be related to long-term side effects of increased cholesterol and triglycerides and lipodystrophy, Cohen's study found little evidence of these bodily changes.

Patients take the dual protease inhibitor combination twice a day, about 12 hours apart. "If people are out and doing whatever they do in the day, then they take the medication before they leave home and when they come home," Cohen says.

The ritonavir needs no refrigeration, but the saquinavir is best if it's refrigerated, although patients conceivably could carry it around with them all day and it would still be potent, he adds.

The studies show that protease inhibitor combinations need not be poorly tolerated, and that combinations of two protease inhibitors in smaller daily doses are as effective in suppressing HIV as drug combinations of one protease inhibitor and two NRTIs, the researchers say.

"I think it's important we have as many alternatives as possible," Murphy says.

Plus, if clinicians start with a protease inhibitor combination, they still will have good treatment options available later if necessary. "But the aim should be to get it right the first time by selecting a potent, well-tolerated regimen that matches the patient's lifestyle," Workman says.

Because of the dual protease inhibitor combination's potency, convenience, and tolerability, it has the potential to last for decades, Cohen says. "Dual protease combinations can be used with any patient, and it's a critical option for patients who have taken some of the nucleosides in the past."

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Health Web site expands with HIV/AIDS section

The Internet Web site of Orlando, FL-based America's Health Network, located at www.ahn.com, recently added an HIV / AIDS Health Center, which will have up-to-date video and text resources.

The Web site also has expanded its HIV / AIDS section to its HealthWave Internet search engine, located at www.healthwave.com.

The new health center has a video library of answers to AIDS-related questions from "Ask the Family Doctor," by Walt Larimore, MD. The center, which has medical information that's geared toward consumers, also will include articles on HIV testing, prevention, and clinical trials. Additional features are a health quiz, chat lines, and a community message board. ▼

Court refuses HIV-infected mother custody of baby

An HIV-infected Oregon woman lost her battle to regain custody of her 4-month-old son after she insisted she should be allowed to breast-feed the infant.

The court heard medical expert testimony that breast-feeding carries a greater transmission risk than sexual intercourse, according to April 20 articles by the *Los Angeles Times*, the Associated Press, and the Portland *Oregonian*.

The woman reportedly had been stockpiling breast milk while waiting for the court's decision. She told Juvenile Court Judge Maurice Merten that she loved her child and only wanted what was best for him, and she presented one witness, a California biochemist, who testified that she could breast-feed her baby without transmitting the virus.

Merten ruled that the baby may continue to live with Tyson, but she cannot breast-feed him, and a caseworker from Oregon's Office for Services to Children will visit the family and make sure Tyson complies with the decision. ■

CE objectives

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

- identify the particular clinical, legal, or scientific issues relates 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. ■