

**American Foundation for AIDS Research (amfAR)  
and the Mailman School of Public Health at  
Columbia University - "HIV/AIDS in Asia: Forging  
a Collective Response"**

**Panel Discussion: "AIDS in Asia: On the Front  
Lines in China, India, and Thailand"  
New York, NY  
December 3, 2002**

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[ BEGIN TAPE]

**ELISABETH ROSENTHAL:** Well, our first panel is going to be about AIDS in Asia on the front line in China, India and Thailand. Okay, once again, I'm thrilled to moderate this because it includes three people, two of whom I've always wanted to meet, and one of whom I recently had a chance to meet. They're all wonderful and working in three of the crucial countries in Asia.

The first one, all the way down to the left is Dr. David Ho. There are full introductions in the program, but briefly, he's the director and chief executive officer of the Aaron Diamond AIDS Research Center. And in recent years, has been traveling a lot to mainland China to kick off a vaccine initiative there. And in the process of that, he's had a lot of contact with Chinese health officials and seen a lot of what's going on in that country, particularly in Hunan province in the southwest, which he'll be

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telling us about.

We're not in order here, but Dr. Suniti Solomon is the director of the YRG Center for AIDS Research and Education at -- in Madras. Is that right? And this is an NGO, which has really pushed forward issues of education, care, patient rights in India. And Dr. Praphan Phanuphak from the -- from Thailand, a professor of medicine in microbiology. He's the director of the Thai Red Cross program on AIDS. And as those of you who followed HIV/AIDS in Asia know, Thailand was there doing things before anyone else, making an impact before anyone else and still serves as a model for other countries in Asia that are still trying to get their efforts off the ground.

So without further ado, I guess Dr. Ho, you want to come up here?

**DAVID HO:** Well, thank you very much, Libby, for the introduction. And I'd like to commend the sponsors for putting this timely

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symposium together. It's a great honor for me to be a participant this morning.

I am -- while I've worked in AIDS research for 21, going on 22 years, I'm no expert on China despite my heritage. However as Libby just mentioned, over the past eight, nine years, I've frequently traveled to China, particularly in the last few years. And so I know the situation of HIV infection in China through my own perspective. And that's a narrow one. And perhaps Libby and Dr. Wan would be better speakers on the subject. Nevertheless, I will give you my perspective on what's going on.

This is simply an electron micrograph of HIV 1. You have heard about the devastation caused by this virus in sub Saharan Africa. But as we all know, there's a second wave of the epidemic hitting different countries. Five in particular had been highlighted by the United Nations. As you could see, including India and

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China within Asia. And these two countries alone are projected to have together about 40 plus million infections in the coming decade if the current trajectory holds true.

And you could see in China in particular, the official figure is about one million, but it's projected to have 10 to 12 million by the end of the decade. And of course, the numbers are somewhat larger for India.

Just a basic 101 on China. First, this is just a rough map of the country. As you know, it's the most populous nation, with a population as of a couple years ago, of 1.3 billion. In terms of surface area, it's slightly smaller than the U.S. But importantly, it borders 14 different countries. For example to the south is Vietnam and Laos. To the south and west, there is Burma, Nepal, India, Pakistan, Afghanistan. And to the north, Kazakstan, Mongolia and Russia.

I have highlighted certain regions of

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interest with respect to HIV infection. And to put it all in perspective, here's Beijing, Shanghai, Hong Kong, Taiwan off the coast. And officially, according to the Ministry of Health within China, there are now one million cases, as you've just heard. This is just probably a gross underestimate. With those cases it is according to the official numbers, approximately 40 percent of the cases come from the southwest province of Yunan.

And probably a quarter to one-third of the cases come from the northwest Muslim province, called Shingjung (Misspelled?). And then provinces adjacent to Yunan, such as Guangshi (Misspelled?) or Suwan (Misspelled?) are also believed to be severely affected. The region that Dr. Wan just talked about, Hunan, as well as the adjacent province of Anhui (Misspelled?), Sanchee (Misspelled?), Sanchik (Misspelled?), are also affected by HIV infection through mechanisms that

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are different from these border provinces.

We know from surveillance information done by the Chinese CDC that most of these cases come from intravenous drug use. As you know, the Gong (Misspelled?) triangle is in close proximity to this region. And intravenous use of heroin is very common. And I'll show you some epidemiologic data to link these infections to the use of IV heroin.

But as mentioned earlier, this is spread through illegal blood collection practices. But HIV actually was first recognized in China in 1986 in a foreign tourists. And subsequent to that, sporadic cases were reported in foreign tourists in Beijing, Shanghai, and the eastern coastal cities or the individuals with direct contact with foreign tourists. But since the late 1980s, it was recognized that there were HIV infections occurring in the border region in Vietnam, in particular in the western part of province in a

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county called Durhong (Misspelled?). And in particular, in the city called Radi (Misspelled?), which actually is in the handout in the "Time" magazine article.

Because traditionally, that's been the route into China from Burma, from Pakistan, from India, and because of the common use of intravenous heroin. In this province, it is believed that in border province -- border counties, the prevalence of HIV infection could actually reach 50, 60, perhaps 70 percent in intravenous drug users. And among STD clinic attendees, perhaps the prevalence may be as high as five to 10 percent.

And overall, maybe 1.5 to two percent of the province population carries HIV. And this province, although looking rather small, has a population that would rival any European country. I think the latest figure for the population in that province is about 45 million.

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Now if you look at the actually reported cases, official figures, the numbers are rather small. Here are the HIV infection and the AIDS cases in blue. You could see the numbers are rather small going back to 1985. But what is telling is the trajectory of the right. And it's a steep. It's reminiscent of what we went through in the early 1980s in this country. And despite warning, the epidemic was allowed to take off. It seems that every country has to learn the hard way, and repeat the mistakes made by others. And China is certainly no different for this period.

Now these are official statistics. So they're going to be gross distortions because Hunan is -- Hunan and adjacent provinces are not properly accounted for. But if you take the official figures, and look at gender distribution, approximately eight out of 10 cases occur in Hunan. And if you look at age distribution, 20 to 29, 30 to 39 account. So individuals 20 to 40

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account for approximately three-quarters of the cases. And this is no different from elsewhere in the world in that HIV seems to attack individuals in the prime of their lives.

And if you look at risk categories, because of the skewing of data by cases coming from Yunan, Shingjung (Misspelled?) and Guangshi (Misspelled?), it's not surprising that nearly 70 percent of the cases -- reported cases occur in IBUD with relatively small numbers accounting -- accounted for by blood products or blood transfusions. So coming back to this second epidemic within China, I mentioned already that these provinces are affected because an intravenous drug use. Why it might be easy to understand that Vietnam and Guangshi (Misspelled?) and Szejuan (Misspelled?), because of their close proximity to the source of the heroin, would have such an epidemic, it might to an American might appear puzzling why Shingjung (Misspelled?) is

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particularly affected. But it turns out that a lot of the trafficking of heroin by land out of the Golden Triangle, in fact, goes through much of Central China and then out to Central Asia through the Shingjung (Misspelled?) province. And actually, despite the Muslim religion, many of the individuals practice IV use of heroin.

But this epidemic, as already discussed, is quite different in nature. We believe the illegal blood collection practices began in the early 1990s, and peaked in 1995, '96. It principally involves Hunan, Anhui (Misspelled?) and several adjacent provinces, Hunan being the one that's described largely due to the writing efforts of our moderator.

Now what are those legal blood collection practices? I have not been granted permission to travel to Hunan to date, but I'm pretty sure I'll make it there sometime this coming year. So I'm telling you things that are second hand. But I do

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have a number of colleagues who work there on a regular basis. And I believe their stories are correct.

The blood collection stations actually existed from the early '90s. And many of them were official, but they were shut down around '95, '96. And the legal collection centers took their place. And the farmers needing the extra income went that way. And actually, and we know that the illegal practices peaked in that period. And let me, because of the time, I was thrown off by the sign in the back, time limitations, I better not describe that in great detail, but let me just say that we know the epidemic is quite severe.

From the stories related to me by my colleague, Tom Henson (Misspelled?), typically, one could, just traveling through these villages that are severely affected on any given day, see a number of funerals going on. And I'm told nine out of 10 such funerals are -- would be caused by

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HIV/AIDS. And it's not unusual for a child to lose both parents to AIDS. The numbers that I talked -- showed you earlier about gender distribution would certainly not be true for this region in that it is pretty much balanced between male and female. And according to Chong To (Misspelled?), who's a colleague in Hong Kong, in fact there may be a slight higher prevalence among females perhaps because they have more -- not working on the fields, have more chance to donate.

And these illegal blood collection practices probably involve principally just blood collection machines that were never decontaminated. There are certainly descriptions where blood is collected from many individuals, and then pulled. And plasma is extracted for sale, plasma itself or plasma derived proteins. And then the red blood cells among other things. Other cellular elements are then returned to individuals. And you can see, that would be a

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nightmare scenario for rapid spread of HIV and Hepatitis B and Hepatitis C and so forth.

And as I said now that there are many, many families in certain villages about 50 percent of the families where the middle generation is gone and the younger generation is cared for by the grandparents. But just to give you appreciation, the data are hard to come by for this region of China with respect to HIV infection. But just to give you an appreciation, in a particular village in Hunan, down by Wuhan (Misspelled?) University, this is recently provided to us. This is not our work. But just to give you an idea of the prevalence of infection in women of this age group through blood donation and transfusion, at risk period you could see 92 to 96. The prevalence and infections brought only half. And for children, approximately a quarter.

Now you could say is this skewed? But I'm told again by Sean Cohen in Hong Kong that in his

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experience in six different villages within this same province, he has a program that supports the education of orphans. And going to a typical elementary school of 125 children, 225 children about of 100 or 125 of them would actually be orphans that have no parents.

And so if you take villages such as that one and think about how many such villages exist, these experts come up with an estimate that would exceed one million infection in Hunan alone, not counting the adjacent provinces. There are two ways of coming at the figure. One of them is simply saying in a typical village, there might be say 20,000 infections. And they would be 50 such villages throughout the Hunan province.

And if you multiply the numbers, that would give you roughly one million. Or another way of doing it, just to count the number of people who actually participated in these donations, and that would exceed 1.4, 1.5 million

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and about half of them would be expected to come down with HIV infection. And right away, you have .7 million directly infected through the collection practice. And then you add on those that would then be secondary transmissions through sex or through maternal, you know, transmission. So you -- these numbers I think are becoming realistic, but the precise determination is yet to be made.

So just very quickly, now shifting, as a scientist, I can't resist in showing you some data that my colleagues have generated. And you could say well, what could we do to look at the situation to understand the epidemic? And by characterizing the viruses in different provinces, one could get a pretty good idea. And perhaps that picture in the "Time" magazine article would need to be slightly modified.

But as you know, HIV has many different subtypes. I won't elaborate, but subtype B is

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common in U.S. and Europe. But in Central Africa, subtype A and B in southern Africa and subtype C. And India, and now as you see subtype C is common in China.

But if you go to a large city, such as Beijing, and characterize a lot of the viruses shown in red, my colleagues, Dr. Sang Chen (Misspelled?) and Sao (Misspelled?) show that they found sequences that would scatter among different subtypes. And this is not a surprise. And HIV is introduced into Beijing by multiple sexual contacts with outsiders. But if you go to the areas that I've been talking about, a very different picture emerges.

If you look at the areas that are -- that have a common route of transmission, i.e., IV drug use, Hunan, Guangshi (Misspelled?), and Shingjung (Misspelled?), the viruses, they're color coded. So the green ones belong here and red one -- orange ones, Hunan. Purple ones, Guangshi

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(Misspelled?). You could see they all cluster on this phylogenetic (Misspelled?) tree or family tree analysis. And in such analysis, only the horizontal distance is important. So ignore the vertical distance.

You could see these viruses are very, very closely related. This is 10 percent different. So these are only a few percent different, suggesting that despite the geographic distance, the epidemic is closely related. And it's linked to route of transmission. And the dominant subtype appears to be subtype C. But in Hunan, it's the subtype B' that is common in Thailand as you'll hear from the subsequent speaker.

And you could see once again it's as if one single virus was introduced into Hunan, the source being a B' virus, and then subsequently spread. And one could do the same analysis using Hepatitis C virus, and show that it is one or two separate introductions, and then just being

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propelled within the region.

I'm going to wrap up now. Basically, just to tell you that we are working in this province, Yunan with that thing in mind. Initially, we -- my colleagues who are in the audience made several vaccines, which are now finished. So there are characterized in the laboratory. They're tested in animals. They are under what's called GNP practice so that we could take it into human trials in the U.S. and in China.

So there's these vaccines and a subsequent Vaccinia (Misspelled?) vaccine, which is made by a different colleague. And we have gone to this Hunan -- Yunan province to say we want to do the testing. And this is an effort that's been ongoing for about approximately three years. However, as we approach the officials locally, they have their concerns, their issues. They are less interested in the vaccine. They are more interested in their infrastructure. They're most

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interested in training their people. And they're  
in -- greatly interested in having treatment for  
their patients.

So despite pursuing a vaccine agenda, we  
end up taking on treatment, education, training  
people, as well as building the infrastructure.  
So I would just end by telling you that we lately  
have set up a clinic here and two laboratories in  
the capital city of Quining (Misspelled?). In the  
Derhong (Misspelled?) County that's most severely  
affected, we've been setting up field stations and  
field laboratories so that we could begin to help  
them bring treatment and other infrastructure  
building measures to this particular region that  
is severely affected by the epidemic.

Sorry for running over.

**FEMALE SPEAKER:** Thank you, Dr. Ho.

[ applause ]

Before we move on to the next speaker, I  
just want to add my two little cents about China.

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A couple of things. First of all, in Hunan Province, where the prevalence, where men and women were both quite involved, one of the things that you hear over and over again from people is that because women menstruate, they had this notion that it was easier for them to sell blood because they were sort of replenished every month. So in many villages, you'll see that the women went first to sell blood and not -- their husbands came later.

The other thing which I think you can see from Dr. Ho's presentation is that extremely uneven nature of the data that's coming out of China, with some regions like Yunan fairly well characterized, and others like Hunan, you know, a huge question mark. You know, I'm not a scientist. I wasn't even when I was a doctor, but I can tell you when you go into these villages, virtually every house has someone with HIV in it. The one I know best, when I first went there a

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year and a half ago, there was an elementary school with 450 kids. That's now down to 70 kids, partly because they can't -- they're orphans or they're families are on such -- have been impoverished by HIV. So they can't afford the school fees. And partly because the few families that weren't directly affected just feel like we don't want our kids in this very depressing place.

And if they have the resources, move them to an adjacent village that isn't as severely affected. So the -- we're talking about epidemiology. For China, at least, the first big challenge is to start figuring out well, what's the magnitude of the problem? And in parts of China, that's still a big question. So I'll shut up now and Dr. Solomon will tell us about HIV in India.

**DR. SUNITI SOLOMON:** Thank you for inviting me. I'm really honored to be here. I traveled half the world to reach here to give you

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a talk for 15 minutes, which is very depressing, but I'll try and do my best. I'm bringing greetings from India. This is the light festival we just celebrated about two weeks ago.

I would like to start with the story of Marlan, a 23 year old cook in Somalia, who returned from quarantine to his town. He was beaming. He wasn't the only happy person. All over the world, people gave him contented smiles. The date was November 28, 1977 and Marlan was the world's last known small pox patient and a survivor. Finally World Health Organization announced that this disease, which had killed and disfigured millions upon millions over the years, had been eradicated.

In 1978, India joined other nations in signing the World Health Organization's declaration which sets the goal, health for all by 2000. Although the world has not realized this goal, the failure leaves valuable lessons for

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health sector to learn about HIV infection.

Around the globe, more than 65 million people have been infected with HIV, 25 million have died.

Every six seconds, a new infection.

The U.S. National Intelligence Council recently released a report entitled "HIV, the Next Wave About Which People Have Already Talked." The year 1986 brought the new challenge to public health in India when my colleagues and I documented the first evidence of HIV infection in the country. I have since then witnessed a diversity of responses from the community, individuals, and families affected with HIV by policymakers and healthcare workers.

HIV has yet to cause dramatic visible turns in the Indian economy or the health sector. Such good fortune may not continue, though 15 year old since this initial report may have been the best opportunity for response. Some speculate that India is on the verge of catastrophe. Oh,

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how do you go back? I think -- is it too far?

Okay. Yeah. I'm sorry, I think too high a technology. Anyway, HIV -- right. But some speculate in India is now at the verge of catastrophe. And this is our slide, our data, which shows that every six months, you can see how the numbers are increasing in my center.

In India, HIV epidemic has spread rapidly from the urban to the rural area. And this is the statistics from the USAID APAC project. The NIC analysis warned that 25 million Indians could be stricken by 2010, and 25 million. And there was an uproar in India when this was announced by the U.S. ambassador at Chennai. And I don't think it's something we need to worry about, because one percent increase in India, the prevalence, was going to make 10 million more people infected, because we have one billion people.

Today, the prevalence is two million. I mean, two percent. So if it becomes four percent

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in the next -- one decade, it's going to be 25 million. So I don't know why people should get worried about numbers because that is what is going to happen if we don't stop it. This could cause a human tragedy of historic proportions. It affects much more than the health policy. It can have a major impact on the nation's economy and national security.

Time is against us. HIV/AIDS destroys lives and families, [unintelligible]. Ignorance and denial can weave a cloak of indifference beneath which the ravages of HIV/AIDS burst out. In India, about 75 percent of infections occur through sexual group. About eight percent through blood transfusion. Another eight percent through injecting drug use. About 89 percent of -- anyway, 89 percent -- yeah, of the report cases are occurring in sexually active and economically productive age group of 18 and 40. One in three cases are reported is a woman.

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No, no, that's fine. HIV infection rates are increasing among monogamous women through unprotected sex with infected spouses. Poverty creates conditions ripe of urbanization in India, with large, urban slum population composed of migrants, manual and child laborers. Currently, 260 million persons in India live below poverty line. Those with low incomes cannot afford to buy condoms or treatment of STIs. Four families and their young women in prostitution to make ends meet.

Too illiterate to understand the prevention messages. And with a little access to information, the poor succumb to STI. In ancient India, Indian culture offered the world the renowned creators of sexuality, the karma sutra. Such openness about sex and sexuality is now near absent. Talking about sex is a taboo. And at first by policymakers to introduce sex education schools are half hearted.

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There are many social precursors for rapid spread of HIV in the country, including the inability to talk upon -- openly about sex and sexuality, but this is our data. We have started talking about sex for the last five, 10 years. In a country that family planning succeeded because tubectomy -- how feasible would female controlled methods for preventing HIV be?

Here, stabilization accounts for more than 75 percent of total contraception. And tubectomy accounts for more than 95 percent of civilization. And how could a woman initiate condom use, even if she is aware that her husband has multiple partners? A recent study by my center at Chennai, in collaboration with Fogerty and the Brown University in the acceptability of microbicide revealed that 68 percent of women did not perceive the risk of HIV, even though 83 percent of men had multiple partners. This particular -- clearly indicates the failure of our communication

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I have no clear what has happened. In India, we have one billion people. So when I talk, somebody else does the changing of slides. Here, I think it's a little more difficult, yeah? So anyway, I'm just giving you issues where it's going to account, is the numbers in India right? And that's what I'm trying to prove here. Majority of HIV testing in India is not accompanied by pre and post test counseling, but is done as a routine or mandatory laboratory test.

Individuals who receive an HIV sero (Misspelled?) positive result are handed a virtual death sentence, when they are told, "You have AIDS." That's the routine testing they do. You see, all including HIV, nobody knows they're getting tested. And when they're positive, this is the report you get. "You have AIDS." It is important for every nation to have effective voluntary counseling and testing services. But

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the stigma is so enormous, that even should persons perceive the risk, they will not go for a test.

Only a fraction of persons living with HIV are aware of their infection, because those who do receive a clinical testing are usually not provided with counseling, and hence, will not access care because of fear of discrimination. Another issue for any person undergoing an HIV test is realizing that his or her tests is neither anonymous, nor confidential. So why will people come up? So how do you get the numbers?

In 2001 survey, in Chennai city, conducted in association with the Brown-Tuft University program, 972 laboratories were studied, of which 64 percent offered HIV tests. Only 19 percent did some sort of pre-test counseling, and none did post-test counseling. Many laboratories in India do not take part in quality assurance or quality control for HIV testing. And poor techniques are

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commonplace.

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HIV tests results are often inaccurate for several reasons, unless patients have an opportunity to discuss their lifestyle with a counselor who could then help place the results within that context, the speculation of persons infected with HIV will not rest. My slides are flying away. With regard to prevention of mother to child transmission -- okay, can you go back two slides here. Yeah, next. Yeah, that is our statistics where we're doing voluntary counseling and testing for the last 10 years. Next one.

And this is -- you see the occupation and you see housewives are the maximum, 22 percent. With regard to prevention of mother to child transmission, there are 27 million pregnancies in [unintelligible], in India, and an overall estimate of low. I'm seeing a .4 prevalence, but the high is somewhere at 7. They would be roughly about 100,000 HIV infected women who delivered

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each year. Pressure from families to give birth to their heir, an implicit threat to the marriage. When a woman is unable to become a mother, the high prevalence of acceptability of domestic violence of women and the moral double standards imposed on men and women and the lower status of the men in general.

The pressure to be a mother is so intense that when a woman has to choose being HIV sero (Misspelled?) negative, but without children and conception with possible HIV infection, she often chooses the latter. And this is a story -- one of our stories of -- about 2000 women we're taking of. A wide spectrum of infection has been documented in those living with HIV in India. Next one.

Emerging opportunistic infections include pneumocystis carinii (Misspelled?), pneumonia, toxoplasmosis. I had worked for 22 years at the government hospital as a microbiologist, and had

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never seen all these infections. So you can imagine the training the clinicians needed if they want to see and identify these new infections. Next one.

HIV infection has made tuberculosis, syphilis, herpes aggressive. You can see that Gummine (Misspelled?) two years in a patient who had syphilis. Ongoing the proper hands on training of clinicians is essential for the diagnosis of various opportunistic infection, and linking to HIV and then reporting them. Today I would say there is under reporting of these diseases.

The standard of care that over national AIDS control organizations supports is limited to the provision of drugs for treatment of opportunistic infections. The resource constraints limit the distribution of drugs to only government institutions. This is one of the typical pictures.

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Next one. In a study at YRG Care, we have documented how illness at the source decrease the continuum of care, which in turn improves the quality of life of a patient, even in an advanced stage. Next one, a spate of antiretroviral drugs evolving incrementally, but rapidly and being approved at a brisk pace has changed the treatment horizon. The cost of combination HIV antiretroviral treatment has plummeted in the past 12 months, so that now highly active antiretroviral therapy have -- can be purchased for less than \$400 per year India.

Falling prices of therapy are enabling physicians in the developing country to offer triple drugs regime to greater number of patients who desperately need the life saving medication. For example, about 15 percent of YRG Care patients can afford antiretrovirals. For many patients, these will come too late, while millions of others can never hope to access the treatment.

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Next one. However, widely accepted guidelines to monitor antiretroviral therapy using frequent CD-4 testing and viral loads can cost more than \$1,000 per year. As a result, physicians are faced with challenge of managing antiretroviral therapy, largely by following clinical indications. In April 2002, the World Health Organization advocates the use of simple, inexpensive laboratory tests, like total lymphocyte count and P-24 antigen in determining the response to the treatment. Although such monitoring strategies have seemed crude, we have to remember the old saying.

Next one. These are some of the drug -- prescriptions given by our physicians. And you can imagine ART drug resistant would be catastrophic, as is happening with many antibiotics in India [unintelligible] discriminatory use. And then you imagine these strains come to U.S. And then you have the

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problem here. So like somebody said, this is a global problem we need to fix.

Next one. Whatever we think, it -- we feel that what little we can do in our center, the excellent must not become the enemy of the good.

In conclusion, the next one, the challenge is not in numbers or resources or technology or political will, but just one of vision. We need not be blind to the challenge before us. We need to recognize the enormity of the problem and the intensity of the problem and the benefits of investment, not only in prevention, but equally in care. When Bill Gates was there about 10 days ago, I had a roundtable meeting with him. And I said, please, just don't give only prevention. We need for care.

Because in my center, we started with prevention. When we talk to young people, they came up to me and said, "I want to be counseled." When I counseled them, I found they needed

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testing. That's how our organization moved. And when I tested and found them positive, where do I send them? I can't tell them, "Oh, we don't take care. We only talk about prevention." It's not fair.

So we started -- moved into care. To -- even today, we don't have one rupee or one dollar which has been given for care. But we are taking care of 5,000 people. And we need to recognize the enormity. India has fine human resources, active advocates, and good governance. It has several best practices and models waiting to take to scale. It has dedicated, talented scientific pools, support to whom will make a huge difference to the epidemic.

We need investment in critical areas, such as voluntary counseling, testing, continuum of care, physician education, training and clinical trials and research. And this is the very goal of Treat Asia. And that is why I traveled 19 hours

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to come here, because our visions are the same.

Next one. I would like to end with the saying from Mohatma (Misspelled?) Ghandi, who wrote in 1925 that "one of the seven social sins was science without humanity." The struggle against HIV disease is a noble fusion of science and humanity. And together, I'm sure we will do our best to contain this disease. Thank you very much.

[ applause ]

**ELISABETH ROSENTHAL:** Thank you, Dr. Solomon. I think in the effort [ unintelligible ] straight to Dr. Phanuphak now. And then at the end, we'll talk a bit with our three speakers, if there's time.

**DR. PHANUPHAK:** Thank you. First, I would like to thank amfAR and the Mailman School of Public Health in inviting me to participate in this meeting.

As an Asian, I really appreciate what

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amfAR is [unintelligible], what Kevin Frost has been doing the last two years in strengthening the care in Asia. Because there are many people just focused their attentions to Africa, even the Global AIDS Fund. So you know, at least something happens in this [unintelligible] world in amfAR, trying to take care of treatment issues in Asia. So I really appreciate that. Not test [unintelligible] a physician and an Asian.

The HIV epidemic in Asia, or in Thailand comes in five waves, which I think can be good example for any countries. That means starting from homosexuals, bisexuals in 1984, it takes quite some time before the HIV started to spread among drug users. From the drug users, as we can see every year, it comes with a second group and the next group to female sex workers. Once female sex workers has been infected with HIV, they say no doubt that those clans of the female sex workers IG, those are males with STDs, who have

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been infected by HIV.

And then at the latter, as we can see, the general population, i.e. general females then has been infected, together with the newborns. This shows the same story year after year, from homosexuals, drug users, prostitutes, male with STDs and pregnant women and then children. So this -- you know, once the HIV spreads into female sex workers, then it can be certain that it can spread into the general public's -- into the regular families very rapidly.

This just should show you some data from our [unintelligible] survey which they do systematic survey among different risk groups twice a year nationwide. Just to show you that the prevalence among the male conscripts among age 21, it was advertised four percent nationwide. And it gradually came down to below a half percent, which shows a good prevention effort.

At the same time, the HIV prevalence among

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pregnant women also was as high about two percent, now about 1.5, 1.6 percent. The same for the donated -- the blood donors, which is representing normal or non-risk males. It was as high about one percent. It's not about less than half percent.

Just the last slide just shows the number of AIDS cases, number of reported AIDS cases in Thailand. As you can see here, we found about 25, 27,000 new AIDS cases per year being reported up to the end of October this year. The number of reported AIDS cases in Thailand, it was 208,000 new AIDS cases, up to October this year.

These is projections from UNAIDS, saying that by the end of last year, we had about 700,000 people living with HIV and AIDS. The number, though, seemed to reduce every year. Either [unintelligible] could not tolerate the pressure from the Thai government, or it's because many of them already died. We -- I am not sure about

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that. New AIDS, in the year 2001, as you can see, it's about two or three times from what has been reported, estimated to have about 53,000. And it's very fortunate, it's true that now the new infection in Thailand has been decreased, instead of having 100,000, 60,000 seven or eight years ago per year, now there's only about 25,000 to 30,000 new infections in Thailand per year.

Whereas the deaths among the HIV patients is also a number one death rate in Thailand. About 6.8 deaths per hour to other countries. Actually, there was some estimate on that by the year 2010. There will be less than 500,000 people living with HIV and AIDS in Thailand, because most of them who die. I hope this is not true.

Some responses here. The prime minister in Thailand chairs the national AIDS committee. Nowadays, the new prime minister is not interested in HIV/AIDS anymore. So we asked the deputy prime minister to chair. 100 percent condom campaign,

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which I talked about that later on. The anonymous clinic, which is the VCT clinic in Thailand, we also discuss about that. The [unintelligible] representing the people with HIV and AIDS is grouped in Thailand. Also, we have budget for ARV. And the price of ARV has been reduced gradually in Thailand through generic drugs. We also have some [unintelligible] trials of drugs and vaccines, as well as the PMTCT and MTCP Plus programs that I will discuss later.

100 percent condom use program is agreement among owners of sex establishments, agreements, gentlemen agreements of sex workers, with the public health and authorities [unintelligible] the policemen, that we would try to enforce 100 percent condom use in these commercial sex settings. So condom is provided free of charge. And theoretically, which is probably most of them were true, that no customer will allow -- will be allowed without any condom

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use. Even you pay a little bit more money, they would not serve you. And they will not anyone will punish the sex workers.

Every case of STD, though, would then be traced back, because anyone with STD should -- must go to see a health officers in the province. So the health -- provincial health officials that would try to trace back to the place that the person gets STDs from, because of that, there's a policeman who come in and say, you know, last night or 10 --- a few nights ago, you had a customer that will -- someone in your place did not use condom. So if this happen again, we'll close that establishment. So this is the -- in terms of law enforcement, comes into place, as well as there will be some spot checks by spying. You know, pay some money and go to the sex establishments and pay some more money to see whether or not a condom would not -- cannot be used.

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This is the photographs of the Thai Red Cross Anonymous Clinic, which is Thailand's first VCT center. And it has been used as a model for training for VCT both in Thailand in the regions. We have about 50 to 70 new clients a day, each admitted by a sero (Misspelled?) number. No names, no address required. And this center also offers counseling for CD-4 testing and also for [unintelligible] testing without having to tell real names.

The center also offer free supply of cortimososol (Misspelled?) and forcornisol (Misspelled?) for lower CD-4 counts. And this center also serves a place -- serves as a recruitment for [unintelligible] volunteers in the studies of the Red Cross, because these are so called antiretroviral naive patients. We are currently trying to expand this model VCT to three other provinces in Thailand, as well as another center in Cambodia.

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Let's talk a bit about Wednesday

[unintelligible]. It's Thailand's first HIV self help group, attached to the Red Cross society.

And right now, this center -- this group is also a parent organization for more than 500

[unintelligible] groups throughout Thailand.

These people participate in counseling, in home care, in advocacy and policymaking and training.

Actually, they fit into the -- fit in the national AIDS committee. They are able to appear in the public. So they can face cameras. And they can be reached by whoever wants to get in touch with them.

This kind of self help groups is very important to make the public realizing that HIV/AIDS really exists, and they can live together with people with HIV/AIDS. So it will decrease a lot of stigma on HIV.

Next, I'm going to tell you about the price of ARV, antiretrovirals. For example, in

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the past, the past means before 2000, the cost of [unintelligible] and TI was as high as more than 25,000 bahts a month, 42, 43 bahts, equal to one U.S. dollar.

Just look at the bahts level. And RTI plus boosted PI, it was as high 13,000. But in the year 2002, boosted PI still not much different in price, but NRTI's much lower price. So this regimen costs about 6,000 baht. Two NRTI plus NNITI, which is cheaper, again, it was very high in the past. Nowadays, it was about 1200 bahts or one U.S. dollar a day for combinations of six dose combination of [unintelligible] and Novarapine.

\$30 a month for average Thai is affordable for more than half of those Thai people. Just to show you that the comparison in terms of price, GPO stands for Government Pharmaceutical Organization. This is cost per month of supply of AZT D-14. So we can D-14 is the cheapest drugs per month, only \$5 a month to ETC. Also somewhat

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more expensive, Novarapine. So you combine D-14, 3TC, Novarapine is much higher than the fixed dose combinations of the same combinations, only \$1 a day.

But after this D-14 Novaparine continuing regimens, if the patient cannot tolerate, for example, cannot tolerate Novarapine, it has to go through a [unintelligible] for example. The cost will be about three times higher. Once you fail this regimen, you have to go booster protease inhibitors. There's even worse. About six to eight times higher for the protease continuing regimens.

The government of Thailand with [unintelligible] health do -- they are interested in treatment. Okay, let's look at that. We have an annual budget of 250 million bahts, about \$6 million U.S. dollars for antiretrovirals. It was able to provide ARV to every patient, about 2000 patients. 2000 patients with this amount of money

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in the past.

However, with the lower drug price, with some more money from the government, last year or actually the year that we're talking about, there are about 10,000 patients can be treated with ARV from the government. Whereas we expect that next year, with some money Global Fund, about 200,000 patients can have ARV. Also, this is about 10 percent of people who really need ARV. However, we have to be -- realize that in Thailand, maybe another 30,000 patients that pay for their own ARV. So that's not just 20,000 patients given free ARV from the government.

Access to care in Thailand -- to ARV in Thailand, most of them will be self pay, as I mentioned. A third party payment, like government or by the private employers is quite difficult, because of the stigma attached to the reimbursement that they have to submit to the authorities that what they have. The 20,000

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people by the -- they call it clinical network by MOPH, that means that they would try to get some data, a lot of data to give away the medications, and then collect more data.

Donation is something that I will discuss later on, as well as [unintelligible]. Compassionate release, by the way though, is quite limited in Thailand. Maybe 10 cases or 100 cases from [unintelligible], just for one year until the drug is licensed in the country.

Let's talk about the Thai Red Cross ACT donation project for preventing mother to child transmissions. It's a public donation to provide free AZT to poor pregnant women, to prevent mother to child transmission. The Thai Red Cross operates this program under the personage of her or your highness, Princess Suwali (Misspelled?). That means the royal family is involved.

And up to now, for the last six years or so, more than 5,000 women throughout the country

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have received AZT donations through these projects. None has been reduced. So every request will be met. The HIV rate has been reduced now to about five percent. This has been [unintelligible] series showing public mobilizations. And this project, beginning next year, will be extended to MTCT, particularly the money donated by the public to partially support this project.

Since we are in a room with a Mailman School of Public Health, which is a champion for MTCT Plus, so besides we extend our AZT donation project into MTCT Plus, adding 250 patients more, receiving this cheap government pharmaceutical organization regimens, we are lucky to be also funded by Columbia University, the MTCT Plus [unintelligible] using a different regimen, which we believe that is better than the old [unintelligible] regimens.

Also in Thailand, [unintelligible] women

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has [unintelligible], as well as mothers  
[unintelligible]. And then it' also very  
[unintelligible] extend its project to other  
countries.

Let's talk a little bit about the clinical  
trials aspect of care, using care trials. Hipnet,  
the HIV Netherlands, Australia, Thailand, we  
[unintelligible] for Hipnet. It's a tri  
continental collaboration between Duplang  
(Misspelled?) in Holland, David Cooper in  
Australia, and Pilocco (Misspelled?) society. We  
perform multi center and multi international HIV  
clinical trials of GZT, [unintelligible] standards  
and provide HIV medicine training, as well as  
clinical trials training.

Up to now, about the last five years, we  
have more than 1400 patients have received ARV for  
as long as six years. That's to show you some  
examples of where [unintelligible] Hipnet oral 1,  
oral 2, oral 3 and so on. So there are more than

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14 projects going on. Each project will be about one year sponsorship. This slide, what I want to show you is not just to talk about the details, but for just want to tell you that even the trial was sponsored for one year, we can always roll the patient over to another trials. So the patients still can receive free medications with the same sponsor from the drug companies. For example, these oral 1 regimens, we compare half dose versus full dose of AZT DDC, sponsored by Roche, who sells DDC. And then after first 66 weeks, then we switch the patients over to D-40 DDI, [unintelligible] capsules, comparing AZT to ETC saquinovir (Misspelled?) to see whether or not patient on AZT will still respond to AZT continuing a triple regimen.

Okay? And then a year later, we add Bitacornisol (Misspelled?) to find out whether or not Bitacornitsol (Misspelled?) can boost level of saquinovir (Misspelled?). Again, sponsored by

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Roche. And then later on, we compare boosted saquinovir (Misspelled?) with once a day dosage, compared to twice a day dosage. And the fifth year now is only [unintelligible] interruptions regimen.

Problems still facing, we have lower government commitment nowadays, as I mentioned. Our new prime minister is not so interested in HIV. He's more interested in the economics. The high cost of laboratory monitoring and salvage regimens, as I mentioned, if we sell D-14, 3TC, Novarapine, the next regimen will be quite expensive. Knowledge and commitment of a critical mass of training of treating doctors is also very important problem in Thailand. Stigma, commitment and understanding of PWA, the worst case, also essential, especially how to scale up the antiretroviral therapy in a more rapid way.

I have three more slides and I will finish. The need, we need to have heightened

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government commitment through the [unintelligible] label on the NGO, from people with AIDS, academicians, and also from politicians from the opposite party, as well as from the foreign government, including foreign governments from the [unintelligible] countries, like the U.S., all the European countries.

For example, Botswana can, you know, tell the good example to Thai government that now they provide ARV to every person in the country. You also need some voice from foreign NGO and international agencies like UAS, WHO. We need to have simply find and cheap monitoring tools and guidelines for the most cost effective use of that. When to use it, and how often.

We also need to have market ties reduction of all ARV through competitive price because the agents, including [unintelligible]. So I hope that the U.S. [unintelligible] would not enforce the patent law of various [unintelligible].\

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Last scale, training of healthcare workers. Somewhat important, destigmatization, patient education with balanced information of the treatment. So this is my last slide here. The international collaboration of HIV and AIDS, I think we need partners from the government, for example, the U.S. government. Because I know that President Bush knows our prime minister very well. So if the President Bush can tell a little bit to our prime minister that you have -- he has to pay more attention on HIV/AIDS, that will be useful.

University, private sector. Private sector, for example, I also know that Bill Gates is also a good friend of Mr. Taxin (Misspelled?) in Thailand. So this is something that can boost that. Indeed NGO [unintelligible] and so on.

We need -- what we need, besides we need money, we need technology, expertise and advice that's what I mean by blessing, to say something good. And also, some pledging [unintelligible]

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aware the Global Fund, you know, \$100 million U.S.

You say we'll give you \$100 million U.S. Provide  
to Thailand, who match another \$50 million

[unintelligible] for example. Okay, this is what

I mean by tracing. Okay, I'm not just giving

free. Everyone would like to have free money

anyway. So you have to make some pledge.

Activities, policy planning,

implementation, research, and so on and so forth.

So I will just stop here. Thank you for your

attention.

[applause]

**ELISABETH ROSENTHAL:** I'm told in the  
interest of time, I'm going to be asking the  
questions. So if you have questions, sort of  
channel them to me and I'll voice them.

But first, before I ask our panelists a  
few questions, I wanted to say something about a  
country that's not represented here. Originally,  
we had the health minister of Cambodia on the

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program. And I think in talking about Asia, it's really important to at least bring up the epidemiology and the response that's occurred in Cambodia, because it's been so impressive in the last few years.

I mean, here we have a country, a small country with one of the world's poorest countries. So for those countries who say, oh, we don't have the resources, they can look at Cambodia, which has a GNP, I think, of somewhere under \$300 per year. It has a very high mortality rate from all sorts of diseases. And so, for those countries -- for those people who say, oh, China, India, people die of lots of things. What's another disease, you can look at Cambodia, too.

And since 1997, Cambodia has taken upon itself to initiate a very aggressive prevention, education, campaign about HIV and has turned around what we're -- what still are, I guess, the highest prevalence rates in Asia. I mean 1997,

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instead of denying the problem, saying that it was no big deal actually a little earlier in the mid '90s. They did very good sentinel surveillance.

I think in '97, their estimated number of cases with somewhere around 200,000, which was three percent of the population. So high. Very quickly moved into initiating a series of educational reforms, prevention efforts. In Cambodia, the epidemic was mostly spread through sex workers, but -- through heterosexual sex, with a little bit of intravenous drug use.

In '97, when they checked something like 40 percent of female sex workers, who were infected. And interestingly, close to 10 percent of men in the army and police. So it maybe that impelled to do something sooner, rather than later.

But anyway, they acted. And as of 2001, their numbers are improving. They're prevalence now is, I think around 2.5, 2.6 percent. And so,

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I think what the -- you know, it's really a shame that he couldn't be with us, because what Cambodia proves is that to me, at least, where there's a will there's a way. And last year, last year? Last October, there was a regional AIDS meeting in Melbourne. And it was really extraordinary to watch the Cambodian delegates move around that conference. I mean, they were everywhere. They had posters, they had sessions, they were asking questions. And it seemed to be, sort of, a trickle down from the top leaders of the government, who said this is important to us, and we're going to solve it. And with precious little resources, they did something.

So I think it's, you know, something that we should point out here in terms of the epidemiology and response in the front lines. And it's too bad he couldn't be here with us.

What I -- one thing I'd like to ask the panelists is in the country you are representing,

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what right now is the single greatest barrier to more effective response to HIV? Is it resources? Is it government? Is it sort of conservative social attitudes?

**SUNITI SOLOMON:** That's a difficult question to pin down on one -- but if you want to tell -- ask me which is the most important, I would say stigma and discrimination. Because of stigma and discrimination, people don't want to talk about it. They don't want to come for a test. They don't want to access treatment. Their healthcare workers don't want to treat people because they say okay, these are wicked guys. They deserve it.

You know, so I think the one most important is stigma and disability. If we can get rid of that, so I always keep telling people instead of detecting HIV for the first time in India in sex workers, if I had found it in a baby, things would have been different.

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**MALE SPEAKER:** In Thailand, understanding and commitment is the most important issue. Because there are many competitive issues in Thailand. You became proof to our policymakers that HIV is as important as any other problems, as well as important as economic issues. The return from doing something on HIV will come back to some more money into the pockets. And this is where it's an important issue to convince our government to [unintelligible].

**MALE SPEAKER:** Speaking as a Chinese American scientist working in China, I think what I confronted in terms of difficulty, I would say foremost is ignorance. Ignorance in the general population about this disease and selective ignorance in the very leadership of the country about this disease, despite, you know, the potential threat of this epidemic to China, the -- it's still not accepted as a high enough priority.

Of course, this is not true all the way

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through. China is a large and complex country.

In -- and I see that as you -- Libby, you had mentioned earlier, the ministry of health is coming around. It's headed in the right direction. It needs help. But in regions like Hunan and adjacent provinces, there's a great deal of ignorance and denial that is not going to be helpful.

And obviously, if there's ignorance and denial of even the disease, how is Global Fund money going to help that region? And so, for China, I would say that's the -- as an outsider, that's a major problem. It's certainly not money. As you looked at -- look at China, developed it, especially in the large city, it's very difficult for the Chinese leaders to claim that they're too poor to pay for their own citizens' treatment.

And this is why, you know, there are dual motives for our treatment effort in the Yunan province. One is simply to give back to the

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community. That will help us carry out our vaccine studies. But the other is to compel the government to do more. If we could have success stories using antiretroviral therapy within China, so that the government say this is our experience. This is not just some U.S. experience or some European experience, but it is a domestic experience. And we hope, and that our effort will lead the way. And in fact, we think it already has when we launch our treatment study in Quinling (Misspelled?) in October. One day prior to the launch, the government announced that they're going to set up 50 to 100 treatment sites.

How that is going to be possible given that there are only a handful of physicians who could actually treat at the present time, is beyond me. But it's certainly, if we see the success of antiretroviral therapy within China, I have very little doubt that there will be an outcry. There will be a demand for such

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therapies. And that will hopefully compel the government to do a lot more.

**ELISABETH ROSENTHAL:** Thank you. I have a question coming from the audience, but I want to add to it to Dr. Solomon. And others can add in as well, because I think it concerns all countries. The question is about the generic antiretrovirals and how come they're sold in Africa for \$300 a year, in India they cost \$400? I should say that in China where they're not approved yet, but are in the approval process, they're projecting a price of \$600. So what -- why is -- what about the difference? And is it true that the generics and SIPLA (Misspelled?), obviously, makes its own medicines. I know a lot of those get exported. How is the need for treatment within India balanced against the business interests or the export?

**SUNITI SOLOMON:** In the beginning, I think people were -- I mean I had lots of calls from New

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York and Washington, asking is it fair for you people produce, generate drugs, you know, breaking the patent? So I said it's a matter for us is poverty and the pandemic. It's not the whatever, you know, the power and politics behind it.

For me, it's human life. So it doesn't matter what it is. These are life saving drugs. Now why is it being sold cheaper in Africa? Maybe they buy it in bulk. Because in India, the Indian government hasn't bought in bulk, because they don't believe in treating people with HIV -- antiretroviral as yet. Though we were like Dr. Ho was saying, trying to do a project where we can prove like results that over a period of four, five years, that the government would have a profit treating patients with the antiretrovirals, reducing the illness episodes, etcetera, and the - - you know, the wages of people.

So maybe until then, the government many not be in a position to buy in large bulks. But

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we as NGOS have been asking Dr. Hamid of SIPLA (Misspelled?), why don't you give us drugs? They have now pledged that they would give us drugs for any research projects we do to prove that antiretrovirals are going to help to reduce the costs over a period of time. So I think we just have to do some study within a developing country we can prove this.

**MALE SPEAKER:** They are targets. It's been that. I think probably the difference in price is the -- India, the company's producing this are private companies. Whereas in Thailand, or in Africa, may be produced by the government companies. So they don't make much profit anyway. And that may be one of the answers.

However, no matter how cheap the price are, the problem is even, you know, for example Malaysia, Singapore, where they don't -- the government don't put -- provide drugs to the patient anyway, the cheap drugs from Thailand,

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from India, cannot be imported in those countries in need. So how can we get because you know, there are problems of licensing, registration in the country. So if most of the drugs as not go through to those countries, so how -- what -- you know, how can we get the cheap drugs from either India or Thailand to get into Fiji, to get into Malaysia? You know, this is very important issues. I think we'd like to tackle something like that.

**MALE SPEAKER:** With China being a recent entrant to the WTO, I think so far, it's reluctant to break international law. And it's synthesizing generic drugs that are appropriate to do so, and synthesize other drugs that have a not profit patent protection within China. The companies are anxiously awaiting to see what the country would decide in terms of compulsory licensing by declaring emergency.

And in fact, one company in China has

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already four approved drugs within China made.

And they have four or five more already made, but just waiting to see what the government would do.

**ELISABETH ROSENTHAL:** Right. They don't have approval to sell in China.

**MALE SPEAKER:** Right, right.

**ELISABETH ROSENTHAL:** They have approval to manufacture.

**MALE SPEAKER:** Right. And so -- and in fact, this is a company that has traditionally provided the ingredients to Brazil and India, what they're manufacturing. So I think a lot's going to happen, depending on what the government decides to do.

**ELISABETH ROSENTHAL:** You had one?

**SUNITI SOLOMON:** Yes, I just have one more thing to add. We're all talking of drugs, but do you know most of our patients are starving? You know, poverty. So what is the point of putting all the antiretroviral drugs into an empty

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stomach? So I think it's just not drugs. We need to think of a patient as a whole. For example, in our center, we said we would give one square meal a day to every patient who came in. So how do you get the money for it? And I went around to my friends and said, hey, on your birthday, you buy open royal salute. It costs 5,000 rupees. Why don't you give me 1,000 to feed 50 people? And I have now 365 friends who every day of their birthday give me that money.

So without any help from outside, the money comes in, and the patients get fed. At least one square meal. I think we need also to think of a patient as a whole, and not just drugs or whatever.

**MALE SPEAKER:** Just to extend that thought, obviously that's a hugely important point. I -- we have a treatment study with -- in which the drugs are actually donated. So it's free. But yet, there are many more things that

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need to be covered, aside from meals and living expenses. But if you just think about the necessary laboratory testing that are associated with antiretroviral treatment.

And so we actually have the -- while the drugs are donated, we have to go and seek funding to support training of physicians and other healthcare workers as well as to cover an occasional viral load measurement, or occasional CD-4 cell measurement. And these things are non [unintelligible].

**ELISABETH ROSENTHAL:** One thing I wanted to mention before we wrap up about what Dr. Phanuphak said, I think in -- across Asia, we do see that countries with similar economic conditions, you often find very widely varying capacities for treatment. And partly because of this import issue. I mean in China, which is certainly better off than most, Novarapine isn't available. It's not -- you know, it's not -- it

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doesn't have an import license, and it's not made or it's not sold domestically.

So even, for example, UNICEF, which is doing two maternal mother to child prevention projects, the first two in China in Hunan province now, has to essentially smuggle in its Novarapine from Thailand. So I mean, there are all these sort of crazy things. And while we need to think of HIV treatment as a global issue in terms of, you know, food and testing and all of these things, it's really torture for patients to know that in this country or that country, they might have a chance to be treated. And where they happen to be at that point in time.

And I'm sure between patients within a country where some have access to antiretrovirals and others not, it's a huge issue. And one last thing I wanted to quickly ask, when you start someone on antiretrovirals in either India or Thailand, do they have an -- can you guarantee

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them continued access? Or do you find people  
having to go on and off treatment?

**SUNITI SOLOMON:** In India, they're very --  
when they see the other patients improving, they  
all want to go on ART, but we do a financial  
counseling to find out if they can. So at least  
if we know they can go on for six months, and then  
as you said, where there's a will, there's a way.  
Okay, so what we do is whenever I come to U.S.,  
except this trip, I go around to the doctors and  
ask them, have you any drugs which are leftover?  
You know, where patients stop or they do -- go on  
salvage therapy? So the drugs are left? We  
collect all that and my bags are full of drugs  
when I go back home.

So we line that up, and then we say okay,  
this patient was on so long. And this month, he  
has no money. So we substitute our drugs for  
that. So we fill in the gaps like this for  
people, but this is a major problem. We're

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[unintelligible] assistant testing because you  
know people start and they stop when they don't  
have money. It's a major problem when this  
happens.

**ELISABETH ROSENTHAL:** And then in  
Thailand?

**MALE SPEAKER:** In Thailand, the only  
problem see if the patient have to pay by  
themselves, they might be interrupted.

**ELISABETH ROSENTHAL:** I think we're out of  
time. There was one more question from the floor,  
but -- so I encourage you to afterwards ask the  
speakers themselves. Thank you.

[applause]

**ALLAN ROSENFELD:** I'd like to thank the  
panel.

[END TAPE]

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