So I'm pleased to welcome you to this, the second in the 2008 series of Voices From the Vanguard. This is a joint effort between the Center for Tropical and Emerging Global Diseases and the Knight Chair in Health and Medical Journalism, that is Pat Thomas from the Grady College of Journalism and Mass Communication. And as you know, this series is designed to bring together people with a variety of interests in global health from across the breadth of UGA's campus and beyond. And so I'm really pleased that you're here today. Before I introduce Dr. Garnett Stokes, the dean of Franklin College of Arts and Sciences, who will introduce Dr. Kim, I just want to put a plug; we have two more of these lectures. One is on March 18 and that's Dr. Frank Richards from the Carter Center, and on April 15 Amy De Groot from Brown University and EpiVax. And so, if you haven't all decided to go to the field by then, after you hear today's speaker, we would like to have you back for those two lectures as well. One other announcement, and that is that as usual there's a reception in Demosthenian Hall right next door following the lecture, so I hope you will join us there. Now without further advertising, I'm pleased to ask Dean Stokes to introduce today's speaker. For those of you who were here ten minutes ago, you're really fortunate that you missed the dance that we might have done to keep you occupied during the few minutes that we had to wait. It's really hard to know what to do with an
audience, so thank you for being patient.<br/>

I'm really truly delighted to introduce to you today Dr. Jim Yong Kim,<br/>
the director of the Francois Xavier Bagnoud Center for Health and Human Rights,<br/>
at the Harvard School of Public Health,<br/>
and what I understand is the FXB professor of health and human rights.<br/>
Dr. Kim received his undergraduate degree from Brown University, his medical degree from Harvard Medical School, and his PhD in anthropology from Harvard University.<br/>
He was executive director and a founding trustee of Partners in Health, an international not-for-profit organization that operates clinics and other programs across the globe.<br/>
All told, Dr. Kim has spent 20 years working to improve health in developing countries.<br/>
In 2002 Dr. Kim took a 3 year leave of absence from Harvard and joined the leadership team at the World Health Organization in Geneva.<br/>
After 2 years as a top advisor to the World Health Organization's director general,<br/>Dr. Kim was tapped to oversee all of the organization's HIV/AIDS activities.<br/>
He focused on prevention and on novel treatment strategies, including the 3 by 5 initiative designed to put 3 million people in developing countries on AIDS treatment by the end of 2005.<br/>
After 3 years with the World Health Organization, Dr. Kim returned to Harvard where he holds a professorship in the Harvard Medical School and is chair of the Department of Social Medicine.<br/>
Additionally, he is the chief of the Division of Social Medicine and Health Inequalities at Brigham and Women's Hospital in Boston.<br/>
Dr. Kim received a highly deserved MacArthur Genius Award in 2003,
and in 2006 he was selected as one of Time Magazine's 100 most influential people.

Today we are very fortunate to have Dr. Kim share with us how his clinical experience in developing countries, and administrative responsibilities at the World Health Organization led him to think differently about solving our public health problems.

Please join me in giving our warmest University of Georgia welcome to Dr. Kim.

[applause]

>>> Thank you very much.

I apologize for a little bit of a delay. I was coming here from Atlanta and as we were leaving the airport, the car that I was in hit some patch of something - the tire blew out and we were sitting in the middle of the highway for about 30 minutes waiting for someone else to come along.

But someone did and I'm here and it's great to be here.

You know, I'm going to try to give you a sense of what I think is really happening in global health.

Global health is now one of the most popular areas at Harvard Medical School. Every year we have about 150 first year students, and I have the great privilege of teaching them, literally almost the first day they arrived at the medical school.

And for the last two years, out of the 150 medical students, at least a third of them have told me that they want to make a career out of global health.

It's not surprising, the two richest men in the world - Bill Gates and Warren Buffett, have put almost all their money into global health and it's a very popular, exciting topic.

So let me give you a sense of where I think we are in terms of global health, about, but also my own sense of what all the excitement is all about, what the problems are that we
still face.<br/>
You know the basic issue is that 10<br/>million people, at least 10 million people,<br/>and some people quote much higher figures,<br/>die every year needlessly and from diseases<br/>for which we either have good vaccines<br/>that can prevent those diseases,<br/>or good treatments to keep people alive.<br/>So 10 million deaths a year is really what we're talking about.<br/>This is a map that looks at particular<br/>countries from the perspective of how much<br/>of a particular problem they have. In this case it's HIV.<br/>You can see that there's still quite a bit in North America,<br/>but then it's Sub-Saharan Africa that really is facing the largest burden.<br/>India also, as you can see, has quite a significant problem.<br/>If you think about malaria, the United States almost disappears.<br/>Now where I just flew in from, Boston, there's a place called the Fenway<br/>where Fenway Park and the Boston Red Socks play.<br/>That used to be a swamp and there used to be quite a bit of malaria<br/>in the early 1900's right in that area.<br/>One of the reasons they drained the swamp<br/>and built Fenway Park was an effort to get rid of malaria.<br/>The Ohio River Valley used to be an endemic area for malaria, but look at what's happened now.<br/>The only thing that's kind of merciful about this map from my personal perspective is that down here, if you go back, this is Lesotho, the country that I just came from last week that has the third highest rate of HIV in the world.<br/>And if you look at this map, Lesotho,<br/>the only good thing is it's a little bit higher elevation so there's no malaria.<br/>But you can see how bad malaria is,
malaria<br/>
is almost strictly an African problem.<br/>
If you then look at public health
spending, all of Africa almost disappears.<br/>
The only state that you can see a
little bit is really South Africa.<br/>
What about private health spending?<br/>
This is something that is going to be
an issue in this presidential election,<br/>
public health spending, private<br/>health spending...<br/>
I was just reading today,<br/>the minister of health of South Africa is a<br/>very, what should I say, a very colorful person<br/>who refused to get on board with our
effort to treat more people living with HIV/AIDS,<br/>and said things for a time like,<br/>HIV/AIDS is really not something that you can<br>treat with medicines, medicines are very toxic,<br/>you have to be careful, and she and<br/>I really had a battle for a while.<br/>And just today she was in the news<br>saying that you rich countries have<br>/to stop taking health workers from<br>Africa, which I couldn't agree with more,<br/>but it turns out that South Africa has stolen<br>lots and lots of health workers from Lesotho.<br/>Lesotho trains about 100 new<br/>medical doctors every year.<br/>They pay for their education,<br>mostly in South Africa.<br/>In any given year, if they can get<br>two or three to come back to Lesotho,<br>mostly from South Africa,<br/>they feel very fortunate.<br/>The country of 2.2 million people,<br>there are about 80 doctors in all of Lesotho;<br/>and of those 80 doctors, exactly
10 are originally from Lesotho.<br/>
So the human resources problem is also just staggering.<br/>
All the work that we're doing to try to bring better health care services,<br/>
how do you do it with a picture like that?<br/>
So let me tell you a couple of stories, and I'm an anthropologist and anthropologists live and die with stories that they can tell.<br/>
To try to illuminate either great theory or specific problems that might be interesting.<br/>
This is a community called Carabayllo, Carabayllo is on the northern cone of Lima...<br/>
and from most people's perspectives in the United States you'd see this and you'd say, wow it's just a terrible poor area.<br/>
But there's some clues that give it away in terms of, in the sense that this is the wealthiest area that we work in.<br/>
If you look at the picture carefully see that there are lights and electricity.<br/>
Half the homes have running water and electricity inside them, which is something<br/>
that we can't say for almost any other area that we work.<br/>
We work in rural Malawi, we work in rural Lesotho, we work in rural Rwanda, we work in Chiapas and some of the poorest communities, and we work in rural Haiti of course where there's still no electricity.<br/>
Siberia, Siberia's sort of one of the more developed areas again that we work, but Siberia an average physician makes about 30 dollars a month in terms of income.<br/>
So this is Carabayllo, we came to Carabayllo to do a pretty straightforward project and we found patients like this.<br/>
So this is an elderly woman who has been treated for tuberculosis. When this picture was taken she'd been treated 4 times in what was one
of the best tuberculosis treatment programs in all of the world for a poor country.

Peru had a fantastic tuberculosis treatment program, and they cured about 85 to 90 percent of their patients, but for some patients, they weren't getting the cures, and the reason was, we thought, fairly straightforward - MDR TB.

MDR TB, multi-drug resistant TB.

Now my guess is that folks from Athens Georgia and near Atlanta know what MDR TB is. You remember the guy who got on the plane? And so we heard that he might have been infected in either Peru or Vietnam, right?

So there's not a lot of MDR TB here. If you're living in Atlanta, Georgia, you're not going to walk into a movie theatre and get infected with MDR TB.

You have to go to places like this.

MDR TB by definition is tuberculosis that is resistant to the two most powerful drugs; isoniazid and rifampicin.

Rifampicin is the most powerful drug and it's the last drug that was ever discovered and brought to market, strictly for the purposes of treating tuberculosis, that was over 35 years ago.

So we've had no new drugs for tuberculosis for almost 35 years.

Now this woman kept getting treated over and over and over again, and we knew that she had drug resistant TB.

Now how could we find out? Well when we started asking questions, the local authorities got very angry.

So we know what we'd have to do is take her sputum, and take it to Massachusetts because there's no place in Peru that could actually do the studies that would prove that she had drug resistant tuberculosis.

So we fly back and forth, I
used to fly back and forth<br/>
<time begin="00:12:28.25"/>at least twice a month or so when I was in,<br/>
<time begin="00:12:32.67"/>when we were just starting this project, and<br/>
we always flew through Miami and if you go<br/>
<time begin="00:12:38.34"/>to Miami airport, there's all these signs up<br/>
that says you can't bring birds or animals<br/>
<time begin="00:12:43.57"/>or food, but there's nothing<br/>
that says you can't bring sputum.<br/>
<time begin="00:12:46.04"/>[ laughter ]<br/>
<time begin="00:12:46.68"/>So we brought the sputum in hand<br/>
luggage, we'd have her in particular,<br/>
<time begin="00:12:54.14"/>we'd have a lot of water the night<br/>
before<br/>
to get hydrated and then 4 o'clock<br/>
<time begin="00:12:57.96"/>in the morning we'd go tap on her<br/>
back, she'd give us the sputum sample,<br/>
<time begin="00:13:00.74"/>we put it in one of those little<br/>
sort of little lunch box things<br/>
<time begin="00:13:04.42"/>and carry it through Miami airport.<br/>
<br/>
<time begin="00:13:06.16"/>The amazing thing is we never got<br/>
done that. But of course it was clear,<br/>
<time begin="00:13:11.71"/>what she had was drug resistant<br/>
tuberculosis,<br/>
<time begin="00:13:16.15"/>to 5, 6, 7, 8, 9, 10 drugs<br/>
sometimes.<br/>
<time begin="00:13:21.03"/>We have documented cases back in the early<br/>
1990's of what they're now calling XDR TB,<br/>
<time begin="00:13:26.54"/>extensively drug resistant<br/>
TB, which is resistance<br/>
<time begin="00:13:30.27"/>to the first two drugs plus<br/>
two more classes of drugs.<br/>
<time begin="00:13:34.91"/>So when we saw this we said,<br/>
well what are you going to do?<br/>
<time begin="00:13:37.22"/>This particular community of<br/>
Carabayllo, that I<br/>
showed you a picture of, out of 100,000 people<br/>
<time begin="00:13:41.30"/>who are living in that community, we<br/>
had documented 50 cases of MDR TB;<br/>
<time begin="00:13:46.68"/>so 50 out of 100,000 MDR counts as<br/>
an outbreak.<br/>
<time begin="00:13:50.77"/>Of all cases of TB in the United<br/>
States<br/>
in the last couple of years, was around 6<br/>
<time begin="00:13:56.16"/>or 7 cases per 100,000, so if you<br/>
have<br/>
50 cases of MDR TB it's a real problem.<br/>
<time begin="00:14:02.31"/>So what do you do?<br/>
<time begin="00:14:02.82"/>Well we said we have to treat these<br/>
folks right?
Well the World Health Organization said no.

In developing countries, people with multidrug resistant tuberculosis die because effective treatment is impossible. So the first thing they said was, it's impossible, you can't even do it if you wanted to, even if you had the money it's impossible to do. They also said it's too expensive, and it detracts attention and resources away from treating regular TB. Now right at this point in 1996 the cost of treating a person with drug resistant TB, just for the drugs, was over 25,000 dollars. So it made sense. Back in those days the Peruvians could treat a case of regular TB for around 150 dollars. Why would you treat people for 25,000 dollars when you could treat the garden variety TB for 150 dollars? At this point, it was around 1996, that World Health Organization was saying don't treat it, it's not an issue, just ignore it. Some people were even saying it'll just go away. The authorities in Peru were more adamant. They said if you treat a single case of drug resistant tuberculosis, we will kick you out of the country. So they were going to kick us out of the country for trying to save someone's life. Happens all the time actually, you'd be surprised. So what do we do? Of course we started treating people, and at first what we did was we borrowed drugs from the local hospital. Brigham and Women's Hospital, and it was great because we were working in Carabayllo with a local priest who was formerly from Boston. And so it turned out that some of
his former parishioners were working in the pharmacy, so we started an account - and this is Paul Farmer and I when we were still in training at Brigham and Women's Hospital - and we just started an account, we started carrying drugs and there was no basis for us to start an account, we didn't have any money and we ran up a bill of 96,000 dollars. And the president of the hospital then called some of our teachers and said, what the hell is going on? These guys have a bill of 96,000 dollars. We were hoping he'd pay it, the president. He never did but let me tell you, the Brigham and Women's Hospital has given us something like 10 or 15 million dollars now to do this work. We were hoping he'd pay it, the president. It's just extraordinary that one of the fanciest hospitals in the world, has put so much time and energy into helping us treat patients like this. So we treated them, we got about an 85 percent cure rate, we were paying 25,000 dollars per person, and we had a meeting in Boston. We invited all the leaders in the TB community and we showed them our results. 85 percent cure rate in our first group of 45 patients. They were stunned. They really didn't think it was possible. They didn't think there was any way to use these old, toxic, weak drugs and cure people. And this is just how we did it - we trained community health workers to go to these people's homes and actually give them injections. In this case she's giving an injection of something called capreomycrin, a very old drug made by Lilly and Company.
that is not used anymore because it's weaker and has more side effects than the currently available drugs, and you have to give it by injection. So at that meeting, April 1998, the World Health Organization said okay, we can't say anymore that it's impossible to treat. What we'll do then is to try to figure out how to organize ourselves so that we can come up with some good protocols for how to treat it.

But they said you know, it's all well that you've learned how to treat it and you've shown us that you can treat it, but the price is too high; 25,000 dollars is no way. So I asked them, my PhD I wrote on the International Pharmaceutical Industry. So I investigated these drugs that were 25,000 dollars, and it turns out that they were all old generic drugs. And the only reason they were expensive was because they were only used in wealthy countries.

So Eli Lilly for example, was making the drugs and a single vial of capreomycin, cost 30 dollars when we started. And it cost 30 dollars because Eli Lilly was only making it because they were the last manufacturers in the world. They were the only ones making it so they felt like they had to do it in a quality assured way.

They were the only ones making it so they felt like they had to do it in a quality assured way. So we put a committee together and we tried to get as many people who were interested in treating drug resistant TB together as possible, Medecins Sans Frontieres, the Doctors Without Borders group, put up a million bucks and within a year we brought the price of the drugs down between 85 and 98 percent. Now when I first asked the guys at WHO,
do you know these drugs are generic?<br/>
<time begin="00:18:51.18"/>They said, what do you mean?<br/>
<time begin="00:18:53.86"/>So here was a group of people in<br/>
Geneva, having declared a death sentence on any poor person<br/>
in the world with drug resistant TB, and they didn't know that these were generic drugs<br/>
<time begin="00:19:06.06"/>and that the prices could be brought down.<br/>
<time begin="00:19:08.45"/>Now I wish I could tell you that<br/>
rare event, that people in powerful places<br/>
<time begin="00:19:12.78"/>like the World Health Organization, never<br/>
make mistakes like that; that the interests<br/>
of poor people at some point are advocated for, but this happens all the time.<br/>
<time begin="00:19:23.01"/>It happens all the time and it happens<br/>
because the poor don't have a voice.<br/>
<time begin="00:19:27.05"/>They weren't sitting in those rooms saying,<br/>
<time begin="00:19:28.39"/>but wait a minute did you really do all the homework?<br/>
<time begin="00:19:30.61"/>Is it possible to bring these prices down?<br/>
<time begin="00:19:32.92"/>No one ever bothered to look, and it took<br/>
us about a year to bring the prices down.<br/>
<time begin="00:19:38.94"/>The thing that was most surprising<br/>
to me about this particular process,<br/>
<time begin="00:19:44.06"/>was how unbelievably easy it was.<br/>
<time begin="00:19:48.45"/>So from 2000 down here to 2006, lots of<br/>
countries are working on drug resistant TB.<br/>
<time begin="00:19:57.18"/>But as our friend from Atlanta revealed, we're not out of the woods<br/>
<time begin="00:20:02.40"/>and in fact a little bit later I'll tell you<br/>
<time begin="00:20:04.29"/>about an epidemic that scares<br/>
the hell out of me.<br/>
<time begin="00:20:06.80"/>It's the worst epidemic that I've ever seen in a developing country.<br/>
<time begin="00:20:11.80"/>This is graph of live expectancy.<br/>
<time begin="00:20:13.79"/>Everybody should know this graph.<br/>
<time begin="00:20:16.55"/>This is what's happening to life expectancy in Africa because of HIV.<br/>
<time begin="00:20:21.28"/>So if you look at some of the graphs,<br/>
Botswana is the most remarkable.<br/>
<time begin="00:20:25.00"/>Botswana is a country that has diamonds.
Their life expectancy was about 63 in 1985, and it's plummeted to 40 by 2004. So HIV for Southern Africa is one of the worst possible disasters that you could imagine. Sebastian Mallaby, a writer for the Washington Post, once wrote that people looking back at our generation are not going to ask about terrorism or the economy or even the war. What they're going to ask is how did we let AIDS get this bad and not do anything about it? There's going to be a lot of things now I think that define our generation, war as being one of them. But I truly think that our response to Africa and specifically our response to HIV/AIDS, will define our generation. Here is a set of countries, especially Sub-Saharan Africa, that are extremely poor. Many development specialists have written off Africa. They've said you know, it's just hopeless. All the countries that have already developed, Africa's just hopeless. Now I've studied this kind of... how should we say... sort of the process by which academics and specialists write off entire countries and regions, and I would just say be very wary. In 1900 there were reports all over the place from people who said, you know this particular country is so backward and savage, the people have no culture, they don't know how to read, the culture is just so backward it will ever develop. Those people were talking about Japan. In the 1950's they said the exact same thing about South Korea. So almost word for word, the things that were being said about Japan in the early 1900's
and Korea in the 1950's, are being said about Africa now. And if we don't get on top of the HIV/AIDS epidemic, the prophecy may come true finally. My own sense is that Africa, just like any other country, can develop just fine. But if we don't jump on the problem of losing 25 years of life expectancy in a decade, Africa will be doomed. You know, the AIDS story is one of the most important stories again, of our generation for a lot of reasons beyond what it's doing to Africa. So most of you probably weren't born when the first stories of AIDS came to light. It was 1981 and in 1982 I entered medical school. We had just heard about it, we didn't know how AIDS was spread, we knew that it was almost uniformly deadly. When our medical school class at my first year at Harvard Medical School, one of my classmates had to interview for the first year set of activities, a person with HIV, and they literally put a moon suit on him. We didn't know if it was spread through airborne means like tuberculosis, we'd not even identified the virus yet, we didn't know what it was. And for the first five years or so, we didn't do very much about it, and what happened was activists - mostly gay white men - started taking to the streets and they demanded that NIH focus on research for AIDS drugs. And these two people here, this is Paul Volgadene and Peggy Fishel, these are really wonderful people who've worked their butts off for 25 years in trying to find drugs and other treatments for HIV/AIDS;
and they'd get blood thrown on them on a regular basis. I've gotten to know these guys very well, the AIDS activists. The group was called Act Up, and Act Up was very famous because they just scared everybody. They scared scientists, they scared politicians, they chained themselves to the White House fence. They would go into the NIH buildings and throw blood on researchers because they weren't doing enough around HIV/AIDS. But the good news is that it worked, and it worked so well that we started getting new drugs at such a regular pace that it looks like people are going to live for 25, 30. That are becoming available now. So we've turned what was an extraordinarily frightening death sentence into a manageable chronic disease. And in 1996, when the widespread use of the so-called highly active antiretroviral therapy, the triple combination that at that time for the first time included three separate drugs that could be used in combination, we saw death rates drop precipitously. Now this was 1998 right here, so in 1998 the question then for us. So we had been treating drug resistant TB for a couple of years, and frankly we're confident at Partners in Health, we thought my gosh, if we can do drug resistant TB treatment, we can do anything. Drug resistant TB treatment is, I think, the most difficult thing we've ever done in a developing country. It's 18 to 24 months of therapy and almost every day you have to give them an injectable. So you have to inject them every day. Compared to that AIDS treatment is
relatively easy, and especially now
with the fixed dose combination
drugs it's one pill in the morning, one pill in the afternoon.
Nobody else thought AIDS treatment was easy, but we thought it was.
So we started talking about treatment but as recently as 2000, I mean this was not
that long ago, in 2000 people were still saying forget about treatment for Africa.
Forget about treatment for any poor country.
It's just not going to happen.
Protests started again, people demanding look, and the people who were
at these protests were the same people who threw blood on people at NIH.
These were people who said we put our bodies on the line to go through all the clinical trials
to test these drugs, we're the ones who really pushed the research community to come up with these new drugs, damned if we're going to let them be used only for rich people.
So they started protesting drug companies to make drugs more accessible.
At about this time in Haiti, we were seeing patients like this;
and this particular person came to us, was brought by his mother,
and the reason that they came to the clinic was that they wanted a loan for a coffin.
They thought he was going to die.
This is, he was suffering from tuberculosis and HIV when he came to the clinic and he literally looked like he was going to die.
Three months later he looked like this.
We call this the Lazarus effect of HIV care and when we saw this in the developing country, we knew that there was something special.
We knew that the before and after pictures, the
notion that you can take someone almost dead and bring them to life like this, could change everything. So lots and lots of activity from 1998 when we started, to 2003. This is January of 2003, there was this tremendous amount of activity to push people to start treating in poor countries. But as of 2003, there were very few people on treatment. In Brazil they were treating everybody; there were a couple hundred thousand people on treatment in Brazil. And then we had a little project in Haiti, there were other little projects in Africa, but it really was this PEPFAR project that got things going. January 28, 2003, a very important date for me. He did some really amazing things on this day. On this day he talked about treatment is 300 dollars a year. Now President Bush has been very friendly with the pharmaceutical industry during his tenure, and this 300 dollars a year was the generic price. And the pharmaceutical industry just about... they wanted to kill him I'm sure when he announced this. And then he later would announce that well, he didn't really mean 300, they were going to work with the pharmaceutical industry and the price that they ended up paying was more. Like 5,000 dollars per person as opposed to 300 because they didn't want to upset the international pharmaceutical industry. Now this was a great day. The PEPFAR program was a fantastic program and it still is a great program. There's a lot of problems with it that I'll talk about, but this was a very important day. Not everything on the speech that day was perfect, he also talked about the British government.
has learned that Saddam Hussein recently saw significant quantities of uranium from Africa, which started another process. But that day, the launching of PEPFAR, was really important. On that very day at 4 o'clock in the morning, when I was in Boston, Lee Jong-wook who was my very close friend, whose campaign for director general of the World Health Organization I ran, was elected director general of the World Health Organization. And he called me at about 4 o'clock after he'd been elected and he asked me to come and work with him. So I said to him that I will come work with you, but the one thing that I really insist upon is that we've got to do something in the spirit of what President Bush had done for 15 countries. The PEPFAR program was really 15 countries, we have to do something bigger for the whole world. So we started this crazy campaign 3 by 5. This was one of the most controversial campaigns the WHO ever got involved with. So we took over WHO in the summer of 2003. So there's only 2 and a half years before the end of 2005 to go from about 300,000 people on treatment all the way to 3 million. Everyone told us it was impossible, it's crazy, but already by that time I'd been working with folks who are specialists in quality improvement in business and management, and what they told us was unless you have a concrete target, people won't do anything — especially in developing countries. And I think it was true. So what happened? Well, in mid 2003 when we started there were about 350,000 people on treatment, and those 350,000 people on treatment were mostly in Brazil. There was this rise in the number of
people on treatment, and people who have been in global health for a long time have said they've never seen anything like this. The ministers of health of most of the developing countries were furious at me and they would come and say, how can you expect us to do these crazy things in such a short period of time? But it was that target, it was setting the target, it was moving people along, we set up new guidelines, we simplified treatment protocols, we made generic drugs available at around, the price was started at 300 around 2003, but it went down to 150 dollars per person per year thanks to the Clinton Foundation. So we made things happen and now it looks like we're going to reach our target of 3 million on treatment by the middle of 2008. So we would have missed the target by about 2 and a half years, and I became very interested in the history of WHO and it's pretty clear that missing a target by 2 and a half years is just about the best WHO has ever done in reaching a target. So right around the summer of 2005, there was a meeting and these folks, when we came in January of 2003, President Bush was the only leader who said that it was important to treat people with HIV. By the summer of 2005, just about 2 years later, 2 and a half years later, all of the leaders declared that we should have universal access to HIV treatment. This was amazing, and so I was still living in Geneva in the summer of 2005 and as soon as I saw this meeting happen, as soon as I learned that they had committed to universal access, I prepared to come back to the United States. We were not crazy about living in
The biggest reason was that they had a really, really bad and really, really expensive Chinese and Korean food there. [laughter]

My new theory, my new anthropological theory is that if you go to a country and they don't have good Chinese restaurants, that that economy's probably in trouble. [laughter]

All over Africa, lots of great Chinese food.

I'm Korean, and there's not that many Korean restaurants in Africa.

but there are some great Chinese restaurants.

Alright, so what's the point of setting such a bold target for something like HIV treatment? [laughter]

For me the point is not treating people with antiretroviral drugs. The point is, that clinics look like this all over the developing world.

and what you really want to do is take the money, which is a lot for HIV treatment, and take advantage of the fact that for the first time in history the richest countries in the world, the most powerful men in the world, have committed to providing chronic care.

for a chronic condition for the rest of the life of a poor person.

We've never done that before. [laughter]

HIV treatment means you're going to treat them until they die, and we have never ever committed.

to chronic care for a chronic condition before in such a big way.

So we've always, when many of us, Paul Farmer and I included, when we really pushed for HIV treatment, when I pushed for the 3 by 5 campaign, it wasn't because of antiretrovirals.

It was because we wanted to get the most powerful countries in the world to commit to chronic care.
what's possible is primary care.

So here's what we do: in Haiti, we used HIV money to build a primary care system. If you have the drugs available, if you have trained people, people will come.

In Rwinkwavu, this is Rwinkwavu in Rwanda, we were given this health center. This is a post genocidal state. Many of you know the awful history of Rwanda.

During the genocide many, many people were killed in these health facilities.

This is what the actual health center looked like, so we spruced it up, we began offering primary care.

What we do is instead of just treating HIV, we also treat TB.

We provide services for women's health, we also treat sexually transmitted diseases, and we care for children.

And if you put all those things together, it's really basically a pretty well functioning primary care system.

So we actually had someone from the Clinton Foundation, our partners at the Clinton Foundation, send us a business person to do a business study.

And it turns out that it costs us to provide comprehensive primary care about 25 dollars per person per year.

Compare that to the U. S. in which we spend about 6,000...well it's closer to 7,000 now per person per year.

Now you know, we're doing better.

There are lots of people on treatment.

We're really building primary care systems.

But take the country of Lesotho, and I was just here.

So Lesotho is a small country and it's completely surrounded by South Africa.

So in Lesotho, they have one of the
worst epidemics I've ever seen.

Now this is a complicated graph, and what it really is, is from Centers for Disease Control of the United States, they documented the worst outbreak of XDR TB, that we'd ever seen. Now in Lesotho, 30 percent of the adults are living with HIV. So every third adult has HIV, and now there's this epidemic of extensively drug-resistant TB that's hitting this country, mostly. In this particular case, these XDR TB cases, there were 53 of them. 52 of them died, and the average length of time from the diagnosis of their tuberculosis to death was 16 days. So this is an epidemic that's just ripping through this particular area, and it's everywhere. It's in the mines. We had a group when I was there in Lesotho, we had a group coming from the place that actually was the host of this epidemic, Tugela Ferry. He told me that they have 300 drug resistant TB patients currently on the wards, and the vast majority of those patients have XDR TB. What do you do? It's the most complicated treatment that you can ever imagine, and these people are also living with HIV. What the heck do you do when these people are infecting the Andrew teachers of the world? You have no choice but to actually treat them. There's no way to prevent XDR TB from infecting someone else other than by treating the ones who are sick with it.
So we've got this challenge, this is the challenge we have, it's the most complicated challenge I've ever seen and we're in the mist of trying to deal with it right now. The basic point though, is that it's not XDR TB that we're not doing well with, we're not doing well with vaccines, with primary care, with drug therapies, we're not doing well with any of these things. And I refer to it as an implementation bottleneck. The numbers are terrible. Preventing mother to child transmission of HIV; in the United States, we can prevent almost every single case of transmission. In other words if a pregnant woman has HIV, we can prevent almost every single case. If we have one percent, that one percent is because we've made some grave errors. A woman with HIV who's pregnant should not transmit it to her child. But in Africa it's 25 to sometimes 50 percent of the cases are transmitting HIV to their children, either during birth or afterwards through infected breast milk. The interventions are not simple, but we should be able to get them to everyone. We should be able to prevent mother to child transmission, but about 10 percent of the women who need it in the developing countries get it. Huge amounts of investment, here's Bill Gates, he's putting all his money into Global Health. Warren Buffett just pledged another 37 billion so it's 80 billion. The Gates are doing wonderful things. They're really focused on new tools. Drug resistant TB, what do we need?
We need new drugs. And so the Gates Foundation is really focusing on making new drugs. But what's going to happen if we get all these new drugs and we're still implementing?

And delivering at the rate that we were before?

It just, the implementation bottleneck is just going to get tighter.

There's no law of hydraulics that I know that says if you put a new tool on top of a bunch of old tools that aren't being delivered, that somehow it'll flush them through the system.

It just won't happen. These new tools will simply make inequality worse.

It'll be you folks and travelers, other travelers from the first world who get access to these drugs. The poor won't get access to them.

So what do you do?

Well, I've talked to a lot of people and I've talked to just about everyone at Harvard Medical School and Harvard School of Public Health about how you solve problems like this.

And so what they would tell me is usually one line answers - well, markets aren't working, incentives are misaligned, or they'll say they just don't know,

we've got to give them better knowledge.

Or they'll say they just don't have the management skills,

we should teach them management, or some people have said - I think very effectively -

which is good for us is that there's not enough funding.

Well all these things are true, and at the end of the day what we've come to realize is that healthcare is so complicated.

This implementation bottleneck exists right here in the United States.

The healthcare system in the United States is completely broken.

We spend 7,000 dollars per person
per year, which is about 40 percent more than any other country, any other
developed country in the world. But when there's a new tool, something like a new treatment or a new drug that's really good, it takes us 17 years to get it to the majority of people who need it. In looking around the school, public health and medical school, there's almost nobody who spent all their time thinking about how to improve healthcare delivery. People would study health policy. People would study inequalities. People would study lack of access to care, but all of the studies were very narrow, very focused, usually with one or two variables. That's what we do. It's the same thing that the Getes are doing. There's this notion that if you get to the genetic level and you make new products, somehow it's just all going get better. So I ended up going to the business school, and there's a guy at the business school who's, I was later to find out was the most famous business school professor in the world, Michael Porter, and Michael had started studying the American healthcare system. And I asked him why; he says because I've never seen any industry that was this broken. Mike always says the healthcare system is 19th century industrial and management structure trying to deliver 21st century tools. So we don't get it right in the U. S. either. Now how do you study something as complicated as healthcare? The way Mike does it, Mike is a professor of strategy. And the thing that was so impressive to me about his approach to the problem was that he really looks at the whole situation.
So if you are...<br/>
Mike does things like advise the government of Saudi Arabia, he advises the government of Rwanda, he advises CEO's of the top companies in the world, he can't go in there and say well, I'm only interested in this small part of what you do and in terms of this small part, you should do this instead of that. He's got to give them an overall strategy of how to fix things that are fundamentally broken. So he's starting to study the American healthcare system and he has now taught us how to do this for developing country systems. I don't think that there's any degree program at Harvard and I don't think there are many anywhere, that really teach healthcare delivery and all it's complexity and try to attract the best and the brightest not only in the developing countries where I'm most concerned, but also here in the United States. None of these degree programs at Harvard teach people how to be great at structuring healthcare delivery systems. We do really well with basic science, we do really well with clinical science. Clinical science has only been around for about 25 years. Evidence based medicine, doing clinical research, has only been accepted in the last decade or so. The basic science researchers used to look down on clinical researchers as not doing real science. Well, it's well accepted now. Evaluation science; there's all kinds of work done in that area, also in global health. But I think there's a space for a
whole new field, it's not really going to be a discipline. It's going to be a multidisciplinary field where we train people to be really good at figuring out how to do healthcare delivery. You know on any given day at Brigham and Women's Hospital where I work, there is a group of people who are using the latest research on organizational behavior, on management, on how to change the behavior of other people. Now you'd think there would be doctors, doctors are the ones who should be trying to change the behavior of their patients and of their fellow doctors and others, or maybe nurses who need to change the behavior mostly of doctors. But the people who are using this science of behavior change, probably exclusively in my view, are the drug representatives. And they use it very effectively, they have an interaction with the physician, they talk about their interests, and then they lead them through a conversation that is extremely carefully scripted. And then they go and they buy the prescription records from CVS and the other local pharmacies and they see if their particular interaction led to the outcome that they wanted. So they're using the science of psychology in this case, to actually change people's behavior, and we don't do it! We don't do it, we don't teach it, we don't take it seriously. We teach basic science for the first two years, and then we teach clinical science for the next two years. And invariably these medical students go onto wards and they say, I can't believe how incredibly complicated this is. Why is it so hard, why do I have to be
a hero everyday just to get a test done,<br/>
<time begin="00:44:33.66"/>or to get reasonable treatment for my patients?<br/>
<time begin="00:44:36.23"/>And if it's that bad at Brigham and Women's Hospital,<br/>
<time begin="00:44:39.82"/>imagine what it's like in<br/>
Rwanda, Haiti, and Peru.<br/>
<time begin="00:44:43.74"/>So lots of things are changing.<br/>
<time begin="00:44:46.33"/>In Rwanda we're going to have absolute access to the internet,<br/>
<time begin="00:44:49.94"/>we're going to have wireless broadband<br/>
everywhere in Rwanda in the next two years.<br/>
<time begin="00:44:55.06"/>Peru already has wireless broadband at every corner<br/>
of the earth, every corner of that country.<br/>
<time begin="00:45:01.10"/>So we think that with a combination of<br/>studying in it's totality, healthcare delivery<br/>
in developing countries, with the internet,<br/>we can dramatically transform our ability<br/>to deliver and implement healthcare programs.<br/>
<time begin="00:45:15.53"/>So what are we doing?<br/>
<time begin="00:45:16.33"/>One of the things we're doing is<br/>just going out and capturing cases.<br/>
<time begin="00:45:21.38"/>I went out and asked a whole bunch<br/>of school of public health students,<br/>
<time begin="00:45:24.89"/>and even school of public health professors,<br/>and I asked them a very simple question.<br/>
<time begin="00:45:28.48"/>One of the greatest achievements in<br/>history, and this is not just in medicine<br/>
<time begin="00:45:33.29"/>but in history, was the eradication of smallpox.<br/>
<time begin="00:45:35.91"/>We did it and ended it in 1979, it<br/>was declared eradicated in 1979,<br/>
<time begin="00:45:40.99"/>and I asked people how did we do that?<br/>
<time begin="00:45:42.92"/>What was the secret of eradicating smallpox?<br/>
<time begin="00:45:45.55"/>Does anyone here know?<br/>
<time begin="00:45:46.48"/>We're right next to CDC.<br/>
<time begin="00:45:48.28"/>Okay, nobody.<br/>
<time begin="00:45:50.64"/>One person, alright.<br/>
<time begin="00:45:52.04"/>Well it was something,<br/>
<time begin="00:45:53.70"/>first of all they started out saying<br/>we're going<br/>immunize everyone on the face of the earth.<br/>
<time begin="00:45:58.28"/>They ran out of vaccine though in a<br/>place in<br/>Nigeria, and Bill Foege, who lived and worked<br/>
<time begin="00:46:03.96"/>for years here in Atlanta was the<br/>head of CDC,
devised a strategy where instead of trying to vaccinate everybody they located outbreaks in crowded areas and vaccinated around those outbreaks. They're called the ring strategy. Absolutely brilliant. And so if you talk to anyone who was involved in the smallpox eradication, they will tell you it was not a vaccination campaign, we weren't just going out and vaccinating everybody, it was an epidemiology and management campaign. We had to manage people, we had to move people all over the place, we had to detect outbreaks, go after them. So almost nobody in either the faculty or the students at Harvard School of Public Health actually knew this. Probably about 10 people out of many hundreds in this community. So that's what we started to do; we started to write Harvard Business School-like cases on these great examples of success and failure in global health. We're doing a case right now on the failure to eradicate malaria. That was one of the worse crash and burn failures in the history of global health. and we've got to know what happened. At the business school last year when Jet Blue melted down, you remember during the ice storm it melted down and people were on the tarmac for 10 hours? The business school studied that case 3 weeks after it happened because it was so important. And here we are almost 30 years after the most important accomplishment practically in human history, smallpox eradication, and we still don't teach it. No wonder our implementation delivery is so broken. So we're writing the cases and we've begun teaching a course. So Mike Porter came to Rwanda and spent
2 weeks there, looked at our system,<br/>
and applied business thinking to try<br/>
to understand what we were doing.<br/>
And what he came up with was really<br/>
interesting.<br/>
He said what you guys are getting<br/>right is<br/>
you get the care delivery value chain right<br/>
from the beginning to the end,<br/>
you get prevention, treatment,<br/>
prolonging the time in which people<br/>can stay<br/>
off of antiretrovirals, you do diagnosis well,<br/>
and he showed us how he would do a<br/>consultation<br/>
for either a hospital or a business.<br/>
What are the elements of the chain<br/>
that in the end give you value?<br/>
And it was very, very helpful to us.<br/>
Value at the end of the day of<br/>course, is healthy long life<br/>
for the amount of money that we<br/>spend.<br/>
So he wrote with us a case on<br/>Rwanda.<br/>
We also wrote a case on this<br/>
amazing project in Kenya.<br/>
These guys are absolute heroes, and<br/>the clinic<br/>is still open in the middle of all the riots.<br/>
And it was the University of<br/>
Indiana, the University of Indiana<br/>
in the early 1990's decided to have<br>a<br/>relationship with the new medical school<br/>
in Kenya, in the middle of nowhere.<br/>And they made such a commitment,<br/>
they built up the clinical services,<br/>
they even started research projects,<br/>
they had exchanges with medical<br/>students.<br/>
And that work of building the<br/>foundation was so powerful<br/>that now they are enrolling more<br/>patients<br/>on HIV therapy than anyone in the world.<br/>
They've got a thousand new<br/>patients on treatment every month.<br/>They're up to 80,000 people on<br/>treatment<br/>in this small little clinic in Kenya.<br/>So what they do extremely well is<br/>that<br/>they use their academic connections
to really build what are really nice functioning primary care clinics throughout this particular area. So we start our first course, Harvard School of Public Health, taught about 10 cases and the students loved it. We just got the reviews back and moreover, they’d never heard any of it. These were some of the brightest students, I mean they got into Harvard School of Public Health, they’d had a lot of experience in global health and they just didn’t know any of this stuff. But even my colleagues are still saying no, you know we shouldn’t be so ambitious, we shouldn’t really treat HIV, we should just use money in the most cost effective way, and do whatever it takes to reach value, we should keep our aspirations low. You know, this is something I’ve been fighting for most of the last 20 years: Why should our aspirations be so low when it comes to poor people? The Gravina Access project in Alaska was advocated by Senator Stevens and Representative Young from Alaska, and it ended up at a cost of 400 million dollars. And this was at a time, this was a bridge to link a community of 50 people with a huge megalopolis of 8,000 people. And the people in that community were even saying, no we’ve got boats. But Senator Stevens and Representative Young advocated so hard for this bridge that when Katrina hit, the proposal was to divert funds from the bridge to nowhere to Katrina, and they got on the floor of the senate and the house
of representatives and screamed bloody murder. Senator Stevens threatened to resign if they took money from the bridge to nowhere and diverted it to Katrina. That's the kind of advocate we want for global health. But who is going advocate for this child? This child is Thelma, and we found her in a clinic in Peru. She was suffering from both tuberculosis and HIV, and she wasn't doing very well. And so our community health workers found her and said, we can help. The mother at this point, who was also HIV positive, wanted to just take her home so she could die. After about 6 months of treatment for both HIV and TB, she looked like this. Who will advocate for Thelma? In this case, our team did in Peru, but who will advocate for her among the rich and the powerful who would rather spend money on bridges to nowhere? Sugar. I'm going to really get myself in trouble here, but we pay about 2 billion dollars more for sugar on any given year than we have to, through a mixture of loans and price supports and import quotas. We still have a thriving sugar industry in Florida, and we have no business having a thriving sugar industry if we obey the rules that we apply to every other country; open your borders to competition. The Cubans are so angry that we're not letting Cuban sugar, the Dominicans and others, this is a constant battle. But the sugar lobby knows what it's doing; 2 billion a year. This is Jean Luc from Haiti. He came to us with that very exotic disease malnutrition and with even more exotic treatment of food, this is what he looked
What about corn?<br/>I grew up in Iowa, you can tell from my appearance I grew up in Iowa.<br/>[laughter]<br/>And I love Iowa farmers, I still love the Iowa Hawkeyes,<br/>but over the past ten years the corn industry has gotten subsidies of about 51 billion; so about 5 billion a year.<br/>You know, an Iowa farmer once said at a meeting that if corn subsidies are socialism, then I'm a socialist.<br/>These are projects that started during the depression, corn subsidies, right?<br/>I'm not an expert on this and I'm not saying that Iowa corn farmers shouldn't get these subsidies, I don't.<br/>But what I'll tell you is that these folks know how to lobby.<br/>They know how to advocate for themselves.<br/>This is Asophie.<br/>She's from Haiti.<br>Asophie means no more girls, lots and lots of girls in Haiti are named Asophie.<br>She came to our clinic with tuberculosis and malnutrition, and again with tuberculosis treatment and food she looked like this.<br>What about the defense budget?<br>Now you know, a lot of my friends from Iowa went to college because of the military.<br>I am not against the military.<br>I'm just telling you that these folks know how to advocate.<br>Look at the defense budget and what we spend on foreign aid compared to other countries.<br>And then look at what the American people actually think. So the Pew folks and a lot of others for the last 20 or 30 years, have been doing these surveys every single year and they ask Americans, how much of the federal budget do you think we spend on defense?
And in this particular survey, 18 percent guessed less than 3 percent and it's actually 1.6 percent. Most of them thought it was around 10 percent. When asked what percentage should be allocated to foreign aid, the median response was 15 percent. I don't know what to make of this, it drives me crazy every time I see it. What we're talking about, to be able to provide decent healthcare for every single person on the planet. I'm not against having local governments spend money on healthcare, I think they should. All the African countries committed to 15 percent of their budget for healthcare expenditures at a meeting in Abuja in Nigeria. I think they should do that, but even if they do that some of these countries are so poor they're not going to be able to care for their people. But for 25 dollars a person, we were treating people in Rwanda. If we can double that to 50 dollars per person, we would be able to provide very decent healthcare to every person on the planet... This is the Harvard Medical School mission statement, to create and nurture a community of the best people committed to leadership in alleviating human suffering caused by disease. To live up to that mission statement I think we have to do 3 things very, very well. I think we have to get real about what we're spending on what, and focus in on what I believe is the deep compassion of the American people. I think the American people want to provide healthcare for everyone on the planet. We just got to make it clear that
we're not doing it now but boy we could.

And if we did do that, how differently people would see us in other parts of the world.

You know, I was in Geneva for 3 years and I have to tell you that when that war started, it was not fun being an American in Geneva.

The estimation, the way that people think about Americans is worse than I've ever seen it, and I've been traveling all over the world for 25 years. It's the worst I've ever seen.

So first, let's get the money and let's focus, but the second thing we have to do is we've got to get as good and as rigorous and as committed to delivering high quality care as the businesses are about making money.

That's what I learned. The businesses care more about getting that stuff right than we do in healthcare.

In fact, we do nothing almost to try to get that stuff right.

So we're trying to build a new field.

I really need all of you, especially those of you who are in this field already, to work with us.

We need to write thousands of cases, we need to create a cross university dialogue about what's working, what's not, what are the secrets?

Everybody in the business world knows how Southeast Airlines works and why they're so successful.

And nobody knows how, nobody in our field, knows how smallpox was eradicated.

It makes no sense.

The third thing though, is that we have to open our hearts to the suffering of people like John here.

He came to our clinic in Rwanda suffering from tuberculosis and HIV. But his CD4 count, which is an indication of the progression of his HIV disease, was very high so he didn't need HIV drugs.

And in about 3 months, with just
food<br/>and TB treatment, he looked like this.<br/>So he's developed such a belly actually,<br/>we've got him on an exercise program.<br/>[ laughter ]<br/>But I leave you with this image and I leave you with this thought.<br/>My field is anthropology and...<br/>all time, Margaret Meade, once said,<br/>probably people have later commented to me quoting Lennon of all people,<br/>but Margaret Meade once said, "Never doubt the ability of a small group of committed souls to change the world, indeed." Thank you very much.<br/>{ applause }