Thank you, President Sampaio. Good morning, Honorable Vice-Premier Li, and Dr. Margaret Chan. And thanks to all of you here for this very warm welcome.

I am honored to be here in Beijing to announce a unique and promising partnership between the government of China and the Bill & Melinda Gates Foundation.

I want to thank the Chinese Ministry of Health for bringing us together to accelerate the global fight against TB.

I want to thank the ministers of health and representatives of more than two dozen countries for coming to Beijing to write national plans to fight TB.

I want to acknowledge Margaret Chan and the WHO for their tireless work against this disease.

Above all, I want to express my thanks to Vice Premier Li Keqiang for his leading role in China’s rising commitment to public health.

Vice Premier Li: I have been fortunate enough to travel to China many times. Each time I visit, I come away very impressed with the talent, energy, and creativity of the Chinese people. Today, you have said that the government of China will help commit these strengths to the cause of reducing TB. This is phenomenal news! If China leads in the fight against TB – developing new approaches here in China and demonstrating them to the world – we can see a dramatic drop in the number of TB deaths in the next decade.

We could also accomplish something even larger, if the world’s emerging economies – Brazil, India, South Africa, Indonesia, and China – all increase their commitment to public health. This would give us a much higher percentage of the world’s people applying their intelligence to these problems – and inventing and exporting solutions. That could disrupt old patterns of inequity and help remake the map of global health.

More than 9 million people develop TB every year; nearly 2 million people die from it; and half a million patients a year are developing TB that is resistant to drugs that have been effective for 50 years. Some recent strains have shown resistance to all drugs.

Unless we do a better job of treating TB, multi-drug-resistant TB will make up an ever-rising share of TB cases – until the ratio eventually flips.

Instead of having mostly drug-susceptible TB, we’ll have mostly drug-resistant TB. Sickness and death will multiply, and – because treating MDR-TB costs 100 times more than treating regular TB – the economics of the disease will become catastrophic.
The prospect is alarming. But I believe we will prevent it because of the convergence of two forces: urgency and innovation.

In the history of the fight against TB, we have had periods of urgency, and we have had periods of innovation. But we have not had urgency and innovation together.

In the 19th century, urgency drove people to begin treating TB in sanatoriums. But there was no serious innovation there. In the mid 20th century, we had innovation in the discovery of antibiotics, but over-confidence drained away the urgency, and research stalled – leading to a period of neglect, with no urgency and no innovation.

In the early 1990s, the WHO declared TB a global emergency. Urgency returned, and we saw the scale up of DOTS around the world, particularly here in China, which did an impressive job in scaling DOTS up nationally. The DOTS approach was an innovation, and it saved many lives. But there was no innovation in the tools. The most commonly used diagnostic test today is more than 125 years old, the vaccine was developed more than 80 years ago, and the drugs have not changed in 50 years.

There’s a slang expression in English that we use when you are caught in a fight, but you can’t use all your advantages. We say it’s: “Fighting with one arm tied behind your back.” For centuries, the world has been fighting infectious disease with one arm tied behind its back. That’s why we haven’t been winning.

I predict a future very different from the past because we are finally entering an era of urgency and innovation together.

The rise of multi-drug resistant cases has restored a sense of urgency – and innovations are coming on line with the promise of better diagnostics, new drugs, better systems, and eventually, a new vaccine. Finally, we are ready to put our talent and energy into the fight.

Today, the most commonly used diagnostic test for TB detects only half of all cases. But right now we have an LED microscope that detects 65 percent of cases and allows you to make three diagnoses in the time it used to take to make one.

Today, the most commonly used diagnostic test for MDR-TB takes at least six weeks. But right now we have a much better test – one that will tell you the same day if you have resistance. If you use the slower diagnostic, the patient can go on infecting family members for weeks. If you get the one-day diagnosis, you can begin treatment immediately and prevent new infections.

Quicker, more accurate diagnoses can make a big impact against the combination of HIV and TB. People who have HIV are more likely to get active TB. And TB is the leading cause of death for people with AIDS. If we can diagnose and treat TB in people with
AIDS, we can get them many more years of life to support their families, raise their children, and take care of their parents.

Today, the most commonly used medicine comes in the form of loose pills, and patients have to take as many as 13 pills a day. But right now we have fixed-dose combinations that can bring the pill burden down from 13 to just three or four. This would make it much easier for patients to complete the treatment, cure their disease, and stop transmitting TB.

In coming years, we should be able to replace these tests and treatments with tools that are even more effective.

Within the next two years, we could see a nucleic acid based diagnostic with 98 percent accuracy that tests for drug resistance at the same time. This would attack a top cause of TB – the patients whose TB is missed by the test, who don’t get treated, and keep spreading the disease, including drug-resistant disease.

Within the next ten years, we hope to introduce new drugs that the bacterium has never seen before, and does not resist. Because there would be no drug-resistance in the early years, these new drugs could be standard first-line treatment for everyone with TB, whether they have MDR-TB or not. The need for testing for drug-resistant TB would plunge for years.

Eventually, however, the bacterium would develop resistance to the new drugs as well – which is why it is so important to continue work on a new vaccine. Over the next four years, we’ll have results from trials that could give us a more effective vaccine – and that would be a very important advance in the fight against TB.

There is a great future of innovation ahead of us. But if we don’t keep spending on research, that future won’t happen. It can be hard to make investments, especially in this economic climate. But we have to weigh the investment against the return. My commitment to research comes from my experience in computers and software – and I’m convinced the lesson applies broadly. Some of the best money ever invested – whether by a corporation, a government, or a foundation – is in finding cheap ways to prevent costly problems. The return can be astronomical.

In fact, our foundation’s fight against infectious disease came out of a question Melinda and I began to explore ten years ago. We asked ourselves where a dollar of funding can get the biggest return in saving and improving people’s lives. We believe that TB – given the scale of the problem, the rising urgency, and the innovations ahead – is one of the best investments in the world today if you want to make people’s lives better.

Of course, one foundation’s effort is never enough. You have to find partners who feel the same way.
I am honored to announce today that the Chinese Ministry of Health has begun a new project here in China – in partnership with our foundation – to develop, demonstrate, and scale up new innovations for fighting TB.

The rise of TB around the world has had a powerful impact here in China. The WHO estimates that China has 15 percent of the world’s TB cases, 1.3 million new cases a year, and more than 200,000 deaths annually. In addition, according to the WHO, China has more than 20 percent of the world’s drug-resistant cases, the second-highest rate in the world.

At the same time, the government of China is intensifying its commitment to public health. In January, the government announced a $130 billion initiative to improve health care in China.

Because of its skill, its scale, its TB burden, its love of innovation, and its political commitment to public health, China is a perfect laboratory for large-scale testing of new tools and delivery techniques to fight TB.

The Ministry of Health and our foundation will introduce new diagnostics, new forms of treatment, new approaches to help patients complete treatment, and new delivery systems in line with health reform already being planned in China.

We will test these new tools and systems in a population of 20 million people over the first two and a half years, and then scale up the most effective approaches to 100 million people by the end of the fifth year. At that point, we’re hoping the partnership will have demonstrated how to slash the incidence of TB and MDR-TB here in China and around the world.

The partnership is based on a clear premise: The alarming threat of drug-resistant TB is rising because of gaps and mistakes in the way we treat TB. If we improve basic TB prevention and control, we will cut off MDR-TB at the source.

First, the Chinese Ministry of Health is committed to using the diagnostic tools I’ve described that let us know in hours, not weeks, if patients have TB or MDR-TB. This can dramatically reduce the number of people who pass on the disease during the six-week gap between diagnosis and treatment.

These new diagnostic tests could make an immense difference. But we have to remember – they are just tools. Their value depends on the system that makes use of them.

As tools change, systems must change. If systems don’t change, even the best tools may do no good, because they may never get to the people who need them. One of the great benefits of partnering with the Chinese Ministry of Health is its commitment to simultaneously try new tools and modify systems. This is a principal reason I have such high confidence in this project.
Second, the Ministry of Health will make it a priority to purchase and deliver fixed-dose combinations to reduce the number of pills patients have to take. As you know, if patients don’t complete their course of treatment, they’re far less likely to recover, and the strain of TB they suffer from, and transmit to others, is more likely to resist TB drugs in the future. So everything that can be done should be done to make it easier to take and complete the course of medicine.

FDCs have been available for 30 years, but still only 15 percent of patients around the world take them. A number of barriers have blocked more widespread use. It is hard to assure the quality of FDCs, and that increases the cost. There have been no high-volume purchasers, so drug manufacturers have had little incentive to make these drugs at a scale the world needs. Also, with a limited number of FDC manufacturers, there is not enough competition to drive down the price of the pills. But perhaps the greatest barrier to wider use of FDCs has been the lack of urgency in the global community to adopt them.

The government of China – by switching to FDCs, doing the quality assurance, and guaranteeing large purchases – will break through the barriers that have kept FDCs so underused. If every country represented here today would also commit to using FDCs, we could, in the next five years, see more than half the world’s patients on FDCs, which would lead to much better compliance and a reduction in the spread of TB.

Third, in an effort to help people complete their treatment, financial incentives for monitoring patients will be improved. Right now, health care workers at the township and village level are expected to monitor patients to make sure they are taking their medicine. But the financial incentives are low, so the workers often do other clinical work that pays more.

Yet research shows that in some areas only 25 percent of patients have trouble complying with the treatment. If the health care workers can determine which 25 percent are likely to have trouble, and can focus their attention on that 25 percent, it quadruples the amount of money available for monitoring each case, and that makes the financial incentive high enough to have an impact.

So the partnership will use technology – such as mobile phones and medicine monitors – to help people comply, identify the patients who don’t, and let doctors move them to more intensive case management.

Melinda and I saw the importance of all these initiatives last summer when we visited a rural village in Hainan and met a mother with TB. It was a sad visit. She had been on TB treatment for months – taking as many as 13 pills at a time. But she was still very thin, she was still coughing, and she was unable to work.

We learned that it was the second time she had TB. If she had had FDCs the first time or if she had been monitored better – perhaps she would not have become sick again. She probably had MDR-TB, but nobody knew, because she didn’t have the diagnostic test. If
she did have MDR-TB, then she wasn’t taking the proper medicine, and it’s quite possible she had transmitted MDR-TB to her children.

New diagnostics, more FDCs, new technology and incentives to ensure compliance, and new systems to accommodate new tools – these innovations will attack this disease at the points that give it strength: the patients who are misdiagnosed, the cases that are never followed up, and the people who are given the wrong medicine or don’t complete their treatment. These are the changes that can save people like the woman from Hainan and her children.

But the most promising element in this project may be this: we won’t need a decades-long effort to bring the results of the project to the attention of someone who can take it to scale. The Chinese government is doing the demonstration, and the Chinese government can take it to scale. Melinda and I have often talked about the importance of partnerships in philanthropy. It’s hard for me to think of a better illustration of what we mean.

As we look ahead to the next decade, the leading indicators in the global fight against TB will be the actions of the world’s emerging economies. It is here that urgency and innovation come together – not only in the same era, but in the same country.

Forty-five percent of all TB cases – and 60 percent of the MDR-TB cases – are in just five countries: Brazil, Russia, India, Indonesia, and China. These countries have the TB burden that generates great urgency, and they have the talent and resources to use the best innovations – and also find new ones.

Brazil’s minister of health announced last week that they are committed to ending their status as a high-TB burden country, and also to helping the fight against TB in Africa.

India has the capacity to make and export FDCs and second-line drugs that would make a big impact in promoting compliance around the world.

South Africa is dedicating its research capacity to host important clinical trials of new vaccines, drugs, and diagnostics.

The world has lost so many lives to infectious disease because the urgency has often been on one side of the world while the capacity for innovation was on the other.

That era is ending. Every country should feel the urgency, whether it is suffering from TB or not. Every country is capable of innovation, whether it has a high-tech economy or not. And every country can adapt its systems to use the best innovations of others. Where a 6-month course of first-line drugs is available, the 8-month course should be abandoned. When FDCs are available, loose pills should be abandoned. When a new test is available that can diagnose MDR-TB in hours, not weeks, every country needs to have it in its national plan.
I hope each one of you makes the most of your authority to give your people the best innovations in the world, and I urge you to develop innovations of your own. Not just for your country, but for the world. If every government has a sense of urgency, and innovation comes from every country, we can get the upper hand against TB – and finally turn this fight in favor of human beings. Thank you.