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IN THIS ISSUE

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As population of HIV-infected refugees rises, providers need to give them special care

Here's how Rhode Island dealt with challenge

Health care providers in less populated cities and states are seeing increases in both their general immigrant populations and their HIV-infected immigrant populations.

Before 2000, HIV-infected refugees were restricted from entering the United States. But a change in policy allows them to enter on the condition that their health care is arranged, says **Curt Beckwith**, MD, an assistant professor, division of infectious disease, Brown Medical School and Miriam Hospital in Providence, RI.

"The reasoning was they didn't want to let in refugees who would be a burden on the U.S. health care system, but if care could be arranged *a priori* to their arrival, then that would be okay," Beckwith explains. "Once that policy was put into effect, then refugees with HIV began to arrive here."

While most people applying for permanent residence in the U.S. are subject to an HIV antibody test, certain immigrants may qualify for an HIV waiver, according to the "HIV/AIDS and Immigrants: A Manual for Service Providers," published in 2004 by the San Francisco AIDS Foundation and National Immigration Project of the National Lawyers Guild.[1]

The waiver may apply to asylees, refugees, special immigrant juveniles, and others who applied through the legalization program. Those who apply for the waiver have to meet a public charge condition in which the applicant ensures that he or she will not hinder public health and will not cost a government agency, unless the agency has given prior consent for services or benefits.[1]

With the help of health care providers and humanitarian groups, more HIV-infected refugees have legal status in the U.S., and some of them are ending up in smaller cities.

For example, many Liberian refugees and refugees from other parts of Africa have arrived in the tiny state of Rhode Island to receive care

for their HIV infection, Beckwith says.

"We have a refugee population at our center of about 50 refugees—mostly from West Africa," Beckwith says. "We have a large Liberian refugee population in Providence, so we've seen a lot of Liberian refugees."

Typically the way it works is: the Providence clinic is contacted by an international institute that works with a federal refugee settlement agency, and the institute will say it has a number of HIV-infected refugees, Beckwith explains.

"We say, 'Great! We'll make appointments for them and do intakes and so forth,'" Beckwith says. "That works very well for us, although the relationship might be tougher if the numbers were higher."

So far, the clinic has incorporated about 50 refugees into its practice without a great deal of strain on resources, he adds.

The HIV-infected refugees need to have their HIV care assured prior to their departure from refugee settlement camps and organizations, Beckwith explains.

"Without care, they are not allowed to come into our country," he says. "So the refugee organization arranges for care through our clinic, and that has resulted in an influx of refugees over the past four to five years."

Although the total numbers of HIV-infected refugees moving to the United States are not large, the small population of refugees presents health care providers with many challenges, says **Christine A. Kerr**, MD, a clinical fellow at Beth Israel Deaconess in Boston, MA. Kerr previously worked with HIV-infected refugees when she was a chief resident at Brown University's Miriam Immunology Center.

For example, one woman who came to the United States from Liberia had lived in a refugee camp for several years, Kerr recalls.

"She had seven children, four of whom were killed in a civil war," Kerr says. "I think the other three were still in the refugee camp, and she was here by herself at great personal expense."

The woman's HIV infection was significant, but she faced a myriad of other problems that were more pertinent to her medical situation, Kerr says.

"She had a lot of depression and anxiety that were contributing to her difficulty in taking her medication while in this country," Kerr explains. "The patients we see, by and large, tend to be patients who are very committed to their medical care and follow-up, but they face significant challenges that are separate from their HIV care."

Providers working with this population need to keep both co-morbidities and psychosocial factors in mind, Kerr and Beckwith say.

"My interest has been to look at this population and say in general there are differences in the refugee population in terms of other disease processes and other co-infections," Beckwith says.

Beckwith has been researching the question of how the HIV-infected refugee population com-

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pares with the general U.S. population of HIV-infected individuals.

In the United States, HIV is transmitted because of three factors: injection drug use, men who have sex with men (MSM), and heterosexual activity, Beckwith says.

"In developing countries, such as in sub-Saharan Africa, that's not the case at all," he says. "It's much more of a heterosexual epidemic."

So Beckwith, Kerr, and other investigators decided to look at the risk factors for HIV among foreign-born people, as well as at which stage of disease they first presented for health care.

"We also looked at other infections with the thought that there'd be more hepatitis B and less hepatitis C among refugees than among HIV patients who were born in the United States," Beckwith says. "And they'd be more likely to have tuberculosis and parasitic infections when compared to people born in the U.S."

The findings showed that heterosexual sex was a primary risk factor among the immigrants, and they had relatively high CD4 counts and low levels of HIV viremia.[2]

Investigators also hypothesized that the refugee population would have higher levels of psychosocial issues than the general HIV population, but that their levels of drug abuse and severe disabling mental illness, such as schizophrenia, would be lower, Kerr says.

"By and large, that did turn out to be true," Kerr says.

Investigators found that the immigrant population had a high incidence of psychiatric comorbidities.[2]

"The levels of drug and alcohol abuse was quite low among the refugees," she adds. "Depression and post-traumatic stress disorder [PTSD] were higher in the refugee population than what might be expected in the general HIV population in the U.S."

One of the most difficult aspects to caring for refugee populations is the cultural differences, Beckwith says.

"Our western model of medical care is something they're not familiar with, and it's hard for them to accept our model of care," he says. "So it's challenging to sit down with a refugee who just arrived in the United States and try to explain what HIV infection is and what our treatment is and when we'll start treatment."

From many refugees' perspective, HIV is a disease that kills people, so their outlook on being infected is impacted by this.

"Communication can be difficult, and you have to do it in a culturally sensitive way, and it may take multiple conversations," Beckwith says.

For instance, an HIV-infected refugee might not understand why a physician would withhold treatment and say the person is doing well clinically without it, he notes.

"They think, 'I have HIV, so why wouldn't I need treatment?' and that's very hard to explain and may take multiple appointments," he says. "The international institute may need to get involved, and there could be a distrust of our medical system."

When there is an available clinical trial for HIV patients, the trust and communication barriers become even more prominent.

"Trying to explain what a clinical trial is and the benefits of the trial can be very difficult," Beckwith says. "So our enrollment of refugees in clinical trials is very low."

Here are some ways HIV clinicians can improve the care of immigrant patients:

• **Check for foreign diseases:** "They should be tested for parasites and have their blood checked for malaria," Kerr says.

Typical clinical care includes tuberculosis testing, chest x-ray, parasite screening, and viral hepatitis screening, Beckwith says.

"Everyone has these done upon entrance to the United States," he says.

"Providers also need these patients' vaccination records, and most of them do not have records and may not have had any vaccinations in their lifetime," Beckwith adds.

"This is a population that was forced out of their homes unexpectedly," Kerr says. "Many of these patients grew up where there was no vaccination program."

The Providence clinic staff found it very difficult to vaccinate immigrant patients, she notes.

"There were significant challenges to doing a multi-series vaccination program because it requires a bunch of visits and psychosocial issues at each visit," Kerr says. "It was challenging to providers to get all of the preventive health services done."

For one thing, finding out if the patients had any previous vaccinations was important, but difficult to ascertain, she adds.

• **Assess for psychiatric illness:** "Because of their traumatic experience of being a refugee and being in camps for many years before coming here, for all of our patients we make an assessment as to what other psychiatric illnesses might

be present," Beckwith says. "And if they are present, we may get help through a psychiatric referral or through the international institute."

Often if there is a psychiatric illness, it will involve PTSD, and in refugee patients this disorder may be manifested differently than it manifests in people who were born in the U.S., Beckwith notes.

"It's different in terms of cultural issues and experiences, and, to be honest, I'm not sure it's adequately addressed in refugees," he says.

However, if PTSD is present then it could impact medical care, and so it has to be treated, Kerr says.

"PTSD is huge," Kerr says. "The woman who had four children who had been killed had a limp and sore leg, which was a result of when she was raped in Liberia."

• **Deal with cultural/language differences:** The Providence clinic used translators both in person and by telephone, Kerr says.

"The hospital had telephone translators available all the time," she says. "Language problems definitely add another layer of complexity, and it partly explains why it's so hard to get so many of these things done."

It would be helpful if HIV providers were trained about certain cultural differences among refugee/immigrant populations seen in their area, Beckwith suggests.

One way to help with the cultural barrier would be to train peer educators from the patients' same culture, he says.

Some of the cultural differences include the patients' attitudes toward stigma and conceiving children, he notes.

"We generally counsel HIV-positive patients to not get pregnant, but a lot of patients from developing countries and refugees want to get pregnant, and cultural reasons drive this desire," Beckwith says.

Beckwith's research found that the immigrant population had high rates of pregnancy.[2]

The key is to cultivate peer educators within the impacted community to help with the care and transition, he adds.

There are financial and medical insurance obstacles, as well, but HIV clinics are accustomed to dealing with these for the sake of improving both the individual patients' care and for protecting the community against further HIV infection, Beckwith says.

"This is an interesting and challenging population, but you can make real differences in their lives," Beckwith says. "These people are going through a really tough time, and HIV can be a big component of that, and so the more care you can provide for them—the better."■

References:

1. HIV/AIDS and Immigrants: A Manual for Service Providers. San Francisco AIDS Foundation and National Immigration Project of the National Lawyers Guild. 2004 Ed.:1-59. Web site: www.nationalimmigrationproject.org.

2. Kerr C, Blood E, Aggrey G, et al. HIV-infected refugees in Rhode Island. Abstract presented at the 44th Annual Meeting of IDSA, held Oct. 12-15, 2006, in Toronto, Ontario. Abstract:922.

Adherence Strategies

Connecticut center uses home visits to improve adherence

They used educational model of 'mirroring'

Yale University researchers conducted a four-year adherence study in which the intervention included having a registered nurse and peer educator sit down with HIV-infected clients at their kitchen tables each week to discuss medication adherence challenges.

The findings are yet unpublished, but the anecdotal evidence was very positive, says **Karina A. Danvers**, MA, director of the Connecticut AIDS Education and Training Center, Yale School of Nursing, Yale University, in New Haven, CT. Danvers was scheduled to speak about the intervention at the 2nd International Conference on HIV Treatment Adherence, held March 28-30, 2007, in Jersey City, NJ.

"It's made a huge difference in some patients' lives," Danvers says.

"We were able to go outside the clinic walls and see a side of adherence that is not acknowledged in the clinic setting," she adds. "We saw how everything surrounding the patients and their environment both positively and negatively impacted adherence, and that's rarely discussed in the clinic setting."

The study enrolled 100 HIV-positive patients in Connecticut, and 50 of the patients received adherence support in the form of a quarterly scheduled interview and MEMCAPS. The intervention group of 50 patients

received the interview, MEMCAPS, and a home visit by the RN and peer educator, Danvers explains.

Home visits were conducted weekly for three months, followed by biweekly visits for another three months, and, then, monthly home visits for the last six months, she says.

The peer educators involved in the study included one person who was HIV infected and another person who was an injection drug user who had been believed HIV infected until a second HIV test came back negative, Danvers notes.

The idea was to have the peer educators fit in with the community of patients in which they would be making home visits.

"One of our biggest modes of transmission in Connecticut is injection drug use [IDU]," she says. "Over 50 percent of patients in the study had abused substances."

The weekly home visits at the beginning of the study proved to be essential for forming relationships between the patients and the adherence educators, Danvers says.

"Without the three months intense relationship, I'm not sure the other months would have been as successful as they were," she says.

When the team visited a home where someone was not present, they mailed the patient a card to say, 'We missed you. Hope you are doing well,' Danvers says.

The cards were approved by the patients prior to their enrollment.

As the visits progressed, the RNs and peer educators adapted and changed adherence tactics, Danvers notes.

"Our goal was medication adherence, but just talking about HIV and medications wouldn't do the trick," she says. "So we let participants set the tone for the visit."

They based their tactics on the educational model developed by the deceased Brazilian educator Paulo Freire, who said that educators need to use what a student is giving them and then mirror it back to the student before the student will take action.

"So you hear what they have to say and mirror it back with an action, and, then, hopefully the person will take the action," Danvers explains.

For example, during a visit, the peer educator might ask, "What's new? What's going on in your week?"

"They might be, 'I was very upset about my son being in jail, so I didn't take my meds,'" Danvers says. "So we'd say, 'It wasn't that you didn't want to take your medications, but the emotions were too much to handle along with the medication. What do you think about the consequences of those actions?'"

And the patient then might respond, 'I really should take my meds, because if I want to be around to help my son, I need to take my meds,' Danvers adds.

Although the visits were laden with personal crises and problems, all of which impacted medication adherence, they were structured in a way that did not allow them to lapse into counseling sessions, Danvers says.

"They knew this wasn't a counseling session and we weren't friends," she says. "They knew we were there for a purpose."

Another adaptation that occurred during the visits was that the home visit team drew informal cartoons that echoed common situations in which a person might not adhere to his or her medication regimen.

For instance, one cartoon showed four women sitting around the kitchen table, and one is HIV positive, while the others are not infected. The cartoon bubble above the head of the HIV-positive woman reads, 'Oh my goodness, it's 3 p.m., and I should take my medication, but I don't want them to know,' Danvers describes.

"Then we'd show women the cartoon, and they'd say, 'Yes, I've been in that situation so many times, and I needed to take my meds but didn't want to take a chance,'" Danvers recalls.

Another cartoon showed a man playing pool, and he doesn't want to stop his game to take his medication, she says.

Another one of Freire's theories is that people are more comfortable when educators create a community, and Danvers says the cartoons helped to create this invisible community.

"Although none of the patients met each other, the cartoon weaved a community of people for them," Danvers says. "Someone would look at one of the cartoons and say, 'This has happened to me,' and then we'd say, 'We visited three other people today, and they had similar experiences, and this is how they handled it.'"

This created an invisible community of people who had experienced similar stigma, concerns, and obstacles, Danvers says.

"This wasn't something we planned on doing, but it grew out of the visits," Danvers says. "We just thought, 'How can we link the people to each other without having to force them to be in the same room, which we knew was not going

to happen?'"

Even forming support groups is difficult because people, feeling stigmatized, find it difficult to enter a group in which they do not know who they'll encounter, she notes.

The home visit team also brought food and beverages to each home visited. They started this after finding that each of the six or more people they would visit in one day offered them food and beverages, and they found it uncomfortable to turn them down, Danvers says.

"So we decided to bring food as a token and take pressure off of people to give us food, and it took the pressure off of us to say, 'Yes' to the food," she adds.

The intervention was expensive, but worth the effort, Danvers says.

"The home visits did work because we were not in the clinic setting and were able to take into account what was going on in people's lives," she says. "It helped patients navigate the adherence process, which doesn't happen in the clinic."■

Social Web site for persons with HIV launched in March

Site hopes to attract medical professionals

Often when people learn they are infected with HIV, they have little access to social support among others living with the disease.

Ray Velazquez, an attorney and former elected official, hopes to solve that problem with the recent launch of his Web site: Thinkpoz.com.

"I thought MySpace was a great thing, and I wished there was something like that to bring people with HIV together," Velazquez says. "HIV is so stigmatized, and people are afraid to put [their HIV status] out there on MySpace."

When Velazquez first learned he was HIV infected, he visited various Web sites and found that these could be divided between dating Web sites, which charged a monthly fee and medical information Web sites.

"But there wasn't anything that dealt with bringing people together for socializing and networking and building relationships and friendships," he says. "And that's what I wanted to do for myself."

From experience, Velazquez knows that the first few months after someone learns of his or her HIV infection are very difficult.

"At some point you start trying to get your life back together and build a normal routine," he notes. "And part of that routine is meeting people and starting relationships, and that's hard to do."

So Velazquez funded and built the social Web site, first as a hobby, and now he hopes it will eventually pay for itself through Web advertising.

Within a few weeks of its opening, about 300 people registered on Thinkpoz.com, he says.

"We're getting about 25 to 30 people per day looking at it," Velazquez says. "They're coming from Africa and other places around the world too."

To maintain the site's users' privacy, each person visiting the site must register and create a user profile. Registrants can include a variety of personal information in their profiles, including blogs, lists and photos of themselves, their friends, their pets, their favorite music—available for listening, and home videos, he says.

Thinkpoz users can create their own groups and subgroups, and there's a chat room available that can feature audio and video.

"If you have a Webcam you can talk to people and have them see you," Velazquez explains. "There are instant messages throughout the site."

Some people will play their own music in the background as they talk with someone through the Web site.

One of the registration questions is whether a person is HIV positive. Those who are HIV negative are allowed to register, and Velazquez is encouraging health care professionals to create profiles, so if a Thinkpoz member is looking for a doctor in his or her area, there will be some health care professionals who can make suggestions through Thinkpoz, Velazquez says.

The site mainly is for socializing, however, he notes.

"I'm hoping some people will develop relationships," Velazquez says. "Part of the struggle of living with HIV is getting back to your normal life, so if people come here and see someone they like, and they know this person is in the same boat they are in, it helps them with that."

Velazquez says the site already has helped him meet people.

"I didn't know anybody who was HIV positive besides myself," he says. "Our chat room is

kind of like group therapy: if someone is having a bad day, they come in and talk about it."

Thinkpoz members include people who have lived with HIV for 20 years and others who learned they were infected a month earlier, he says.

Thinkpoz registration is free, and Velazquez is working to spread the word about the site. "I want people to know about it because it's been good for people who are HIV positive and want to meet people and share their experiences," he says.

"It's my hope that people will take advantage of this site," Velazquez adds.

[For more information, visit Thinkpoz.com or email Ray Velazquez at rayvjr@yahoo.com.]■

FDA Notifications

Entecavir revision made by FDA and BMS

The Food and Drug Administration (FDA) and Bristol-Myers Squibb are notifying healthcare professionals of revisions to the microbiology/Antiviral Activity and indications and usage/Description of Clinical Studies/Special Populations sections of the prescribing information for entecavir (Baraclude), a nucleoside analog used in the treatment of chronic hepatitis B virus (HBV).

The revised labeling is the result of a case report in which a human immunodeficiency virus (HIV) variant containing the M184V resistance substitution was documented during entecavir treatment for HBV infection in an HIV/HBV co-infected patient who was not simultaneously receiving highly active antiretroviral therapy (HAART).

Current treatment guidelines recommend entecavir as an option for treatment of HBV in the HIV/HBV co-infected adult patient who does not qualify for HAART.

Health care professionals are advised that when considering therapy with entecavir in an HIV/HBV co-infected patient not receiving HAART, the risk of developing HIV resistance cannot be excluded based on current information.

You can read the manufacturer's Dear Healthcare Provider Letter at: http://www.fda.gov/medwatch/safety/2007/Baraclude_DHCP_02-2007.pdf.

FDA tentatively approves 3-drug tablet in India

The Food and Drug Administration (FDA), on Jan. 31, 2007, granted tentative approval for a fixed-dose, three-drug tablet for use as a complete anti-viral treatment of human immunodeficiency virus (HIV-1) infection in adults. The tablet contains lamivudine-zidovudine-nevirapine, the active ingredients in the widely used antiretroviral drugs lamivudine (Epivir), zidovudine (Retrovir), and nevirapine (Viramune). The new combination tablet is manufactured by Cipla Limited, of Mumbai, India.

The recommended regimen for the lamivudine-zidovudine-nevirapine tablet is one pill twice a day following an initial two-week treatment with the individual components taken individually. Each ingredient of this generic tablet is currently approved to treat HIV-1 infected adults in combination with other antiretroviral agents. The safety and effectiveness of the combination of lamivudine-zidovudine-nevirapine in lowering the viral load and increasing the CD4+ cell has been demonstrated in previously conducted adequate and well controlled studies of the individual ingredients being used together for treatment.

The labeling of the combination drug includes a medication guide and a boxed warning that the drug's use can cause liver failure, severe rash, and lactic acidosis (buildup of an acid in the blood).

A similar Fixed Dose Combination product, containing the same constituent drugs, was given tentative approval by FDA on 6/30/2006.

"Tentative approval" means that FDA has concluded that a drug product has met all required quality, safety, and efficacy standards, although it may not be marketed in the U.S. because of existing patents and/or exclusivity rights. Tentative approval, however, does make the product eligible for consideration for purchase under the PEPFAR program.

Enfuvirtide has new instructions

Important additions have been made to the enfuvirtide (Fuzeon) for injection product label to include a description of nerve bundle pain, hematoma, and cautionary wording regarding Biojector use in patients with coagulopathy. The changes add language to the Precautions, Adverse Reactions, and Dosage and Administration sections of the Physician's Insert (PI), as well as corresponding changes to the Patient's Package Insert (PPI), to provide additional safety information regarding the use of the Biojector 2000 to administer Fuzeon as follows:

1. The following section was added under PRECAUTIONS:

Administration with Biojector(r) 2000: Nerve pain (neuralgia and/or paresthesia) lasting up to 6 months associated with administration at anatomical sites where large nerves course close to the skin, bruising and hematomas (see "adverse reactions") have occurred with use of the Biojector 2000 needle-free device for administration of enfuviritide. Patients receiving anticoagulants or persons with hemophilia, or other coagulation disorders, may have a higher risk of postinjection bleeding.

2. The following bullet was added under PRECAUTIONS, Information for Patients: section:

• Patients and caregivers should be instructed on the preferred anatomical sites for administration (upper arm, abdomen, anterior thigh). Enfuvirtide should not be injected near any anatomical areas where large nerves course close to the skin, such as near the elbow, knee, groin or the inferior or medial sections of the buttocks, skin abnormalities, including directly over a blood vessel, into moles, scar tissue, bruises, or near the navel, surgical scars, tattoos or burn sites.

3. The following paragraph was added under ADVERSE REACTIONS, Local Injection Site Reactions section: Biojector 2000 Needle-Free Device:

Adverse events associated with the use of the Biojector 2000 needle-free device for administration of enfuvirtide have included: nerve pain (neuralgia and/or paresthesia) lasting up to 6 months associated with administration at anatomical sites where large nerves course close to the skin, bruising and hematomas.

4. The following section under DOSAGE AND ADMINISTRATION changed to:

The recommended dose of enfuvirtide is 90 mg (1 mL) twice daily injected subcutaneously into the upper arm, anterior thigh or abdomen. Each injection should be given at a site different from the preceding injection site, and only where there is no current injection site reaction from an earlier dose. Enfuvirtide should not be injected near any anatomical areas where large nerves course close to the skin, such as near the elbow, knee, groin or the inferior or medial section of the buttocks, skin abnormalities, including directly over a blood vessel, into moles, scar tissue, bruises, or near the navel, surgical scars, tattoos or burn sites. Additional detailed information regarding the administration of enfuvirtide is described in the enfuvirtide Injection Instructions.

5. The second to last paragraph under Subcutaneous Administration now reads:

The reconstituted solution should be injected subcutaneously in the upper arm, abdomen or anterior thigh. The injection should be given at a site different from the preceding injection site and only where there is no current injection site reaction. Also, do not inject near any anatomical areas where large nerves course close to the skin, such as near the elbow, knee, groin or the inferior or medial sections of the buttocks, skin abnormalities, including directly over a blood vessel, into moles, scar tissue, bruises or near the navel, surgical scars, tattoos or burn sites. A vial is suitable for single use only; unused portions must be discarded (see enfuvirtide Injection Instructions).

6. The following was added under the HOW SUPPLIED section:

Biojector is a trademark of Bioject Medical Technologies, Inc. Patient Package Insert (compared to S-007 final printed labeling)

7. The following bullet under How should I use FUZEON? Section was changed to:

• Do not inject enfuviritide in the same area as you did the time before. Do not inject enfuvirtide into the following areas: near the elbow, knee, groin, the lower or inner buttocks, directly over a blood vessel, around the navel (belly button), scar tissue, a bruise, a mole, a surgical scar, tattoo or burn site, or where there is an injection site reaction.

8. The following section was added under What are the possible side effects of enfuvirtide?

Injection using Biojector(r) 2000: Shooting nerve pain and tingling lasting up to 6 months from injecting close to large nerves or near joints,

and bruising and/or collections of blood under the skin have been reported with use of the Biojector 2000 needle-free device to inject enfuviritide. If you are taking any blood thinners, or have hemophilia or any other bleeding disorder, you may be at higher risk of bruising or bleeding after using the Biojector.

9. The following sentence was added under the Changes since the last version of this leaflet section:

Clarification of appropriate injection sites for enfuvirtide and addition of side effects when injecting with Biojector 2000 needle-free device.

10. The following statement was added to the last page:

Biojector is a trademark of Bioject Medical Technologies, Inc.

You can access the complete, revised label on the Daily Med site, at http://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?id=2705#nlm42232-9

Fuzeon is a distributed by Roche Pharmaceuticals.

Sustiva packaging instructions updated

The efavirenz (Sustiva) package insert has been updated to include drug-drug interaction information regarding coadministration of efavirenz with rifampin, diltiazem, itraconazole, voriconazole, atorvastatin, pravastatin, simvastatin, pimozide, and bepridil.

The Clinical Pharmacology section (Tables 1 and 2) was revised to include the results of drug-drug interactions studies with diltiazem, itraconazole, voriconazole, atorvastatin, pravastatin, and simvastatin.

The CONTRAINDICATION section was revised to state Sustiva should not be administered concurrently with bepridil, pimozide and standard doses of voriconazole.

The PRECAUTION: Drug Interaction section (Tables 5 and 6) was updated to include information regarding coadministration of efavirenz with rifampin, diltiazem (and other calcium channel blockers), itraconazole, ketoconazole, voriconazole, pimozide, and bepridil.

The Dosing and Administration section was updated to include dosing information for the co-administration of efavirenz and voriconazole. Specifically, if Sustiva is coadministered with voriconazole, the voriconazole maintenance dose should be increased to 400 mg every 12 hours and the efavirenz dose should be decreased to 300 mg once daily using the capsule formulation (three 100-mg capsules or one 200-mg and one 100-mg capsule). Efavirenz tablets should not be broken.

OSHA: Use rapid HIV test after HCW exposure

ICP whistle-blower prompts national ruling

This article originally appeared in the March 2007 issue of Hospital Infection Control.

Hospitals and other medical facilities that do not use rapid HIV assays to test source patients after a blood exposure to a health care worker risk citations and fines by the Occupational Safety and Health Administration (OSHA), *Hospital Infection Control* has learned.

A spokeswoman in the compliance office at OSHA headquarters in Washington, DC, confirmed the ruling, which was prompted by a letter of interpretation written by national OSHA in response to ICP consultant **Katherine West**, BSN, MSEd, CIC, of Control/Emerging Concepts business in Manassas, VA.

"Our letters do not set new standards, but they basically interpret how OSHA looks at what available information is out there," the OSHA compliance spokeswoman says. "The bloodborne pathogen standard is a performance oriented standard. It is written in language that allows us to make interpretations as things change. As something new gets developed we can make a determination that [new measures are required]. This part of the standard says source testing needs to be done immediately [after worker exposure] or as soon as feasible. Before you could use rapid HIV testing it wasn't feasible. Now that it is feasible, our interpretation is that the easiest, fastest method is what needs to be done. That is what the letter says, and certainly if we can go into a facility where that is an issue it is something we could cite."

Last year, West decided to try to do something about a disturbing trend she observed in consultation with hospitals, medical offices, and fire and public safety workers that comprises the national client base for her consulting practice. Though many inexpensive rapid HIV tests are now on the market to test source patients follow-

ing blood exposures, medical and public safety workers are being routinely put on potentially toxic regimens of post-exposure prophylaxis (PEP) for weeks while awaiting the results of conventional tests, she says.

"What I was finding all across the country was that hospitals were refusing to do rapid HIV testing — some, even for their own staff," she says. "They would put these people on PEP in some areas for weeks until they got source patient HIV testing results back. I was also finding hospitals that would do rapid testing for their employees but not for fire and rescue or law enforcement. There was a double-standard of care. I just finally had had it and I wrote a letter to OSHA."

West successfully argued in her letter to OSHA that the agency should follow its stated intent of enforcing Centers for Disease Control and Prevention guidelines, which recommend using rapid HIV tests on source patients following exposures.

In the letter to OSHA, West noted that the CDC updated its recommendations for HIV in the document "Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis," dated Sept. 30, 2005. CDC notes on pages 6-7 of this document that, "Rapid HIV testing of source patients can facilitate making timely decisions regarding the use of HIV PEP after occupational exposures to sources of unknown HIV status. Because the majority of occupational HIV exposures do not result in transmission of HIV, potential toxicity should be considered when prescribing PEP.

Rapid HIV testing is quick, inexpensive, and accurate. The cost for a medical facility to purchase a test kit is $10 to $20, West noted. No laboratory equipment is needed to perform these tests. In addition, medical facilities that do not have Clinical Laboratory Improvement Act (CLIA) licensure can use the OraQuick rapid test since it has a waiver from the Department of Health and Human Services. The accuracy of these tests has been proven to be nearly 100%, West emphasized in the letter.

"Once the laboratory receives source patient blood for testing, it can confirm HIV status within one hour," she told OSHA. "Confirmation of negative HIV status means that the exposed employee does not need to be placed on toxic antiretroviral drugs. Confirmation of positive HIV status gives the exposed employee the initial information needed to make a decision regarding taking HIV PEP."

OSHA compliance directive CPL 2-2.69 provides that "The compliance officer should determine if the employer's plan ensures immediate and confidential post-exposure and follow-up procedures in accordance with the current CDC guidelines," West continued. In addition, it provides that, "Where medical practice is an issue, and the compliance officer believes that access to care was delayed or denied or the employer was not following accepted post-exposure procedures, the Regional Bloodborne Pathogens Coordinator shall be contacted. A heath care professional in the Directorate of Technical Support will be consulted if necessary." Since it is the responsibility of employers to ensure that CDC guidelines are being followed, it appears that their reporting to OSHA of hospital failure to conduct rapid HIV testing would result in a citation to the hospital, she stressed.

West's compelling argument came down to a $64,000 question: Is it an OSHA violation under 29 CFR 1910.1030 for a medical facility subject to OSHA jurisdiction not to perform rapid HIV testing on a source patient in an exposure incident?

The answer, which will have implications for medical practices nationwide was clarification that, indeed, rapid HIV testing of source patients is generally required by OSHA for compliance with the bloodborne pathogen standard. West received a letter from Richard Fairfax, director of OSHA enforcement programs that states that "an employer's failure to use rapid HIV antibody testing when testing is required by paragraph (f)(3)(ii)(A) would usually be considered a violation of that provision."

The confirmation HIC received from the national OSHA compliance office would appear to nail-in the ruling. While the ultimate outcome of this development depends on how aggressively OSHA enforces the rapid test requirement. West is getting the word out and reminding hospitals and other health care providers that they risk running afoul of OSHA if they let exposed employees languish on PEP drugs and suffer their side effects instead of doing the right thing through rapid HIV testing. Moreover, employee complaints may prompt an OSHA inspection so as word of the ruling gets out hospitals and medical facilities may be vulnerable to a surprise inspection.

"The hospital is an employer, therefore they must offer it," she says. "Now for fire and rescue,

their employers must ensure that the hospitals are going to do it. I am advising them to have hospitals sign letters for agreement."

Asked about what motivated one ICP consultant to seek national action on OSHA enforcement, West noted her concern for the workers on needless, potentially toxic PEP regimens and quoted a sign hanging in her office: "I wondered why somebody didn't do something. Then I realized that I am somebody."

HIV Genotyping of Chronically Infected Patients

By Dean L. Winslow, MD, FACP, Chief, Division of AIDS Medicine, Santa Clara Valley Medical Center; Clinical Professor of Medicine, Stanford University School of Medicine, Section Editor, HIV, is Associate Editor for Infectious Disease Alert.

Dr. Winslow is a consultant for Bayer Diagnostics, and on the speaker's bureau for GlaxoSmithKline and Pfizer.

Source: Smith D, et al. Clinical Utility of HIV Standard Genotyping Among Antiretroviral-Naive Individuals with Unknown Duration of Infection. *Clinical Infect Dis*. 2007;44:456-458.

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Synopsis: A total of 103 antiretroviral-naïve patients with HIV infection in San Diego County underwent genotyping between January and December 2005. Of the patients, 25% showed evidence of resistance to at least one drug class.

This study from the excellent group at University of California in San Diego had standard population-based HIV genotyping performed on plasma obtained from all antiretroviral (ARV)-naïve patients who received care in publicly funded clinics in San Diego County during the 2005 calendar year. Of the 103 patients who were studied, 26 (25%) had resistance-asso-

CE/CME *questions*

11. When HIV providers treat patients who are refugees from war-torn areas of the world, which of the following are common challenges in providing their care?
A. They might have comorbidities that are rare among U.S.-born patients, including malaria, parasites, and tuberculosis.
B. They might have psychiatric comorbidities, including depression and post-traumatic stress disorder.
C. They might have incomplete or unknown vaccination histories.
D. All of the above

12. Which communication techniques were used by an RN and peer educator during a recent pilot study of home visits for HIV medication adherence?
A. Video about consequences of poor adherence, shown on RN's laptop computer in patient's living room
B. Social counseling with focus on resolving obstacles to medication adherence
C. Mirroring the patient's issues impacting adherence and offering an action, and showing patients cartoons of adherence problems to help build an invisible community of support
D. All of the above

13. Hospitals and other medical facilities that do not use rapid HIV assays to test source patients after a blood exposure to a health care worker risk citations and fines by the:
A. Centers for Disease Control and Prevention.
B. Food and Drug Administration.
C. Service Employees International Union.
D. Occupational Safety and Health Administration.

Answers: 11.(d); 12.(c); 13.(d)

COMING IN FUTURE MONTHS

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- Early HIV infection: Genetic diversity discussed

ciated substitutions detected for at least one class of ARV agent; 18% had resistance demonstrated to one drug class, 6% to 2 classes, and 1% demonstrated 3 drug class resistance.

Commentary

Studies of recently infected cohorts of HIV patients have shown the prevalence of transmitted ARV resistance to range from 8.3%-20%. Routine drug resistance testing of populations before initiation of ARV therapy has been estimated to be cost effective when the prevalence of drug resistance is 8%-10%.[1] There have been few studies evaluating the prevalence of ARV resistance in chronically infected antiretroviral naïve HIV patients, so this paper is an important contribution to the literature. It is likely that the resistance observed in this study is due to both de novo infection with ARV-resistant virus and to casual use of antiretrovirals not disclosed to the patients' provider. Not surprisingly nnRTI substitutions (K103N in 12 patients and Y181C/I in 4 cases) were common as were NRTI substitutions (including TAMs and M184V). Probably due to reduced fitness in the absence of selective pressure of ARVs, PI substitutions were much rarer with resistance associated substitutions seen in only a few cases.

Due to the high cost of newer ARV agents and the potential for limiting future treatment options in patients placed on sub-suppressive regimens, it seems clear that obtaining baseline genotypic testing of all patients before initiating ARV therapy is now appropriate. While good data on timing of resistance testing in this population are not available, it makes sense to consider obtaining a baseline genotype on ARV-naïve patients when they first come into care and not waiting until just before placing the patient on ARV therapy is contemplated. This is due to the known instability in plasma of many resistance-associated substitutions in the absence of ARV-selective pressure, although "archival" resistant variants may exist as proviral DNA and re-emerge under selective pressure of ARV therapy.

Reference:

1. Weinstein MC, et al. Use of Genotypic Resistance Testing to Guide HIV Therapy: Clinical Impact and Cost-Effectiveness. Ann Int Med. 2001;134:440-450. ■

CE/CME objectives

The CE/CME objectives for *AIDS Alert*, are to help physicians and nurses be able to:
• Identify the particular clinical, legal, or scientific issues related to AIDS patient care;
• Describe how those issues affect nurses, physicians, hospitals, and clinics;
• Cite practical solutions to the problems associated with those issues.

Physicians and nurses participate in this medical education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue.

Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any question answered incorrectly, please consult the source material.

After competing this activity at the end of each semester, you must complete the evaluation form provided and return it in the reply envelope provided to receive a letter of credit. When your evaluation is received, a letter of credit will be mailed to you.

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International Groups Charge INCB with Needlessly Impeding HIV Prevention

More transparency, more prevention encouragement needed

A new report says the International Narcotics Control Board (INCB) has used secrecy, old-world habits, and anti-science beliefs to discourage nations from preventing HIV infection through the use of needle exchange programs and other risk reduction efforts.

While the United Nations has stated policies in support of having nations improve their HIV prevention work through harm reduction measures, including needle exchange programs, the INCB treats these initiatives with criticism, according to "Closed to Reason: The International Narcotics Control Board and HIV/AIDS," a report released in late February 2007, by the Open Society Institute (OSI) of New York, NY.[1]

"Harm reduction is a part of HIV prevention that every member of the United Nations has signed, so the INCB is out of step with the rest of the world," says **Daniel Wolfe**, deputy director of OSI's International Harm Reduction Development Program. Wolfe is a co-author of the new report.

The problem is that the INCB, whose role is to serve as the watchdog of international drug conventions, is a 13-member board that is independent, closed to the public, and which operates with very little accountability, Wolfe says.

"The INCB can't tell countries what to do, but it does issue an annual report that is essentially a report card on how countries are doing with drug control," Wolfe says. "The INCB opens the United Nations commission that deals with drug issues every year, and it speaks at the World Health Assembly, so the INCB clearly is a leader in drug control."

The OSI report calls for the INCB to use its leadership to encourage countries to improve HIV prevention efforts, including harm reduction programs, Wolfe adds.

Wolfe points to this example of how the INCB is out of step with the HIV/AIDS epidemic: "They will go to Bulgaria, which has extremely harsh drug laws that result in people increasing injection use and decreasing use of health services because drug users are scared, and the drug board won't mention this problem and will say that drug control in Bulgaria is well developed," he explains.

The problem is that in many countries around the world, the HIV epidemic still is young, but it's growing rapidly among injection drug users (IDUs), Wolfe says.

These areas include Vietnam, Malaysia, China, Indonesia, and some former Soviet Union countries, he says.

"In many of these countries, harm reduction is being implemented, but the problem is the INCB offers negative comments or no comments at all," Wolfe says. "So the cost of that silence could very well be many more HIV infections and a repeat of tragedies we don't need to experience."

Russia and other countries use the INCB's comments as an excuse for not doing more to prevent the spread of HIV among IDUs, Wolfe adds.

"Countries appreciate positive mention of new or potentially controversial developments, so if, instead, they get silence or concern from the board, that leads to negligence in HIV prevention," he says.

The report specifically notes these problems:

- INCB members when speaking in public sometimes contradict scientifically based recommendations for harm reduction.[1]

For instance, INCB members have spoken out against sterile syringe programs and opiate substitution treatment.[1]

"In 2003, the board acknowledged that coun-

tries might need to take action with needle sharing, but even as they offered grudging recognition of those approaches, they often cautioned that harm reduction might do more harm than good," Wolfe says.

• The INCB has tried to silence UN representatives who support a wider range of HIV prevention efforts, including making an angry phone call to Stephen Lewis, the UN Secretary-General's Special Envoy for HIV/AIDS in Africa, when he made positive remarks about a Canadian safer injection facility that reduced HIV risk.[1]

"The board called Lewis and asked that he be censured and that he detract his support of 'opium dens,'" Wolfe says. "The board offered no evidence or support for its designation of these sites as opium dens, and there is increasing amounts of research showing these sites may have beneficial health effects."

• The INCB emphasizes drug control at the expense of public health with actions suggesting disapproval of countries that use opiate substitution treatment, although these have been added to the World Health Organization's Model List of Essential Medicines in 2005.[1]

"The irony is that in some cases, as in the case of Russia, board members have used their names and affiliations to put forward some very strong anti-harm reduction policies in their countries," Wolfe says. "They urge countries not to implement methadone treatment even though Russia has the fastest-growing HIV epidemic in the world, and as many as two million drug users need treatment."

• INCB meetings are closed to observers; their reports are inconsistently documented; members speak on matters of which they have no expertise —often making mistakes—without being held accountable; the board's Web site has no information about the board or its staff, and the INCB Secretariat, whose salary is paid by the UN, is unresponsive to requests for information.[1]

The INCB's response to the OSI report highlights its unaccountability: "We consulted the board before releasing the report, and we asked a number of questions about how they chose which countries to visit, and we asked for details of their proceedings for board meetings," Wolfe recalls.

"Months later, they sent us back a three-sentence letter that suggested we consult their Web site, which had none of the information we asked them about," he says. "So you're talking about a body that is using its independence as an excuse for its lack of accountability."

The report calls for the INCB to speak with international experts and to start providing references and scientific evidence for its pronouncements, Wolfe says.

Here are some of the other suggestions from the report:

• The INCB should regularly assess the adequacy and supply of substance use treatment, and it should provide technical support to countries to help them estimate the need for opiate substitution treatment.[1]

• When making public statements or releasing reports regarding drug use and health, the INCB should cite scientific evidence and provide sources of information for its annual reports.[1]

• The WHO, UN member states, and the UN Economic and Social Council should make certain INCB members include people who have expertise in HIV/AIDS policy and in international law.[1]

• An independent evaluation of the INCB should be commissioned by the UN Secretary-General, and this should include a scientific evaluation of the board's statements on health and an examination of its independence and expertise.[1]

Reference:
1. Csete J, Wolfe D. Closed to reason: the International Narcotics Control Board and HIV/AIDS. Report sponsored by the Canadian HIV/AIDS Legal Network and the Open Society Institute. Feb. 2007:1-37.

Body of research grows in support of male circumcision for HIV prevention

Studies have no trouble enrolling volunteers

With the weight of two clinical trials in Uganda and Kenya showing that male circumcision can reduce HIV risk by about 60 percent, the World Health Organization (WHO) of Geneva, Switzerland, is evaluating the evidence in preparation for a possible public health recommendation and/or course of action.

One of the latest studies showing the potential for circumcision to prevent HIV infection involved a randomized controlled trial of 2,784 men, ages 18-24 years, in Kisumu, Kenya.[1]

The trial had been stopped early on Dec. 12,

2006, by a data and safety monitoring board (DSMB), and follow-up was incomplete for 240 participants, after 47 men in the control group and 22 in the intervention group tested positive for HIV.[1]

The 2-year HIV incidence in the circumcision group was 2.1 percent, while the 2-year HIV incidence in the control group was 4.2 percent.[1]

Investigators concluded that the protective effect of circumcision was 60 percent.[1]

Now that the recent studies have supported an earlier study about the preventive value of circumcision, it's time to work with ministries of health in Eastern and Southern Africa to assist them in formulating policies that integrate existing circumcision with HIV measures in place for their communities, suggests **Robert C. Bailey**, PhD, MPH, a professor of epidemiology in the School of Public Health at the University of Illinois at Chicago. Bailey was the principal investigator of the Kenyan circumcision study.

"We don't want circumcision to be a stand-alone intervention, but rather a full package of services that will address the HIV epidemic in different communities," Bailey says. "So it's going to be a collaborative effort by researchers, the international community, donor communities, and the government ministries of health in the impacted countries."

The Lancet, which published the Kenyan and Ugandan circumcision studies in February 2007, noted in an editorial that the studies' publication signals a new era for HIV prevention.[2]

Nonetheless, the editorial cautions that no single prevention action will halt the epidemic, and more interventions that are in the control of women are needed.[2]

Circumcision alone may not stop the epidemic, but it will prevent many infections, particularly in parts of sub-Saharan Africa, Bailey says.

In another recent modeling study, investigators concluded that male circumcision could prevent two million new HIV infections over the next 10 years and save at least 300,000 lives in that same period.[3]

In South Africa, alone, male circumcision could reduce HIV incidence by about 173,610 infections per year.[3] (*See chart from study, p. 4.*)

"Certainly in areas where HIV prevalence is high and most men are not circumcised, it's really the only proven HIV prevention strategy for adults," Bailey says. "We now have three trials all with consistent results, and there is no more compelling evidence for any measure we have for preventing HIV infection in adults."

Many studies have looked at the various other aspects of male circumcision as a prevention method, and most of these published findings have been positive as well.

For example, a study that examined whether circumcised men engaged in riskier sexual behavior post-circumcision concluded that this did not occur within the first year after they were circumcised.[4]

At each visit with men participating in the circumcision trials, there was a risk assessment, followed by risk counseling, and a risk reduction plan, says **Kawango Agot**, PhD, MPH, director of the Impact Research and Development Organization of Kisumu, Kenya.

"Clients chose what was likely to work for them among the different safe sex options," Agot says. "At the next visit the counselor would review the risk reduction plan to see if it worked or not, and, if not, the client would either choose to continue with the same strategy or chose a different one."

The process was the same for both the circumcised and uncircumcised men, and investigators found no difference in the men's reports of risky sex acts per week, number of risky sex partners, and condom use.[4]

"We asked structured questions about whether they had used a condom with each of the partners and at each of the sex acts," Agot says. "We also asked questions about penile trauma during sex, such as bleeding, sores, cuts, abrasions."

Circumcision is very rare in the regions in which men were recruited for the circumcision trials, Agot notes.

"In Kenya, if circumcision is done for cultural reasons, it's done by a whole ethnic community as a rite of passage from childhood to adulthood," Agot says.

The clinical trials took place in districts inhabited by the Luo, a large ethnic community in Kenya, that does not traditionally practice circumcision, Agot adds.

Despite this ethnic community's traditions, the trials had no difficulty recruiting men for the circumcision study, and even had more who wanted the procedure done than were needed, Agot says.

Finding men to voluntarily become circumcised does not appear to be a problem, according to recent studies, and neither does the public health cost of the procedure, at least one study shows.

Investigators found that full coverage of the male circumcision intervention in a region with

high HIV prevalence could save millions of dollars.[5]

The expected cost of a circumcision program would be $181, says **James G. Kahn**, MD, MPH, professor of health policy and epidemiology at the Institute for Health Policy Studies at the University of California, San Francisco. Kahn was the principal investigator of the cost-effectiveness study.

The total savings derived from the circumcision intervention's ability to prevent HIV, calculated over a lifetime for 1,000 men, would be $2.4 million.[5]

"All of this is adjusted in today's dollars," Kahn says.

Other new research found that male circumcision is very strongly associated with lower cervical cancer rates and HIV infection, says **Paul Drain**, MPH, MD-candidate, an investigator at the University of Washington in Seattle, WA.

Drain was the lead investigator in an ecologic analysis of 118 developing countries that had various ranges of male circumcision rates. The study compared HIV prevalence, cervical cancer incidence, and the incidence of other diseases, including tuberculosis, malaria, hepatitis C, syphilis, and HSV-2 with circumcision rates.[6]

"Where circumcision would have the biggest impact is in sub-Saharan Africa, depending on which countries many of the males are uncircumcised," Drain says.

A recent study that reviewed recent literature on circumcision and its impact on HIV transmission suggests that male circumcision should be considered as a potential public health prevention tool that will need to be carefully scaled up and integrated into other prevention programs.[7]

"The data on male circumcision effectiveness is the best quality data we have on prevention," Kahn says. "All of the studies show the same effect size, and the quality of evidence is unheard of in anything except giving nevirapine to HIV-infected pregnant women, and circumcision is one of the few prevention strategies that are permanent."

Getting men to wear condoms can work, but it requires prevention programs that work with their sexual partners to make certain the condom-wearing behavior persists, Kahn adds.■

References:

1. Bailey RC, Moses S, Parker CB, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *The Lancet*. 2007;369:643-656.
2. Newer approaches to HIV prevention (Editorial). *The Lancet*. 2007;369:615.
3. Williams BG, Lloyd-Smith JO, Gouws E, et al. The potential impact of male circumcision on HIV in sub-Saharan Africa. *PLOS Med*. 2006;3(7):1032-1040. Online at www.plosmedicine.org.
4. Agot KE, Kiarie JN, Nguyen HQ, et al. Male circumcision in Siaya and Bondo Districts, Kenya: prospective cohort study to assess behavioral disinhibition following circumcision. *J Acquir Immun Defic Syndr*. 2007;44(1):66-70.
5. Kahn JG, Marseille E, Auvert B. Cost-effectiveness of male circumcision for HIV prevention in a South African setting. *PLOS Medicine*. 2006;3(12). Online at www.plosmedicine.org.
6. Drain PK, Halperin DT, Hughes JP, et al. Male circumcision, religion, and infectious diseases: an ecologic analysis of 118 developing countries. *BMC Infect Dis*. 2006;6:172.
7. Quinn TC. Circumcision and HIV transmission. *Curr Opin Infect Dis*. 2007;20(1):33-38.

Potential Reduction in HIV Incidence for Sub-Saharan Countries in Africa

Country	Prevalence of male circumcision (percent)	Adult prevalence of HIV (percent)	Reduction in incidence (percent/year)	Reduction in incidence (Thousands/year)
Burundi	2	6.0	0.22	7.43
Ethiopia	76	4.4	0.06	21.04
Rwanda	10	5.1	0.18	7.06
Tanzania	70	8.8	0.15	26.99
Uganda	25	4.1	0.13	14.98
Botswana	25	37.3	1.17	10.66
South Africa	35	24.6	0.71	173.61
Zimbabwe	10	24.6	0.86	53.56

This chart contains figures from a *PLOS Medicine*, open-access study, published in July 2006, Vol. 3, Issue 7, p. 1036, and available on-line at www.plosmedicine.org.