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Subject: Press Conference of WHO-China Joint Mission on COVID-19

Date: February 24th, 2020 (evening)

Venue: The Presidential Beijing

Moderator: Ladies and gentlemen, and friends from the media, good evening! Welcome to the press conference of WHO-China Joint Mission on COVID-19. I'm Moderator, spokesperson of the National Health Commission of China. Since the outbreak of COVID-19, the international community has been following it closely. As agreed by the two sides, China and the WHO invited Chinese and foreign experts to form a joint mission to investigate the epidemic prevention and control in China. Starting from February 16th, the joint mission has visited Beijing, Guangdong, Sichuan and Wuhan of Hubei province successively and completed all the tasks as planned.

Today we have with us Team Leaders of the joint mission, Dr. Bruce Aylward, former Assistant Director-General of the WHO and senior advisor to WHO Director-General , and Dr. Liang Wannian, Head of Expert Panel of COVID-19 Resposne of China National Health Commission (NHC) . They will brief you on the mission, release the main findings of the mission report, and answer questions related to the mission and the report. Consecutive interpretation is available throughout the press conference, questions can be asked in Chinese or English

First of all, I would like to give the floor to Dr. Liang Wannian for a brief introduction.

Liang Wannian: Good evening everyone! Let me begin with the main purposes and the major findings of the WHO-China Joint Mission on COVID-19.

In response to the relevant interim recommendations of the World Health Organization (WHO)'s Emergency Committee, China and WHO agreed to establish the WHO-China Joint Mission on COVID-19. The joint team was composed of 25

international and Chinese experts in fields including epidemiology, virology, clinical management, and public health. During their stay in China, the joint mission held discussions with relevant departments of the Joint Prevention and Control Mechanism of China's State Council and visited Beijing, Guangdong Province, Sichuan Province, and Wuhan City of Hubei Province for field visits, during which the experts gained a comprehensive and thorough understanding of the epidemic situation, prevention and control measures (especially in urban communities and rural areas), health care services, and scientific research in these provinces and across China. During the mission, the Joint Mission held detailed discussions and consultations with government officials, emergency response teams, senior scientists, front-line health care staff, and general public.

The main objectives of this mission are as follows: First, to understand the epidemiological characteristics of the epidemic, including its source of infection, transmission routes, susceptible populations, and epidemic characteristics. Second, to learn the clinical manifestations of the disease, especially the proportions of mild, moderate, and severe cases and the severity of the disease. Third, to learn the prevention and control measures taken by the Chinese government and in different provinces and the effectiveness of these measures. And fourth, to propose recommendations on the outbreak response in the coming days and months for the Chinese government and for the international community, especially on the international cooperation and research priorities.

The team has major findings in five aspects including the knowledge about the virus itself, the epidemic situation, the characteristics of the epidemic (or the kinetics of transmission), the severity of the disease, and the strategies and measures taken by the Chinese government. The detailed mission report will be shared with the relevant departments and authorities. Here I will briefly introduce the major findings of this mission.

1. Knowledge about the new coronavirus The Joint Mission carried out whole gene sequencing in 104 new coronavirus strains isolated from different locations and confirmed that the homology among these strains reached 99.9%. Accordingly, the Joint Mission believes that the virus has no obvious variation.

2. Epidemiological characteristics of the epidemic In terms of demographic characteristics, the average age of the confirmed cases was 51 years old, and nearly 80% of these patients aged 30 - 69 years. As of February 20, about 78% of the confirmed cases were from Hubei Province.

3. Hosts The hosts of the new coronavirus remain unclear. However, according to the currently available data in China, bats may be its host, and pangolin may also be one of the intermediate hosts of this virus. Scientists are still working on the hosts of the new coronavirus.

4. Routes of transmission It is believed the most common methods of transmission are through respiratory droplets and contact with surfaces contaminated with the virus. However, some evidences have indicated that the new coronavirus has been detected in the stools of some confirmed patients; therefore, it is possible that the virus is transmitted by the faecal–oral route. Some cases also suggest the possibility of aerosol transmission in a relatively small and closed environment. However, the epidemiological significance and value of the fecal-oral route and the aerosol transmission need to be further confirmed.

Familial clustering of COVID-19 has been identified, especially in Guangdong and Sichuan, where up to 78% - 85% of the confirmed cases were from familiar clusters. The familial clustering just reflected that the prevention and control measures in these two provinces are highly effective. Thanks to the these strict prevention and control measures, only the second-generation cases and clusters occurred inside families after the occurrence of imported cases. No continuous community spread was found. Thus, the relatively large number of clustered cases is not too bad.

Close contacts are closely managed nationwide, and they are now tracked and medically observed. Approximately 1% -5% of the close contacts have been laboratory-confirmed as COVID-19 patients.

5. Disease susceptibility Disease susceptibility is another problem. Since the coronavirus is a new pathogen, people of all ages do not have special immunity to it, and it can be inferred that all the populations are susceptible to this new coronavirus. The transmission kinetics of this virus can be divided into three aspects: In Wuhan, the virus probably originated from an animal. After having been adapted from animals to humans, it has formed the ability of continuous human-to-human transmission, also known as the community transmission. However, the number of new COVID-19 cases in Wuhan has dropped on a daily basis since January 23. As of today, its daily number of new cases, including the number of newly reported cases per day, has shown a downward trend compared to its peak level.

In areas other than Wuhan, especially in provinces other than Hubei, the early COVID-19 cases were mainly imported cases, and the main sources of the infection were basically related to Wuhan and Hubei. Local community transmission, including familial clustering, has occurred in some places. There are only a few sporadic, imported cases in quite a few areas, and no community transmission has taken place there. Therefore, the epidemic situations of COVID-19 in these areas are quite different from those in Wuhan and its neighboring cities.

We have also noticed that COVID-19 outbreaks have also occurred in some special places and some special populations, such as the infected medical staff in hospitals. More than 3,000 medical staff members have been infected nationwide. However, the sources of these infections in medical staff (community-acquired infections and nosocomial infections) are still under research. Among these 3000 confirmed and suspected cases, most (and even the vast majority of) of them were in Wuhan, which may be explained by the poor knowledge of the disease at the peak of the outbreak and the lacking of PPE and protective facilities for the exhausted medical staff.

The current data have indicated that the disease are mild and can be cured in most cases. The proportions of mild, severe, and critically ill patients are about 80%, 13%, and 6%, respectively. Some asymptomatic patients have been found. However, whether such cases are patients with asymptomatic infections or carriers whose virus is still in the incubation period warrants further study. It is unclear whether the asymptomatic carriers can also spread the disease.

The case-fatality rate is estimated at between 3% and 4% nationwide. It is about 0.7% in other cities and provinces outside Wuhan. The average interval from symptom onset to laboratory confirmation of disease has dropped from 12 days at the early stage across the country to 3 days in early February. In Wuhan, it was initially 15 days and now 5 days. Thus, the efficiency of disease detection and diagnosis has greatly improved. According to the currently available data, the average time from symptom onset to recovery is two weeks for mild cases and three to six weeks for severe patients. As of February 22, nearly 20,000 cases have recovered from COVID-19.

That's a brief summary of our findings. Thank you.

Moderator: Thank you Mr. Liang Wannian. Let's invite Mr. Bruce Aylward for introduction.

Bruce Aylward: Thank you very much, good evening, ladies and gentlemen.

Before we get to the findings and the assessment of the team, I want to start with a few words to the people of China who lost family, relatives, friends and colleagues, just express the deepest condolences of myself, my team and our colleagues.

One of the things that was a recurrent theme as we traveled around China was just how deeply the loss of life among other Chinese affected people who were involved in this response and motivated them. And it was one of the things we don't normally share, but I thought just as important because it was so striking in the context we've been working.

I'd like to say two thanks before we jump into the specifics. The first is to the leadership of the China and the leadership of WHO who entrusted tremendous responsibility to the team that myself and my incredibly wise colleague Dr. Liang Wanniang have had the honor to lead.

And we also have to say thanks to the hundreds and hundreds of people that we spoke to, we "interrogated" over the last ten days across China. I think we exhausted them as much as the response itself has been exhausting them. And this was important because it was actually their information that helped us peer through what could be a dense fog in any crisis like this which is rapidly emerging, and it can be very challenging to try and figure out those little nuggets of information that eventually help you put together a coherent picture. And what we speak to is the work of some incredibly talented people across the country, and very hard-working people. And just a little aside, as we travelled across the country, we travelled by trains, planes, buses and roads, and every time we got any convenience, all of our Chinese colleagues would collapse and sleep for the 30 seconds they would get before they get working again. And I think it just reflects the weeks, and now almost months of very long hours, we are acutely aware of the time they've given us. So now we'll move on.

Ladies and gentlemen, we have 45 pages of new findings and insights, but there are eight points which myself and Dr. Liang think are what really anchor our findings and what crystalize what we've learned, and those are what I'm gonna take you through. So four of these are about China's response and its way forward and four are about the global response and how we move forward. So the first, of the China side, I want to speak to the strategy they've used, the collective action that powered it, the impact that it has, recovery and the next steps.

So first, what has China done?

In the face of a previously unknown disease, China has taken one of the most ancient approaches for infectious disease control and rolled out probably the most

ambitious, and I would say, agile and aggressive disease containment effort in history. China took old-fashioned measures, like the national approach to hand-washing, the mask-wearing, the social distancing, the universal temperature monitoring. But then very quickly, as it started to evolve, the response started to change. And it moved from this sort of one-size-fits-all approach to a science-and-risk-based approach, which was really tailored to allow it to use different containment approaches and measures, depending on the context, the capacity and really the nature of the coronavirus circulation. So they refined the strategy as they moved forward, and this is an important aspect as we look to how we might use this going forward.

A couple of things have differentiated. The first, they took this old approach and then turbo-charged it with modern science and modern technology in a way that was unimaginable even a few years ago.

Just a couple of small examples. As they cleared these giant hospitals to make space for overwhelming numbers of COVID-19 cases, they moved a huge amount of the routine provision of medical services onto online platforms and other mechanisms that they've really come to a cutting edge with. And when we were in Sichuan, wondering how they were working with the remote areas, they showed us that they have prioritized a rollout of a 5G platform so that they could do real-time contact, support, with investigators in the field, we asked to see it, and in two minutes up on the big screen they pull up an epidemiological investigation team that was in the field, was having problems with something hundreds of kilometers away, and was getting walked through it by the top experts from the province. So it brought a lot of attention to understand this strategy, because it's fundamentally different to the way most people think about approaching a dangerous respiratory pathogen in the modern era.

And this brought us to the second issue about how did they make it happen, make the strategy actually translated in impact? What they've done has only been possible because of tremendous collective commitment and will of the Chinese people from the most bottom-level community leaders we met and talked to, to the governors at the top. It was an extraordinary, what we call all-of-government, all-of-society approach that

many of you are feeling because you live here and you operate it. But it is rare to see that.

There was one aspect of this that struck us as particularly important. You've been hearing about the challenges we are having with the global supply chain and PPE, and many countries start piling and hoarding this. But what we found out was, even though every province was suffering outbreaks, was getting infected, the governors were prioritizing the movement of medical teams and PPE out to Hubei and Wuhan. That's a very important method for the rest of the world about how we work in the kind of solidarity and collaborative action that's going to be needed to beat this virus.

So first, understanding the strategy was key, then how it was applied and got to the incredible level of application. But the key thing is, of course, has it made a difference? Has China made an impact on this virus? That's the next question.

And it's the opinion of the joint mission, after looking at it very closely and in different ways, that there is no question that China's bold approach to the rapid spread of this new respiratory pathogen has changed the course of what was a rapidly-escalating and continues to be deadly epidemic.

I think one of the most compelling statistics is, when I arrived here on the first day, just over two weeks ago, I don't remember the day now, I think it's 9th or 10th of February, anyway, there were 2,478 new cases of COVID-19 being reported every single day, 2,500 new cases being reported every single day when I arrived. So 2 weeks later, on the last day, as you probably know, the number of reported cases here is 416, that's an 80% decline, and the decline that we are seeing is real.

I know there've been challenges with statistics that come out of China sometimes with the changing numbers. And we have to do is look very carefully at different sources of information to say with confidence that this is actually declining. And when you get out into the field, there is a lot of compelling data and observations to support this decline.

First is the steep decline in visits to fever clinics. In one province that we went to, it dropped from 46,000 at one point, on a weekly day or I don't know, for the whole province, down to 13,000, so dropping very quickly despite a heightened awareness of push to get people in and get them tested.

The second thing that we found, and I think Dr. Liang and I were surprised a little bit, yesterday in Wuhan, as we spoke to the physicians, they were saying finally hospital beds are opening up and so we can move people in. This was the first time in weeks that felt there was more than enough capacity, careful I would say that, but they had space. It's not a strong indicator because these are physicians know all these big numbers and statistics saying look, we can actually see the space to move people and care for them properly.

And one of the things that really struck me yesterday, I was speaking to a researcher, a Chinese researcher called Cao Bin, or Qiaobing, I always pronounce the name wrong, who is running one of the most important anti-viral trials in Wuhan right now. When I asked him, what challenges they are finding when trying to implement the trial? He said the single biggest one is recruiting new patients into the trial because of the drop in cases. I want to spend a little bit of time on that issue because I know people look at the numbers and ask what is really happening. And we do as well. I work for the WHO. Yes. But I have 12 people with me who work for the best institutions, researches and public health institutions around the world. They want to be convinced. And very rapidly, multiple sources of data pointed to the same thing, this is falling and it's falling because of the actions that are being taken.

We were also interested in, given the huge cost and sacrifices made by the Chinese people to implement this, what has been the gain in terms of the cases reverted or prevented. So we look at the attack rates for the virus in Wuhan, we look at circumstances in other parts of the country, we try to look at how we could fight them, and then after going through a number of calculations, our assessment is that this approach, what we call an "all-of-government, all-of-society" approach, very old-fashioned, too old in some ways, has probably, definitely reverted, and probably

prevented at least tens of thousands, but probably hundreds of thousands of cases of COVID-19 in China, which is an extraordinary achievement, and so important to the health of this country.

So to break the monopoly of my voice, maybe I can show you a picture to try and illustrate this. So this is the epidemic curve of the outbreak in China. This is not the work of the WHO, this is the work of the Chinese CDC. First let me give credit to the great people who did this.

What you can see here is this rapid exponential growth that occurred with the outbreak in late January and then right up through here, almost to the end of the third week of January, this is exponential growth. And what you would expect, you know there's certain mathematics to the outbreak of infectious diseases, you expect a curve like that to continue going up and then follow a big line like that before it goes down, as it runs out of susceptible individuals and transmission chains.

So what you see is this is rising then it abruptly gets blunted and the skew is coming down like that, which is a picture that often accompanies the use of some kind of measures to change the shape of the outbreak.

So when you look at the difference between what the curve may have been like and what was actually like, that probably represents hundreds of thousands of Chinese people who have benefited from this tremendous effort.

And there's a couple of other graphics that can test your eyesight, but also explain a point. So here's the outbreak that happened in the whole country on the bottom. Here's what the outbreak looked like outside of Hubei. Here are the areas of Hubei outside of Wuhan. And then the last one is Wuhan. And you can see this is a much flatter curve than the others. And that's what happens when you have an aggressive action that changes the shape that you would expect from an infectious disease outbreak. This is extremely important for China, but it's extremely important for the rest of the world, where this virus you've seen in the last few days is taking advantage to explode in

certain settings. And it wasn't easy because what I didn't mention on this slide is every one of these lines represent a huge decision by policy makers and politicians in this country and leaders to actually change the shape with big measures such as, you know, the suspension of travel, the stay-at-home advisories, and other incredibly difficult measures; to make decisions about, but also to get a population to follow. And that's why, again, the role of the individual here in China is so important as well.

So we said a lot of good things about it. But we also, Doctor Liang, and I and the team, we also talked about the problems, and we're very frank about those.

Like in any outbreak crisis, we learn, we learn sometimes we need to move faster. Sometimes we need to act earlier on alerts, we need to know better how to optimize the protection of frontline health workers, how to enhance collaboration on key gaps, even how to communicate and share information with frank conversations about those things, and made recommendations to how they might be addressed as we go forward.

So the last point on China is where next, as these numbers come down, because it is already starting to bolster its economy again, reopen schools in the near future, maybe some weeks. But obviously they want to get society back to a more normal semblance of, what's the best way to put this, probably the new normal, because this virus may be around, we were talking today, Dr. Liang and I, for months.

And as we dug into and try to understand the knowledge, the tools, the capacities have built in China, it's again our conclusion that this is the right thing to be doing, even now, even while we work to get Wuhan still under control and clean out other areas, the country should be getting back on economic and social and health systems footing that it was before. Because this is going to take time.

The key is going to be to continue phasing the lifting of the different measures, and then bolstering even the capacity that they have now. And this is another striking thing about the way China is approaching this outbreak. Because as the case numbers are going down, China is building more beds, it's buying more ventilators, and it's trying to strengthen its public health capacity. Because there's an acute recognition here that just as we force, the Chinese force the tail of this outbreak down, it could come

back up again as people start to move again, the shops start to open, restaurants open, schools open, it's a risk. And that risk is being managed very carefully.

And this brings us to what I think is one of the most important recommendations we would make in respect to getting China fully back on its feet after this crisis. The world needs the experience and materials of China to be successful in battling this coronavirus disease. China has the most experience in the world with this disease, and it's the only country to have turned around serious large-scale outbreaks. But if countries create barriers between themselves and China in terms of travel or trade, it is only going to compromise everyone's ability to get this done. And those kinds of measures need to be anything that goes beyond what's been recommended by the IHR committee, has got to be reassessed, because the risk from China is dropping, and what China has to add to the global response is rapidly rising.

I wanted to spend most of the time discussing China because we're in China, we were here assessing the Chinese response and looking at the way forward. Now I want to move a little bit quicker through the four big issues we had with respect to the global response.

So the first is a global message: this novel corona virus is a new pathogen. Yes, but it has to be considered capable of causing enormous health, economic, and societal impacts in any setting. Today the news you keep hearing, SARS and flu, which one is it like? The reality is this is not SARS and this is not influenza, it's a new virus. It has its own distinct characteristics. And Dr. Liang talked a number about those. And if we don't take advantage of the novel nature of this and the evolving understanding of it, and we only approach it with a binary SARS-influenza mentality, we are not going to have the agility of thinking and approach that we've seen in China that is going to be fundamental to beating this on a global scale.

And to give you a sense of how quickly our knowledge is changing and China is adapting to that, we can look at the issue around the clinical guidance they put out. China is already on the 6th edition of its clinical guidance just seven weeks into this outbreak. And that is an extraordinary agility or a feat for a country of 1.4 billion people to be keeping up that way and taking advantage of it.

So China didn't approach this new virus with an old strategy for one disease or another disease. It developed its own approach to a new disease and extraordinarily has turned around this disease with strategies most of the world didn't think would work.

And the second big point was the strategy, and its ways being adapted and tailored, it worked in multiple settings. The fundamentals of Hubei or Guangdong, or even some of the more sparsely affected areas, like Hainan, again, pardon me, they're built on the same fundamental strategies. So this can work in any setting. You just have to use different aspects of it and tailor to those settings, which again has been a fundamental aspect of the approach here in China.

And that's important because people look at it, the first thing they say is, that wouldn't work there or this wouldn't work here. This is an extremely dangerous or can be a devastating virus. We have to work with what we have, and we have to work fast. And what this country has demonstrated is this can work.

This brings us to the 3rd finding in terms of the global response. And probably the biggest challenge. Because the global community is simply not yet ready in mindset or with the materials to implement the measures that have been employed, the only successful measures we know so far to contain COVID-19 as it has here in China.

In the world of preparedness and planning, and I suffer the same biases as or maybe error of thinking as many people, but in that world, there's still an ambivalence to using what we call non-pharmaceutical measures. So we don't have a vaccine, we don't have a therapeutic. And you hear it repeatedly in the news, people throwing up their hands, whereas China said, OK, we don't have those. Let's get out the old ones. Let's adapt them. Let's innovate and let's stop this virus and save lives. And that's what they've done.

Our report lays out specific details, so I won't go into those, but I would like to say one other reason it's so important to try. China was the first line of defense to try and prevent the international spread of this virus. Because they feared and felt a responsibility. I heard this again and again in China, to protect the world from this virus. And they locked down cities of 15 million people for weeks at a time to try and prevent the spread. Now they drop down that force of infection like we talked about here, that

has in turn slowed the spread without a doubt. But not by much, as you see this week, the virus moves, right? So the reason it's important that other countries think about this and think about whether they apply something, not necessarily the full lockdowns, everywhere need it, but that same rigorous approach, is because they are now the second line of defense, before this virus gets into the low-income countries, the countries that have weaker capacity to deal with something like this.

And this little bit of time could be so important. Remember it's only seven weeks since a completely new disease was described. We have diagnostics, we're trying antivirals, we are probably within months trying vaccines. The situation could be very different with just a few gained weeks.

That brings us to the last point, in terms of the global response, we will gain a bit of time, but we have to be using that time better than we are today.

In this country, outside, we have long lists of research projects and studies. But we've got to prioritize those things that could get the knowledge we need to stop this faster and the tools we need to reduce the morbidity and mortality. And I'll give you one good example. There's only one drug right now that we think may have real efficacy. And that's Remdesivir, as you've heard about. And Cao Bin is having trouble recruiting patients not just because the numbers are falling, but also because we're doing lots of other studies with things that are less promising. We have got to start prioritizing enrollment into those things that may save lives and save them faster. And that's a global issue, not China, it's a global issue.

So for each of these areas, we found some really striking things here in China that are opportunities for the rest of the world, and also things that can be done better in China. And we're, in our recommendations, very explicit about what the answers to those things might be, which things should be prioritized, for example.

So we made 22 recommendations in five big areas for infected countries, for China itself, for uninfected countries. And then we make recommendations which are unique. It's the first time in 30 years of doing this kind of work we put a set of recommendations like this in a report. And what we've done is that we put recommendations for the general public, which we've never done before in a report like this. And that's because

we want to emphasize this can't work without the collective will of the population contributing to it. And that's what really distinguishes this country, this response and the ability to take these old-fashioned strategies, some of the earliest ones we had in public health, apply them to the most modern virus and somehow do that.

I've spoken for a long time, but we're dealing with an incredibly important issue at a very dangerous time as a new pathogen starts to spread around the world. I wanted to make sure that after a very intensive program of work here, that we shared with the rest of the world, just how extraordinary the effort was here. And it's not to praise China, it's to open the door, and have the rest of the world realize there is something that can be done as people are starting to despair over what can we do. But now we're starting to see countries like Italy take extremely aggressive actions. What China has demonstrated is, you have to do this. If you do it, you can save lives and prevent thousands of cases of what is a very difficult disease.

So I'll stop here. But as I close, I want to say a few words to the people of Wuhan. 25 years ago, I visited Wuhan to assess the capacity to eradicate what was at that time another virus, a dangerous virus. And the Wuhan I found was fair bit smaller than today. But it was a bustling, energetic, lively place filled with wonderful people with a great spirit as they went about trying to eradicate this disease I was working on at the time. But when Dr. Liang and I arrived in Wuhan two nights ago, it was a very different place. This city of skyscrapers, which had a gorgeous hypermodern train station, was silent. It was a ghost town. And behind every window of these skyscrapers we drove past, there were people. There are 15 million people staying put in one place for weeks at a time to stop this disease. And as we spoke to the people we were working with in Wuhan, they said this is our duty, we have to protect the world from this disease. This is our role. We are playing our role. And I just thought it's so important that we recognize that, to the people of Wuhan, it is recognized that the world is in your debt and when this disease finishes, hopefully we'll have a chance to thank the people of Wuhan for the role that they played in it, because many of us, many other people here have suffered, but the people of that city have gone through an extraordinary period, and they're still going through it. And there's so many stories like that in this response.

So Dr. Liang, I thank you again for the opportunity to work with you. I probably will not be invited back for a long time because I talk so long, but it's so much to express and explain, and it's so important that the world understands it at this point. Because every day we stopped to think about this disease and make decisions, should we do it or not, this virus will take advantage and almost double the number of cases. We have to move fast.

Moderator: Thank you, Mr. Bruce Aylward. Just now the two group leaders introduced the mission and the main contents of the mission report. After listening to it, I also deeply felt that there are condolences to the deceased who lost their lives due to the epidemic, wishes to the patients who are being actively treated, and respects to all the medical workers, disease control personnel and scientific researchers who are working against time to save lives and contain the epidemic. We are also moved by the unity of the Chinese people and the support from countries and international organizations. As the Director-General of the World Health Organization, Dr. Tedros said, none of us can stay out of this; we must work together to stop the epidemic.

Now we welcome questions from the media about the mission report and the main contents of the report. Please inform your news organization before asking questions. To give more reporters a chance to ask questions, each reporter is asked a question.

BBC: From BBC News. Dr Aylward, you spoke very eloquently about the positive measures China has taken. But of course, for the world fully understand how such a virus on such a huge scale has taking hold in a province like Hubei, causing such a devastating impact on the Chinese economy and threatening the global economy. From the global perspective, we also need to understand what went wrong. But I was interested that you touched on it, but didn't really expand on it, what the lessons to the negative might be. My question to you is this. You obviously spoke to people in Wuhan, the doctors, the people on the front lines. What extent do you think

cover up and censorship played a role in allowing the virus to accelerate at the rate it did?

Bruce Aylward: Do you want one question at a time? First of all, the purpose of the mission right now was look at what works. I'm not avoiding question, but the purpose was what works. We're in a global emergency. Are the things we can take from here that we comply to the others? So we do need to know what didn't work as well to your question. And as I mentioned, one of the things we looked at, it wasn't, frankly, just in Hubei, because also in other areas, there's delays that rapidly acting on alerts can be one issue. This is such a common problem in every single outbreak of an emergent or unexpected disease, because you're not thinking of that disease in that place.

Whether other factors such as the one you mentioned, play role, I don't know, frankly, didn't look at that. I'm just being completely honest. We're really focused on the other. But there were other factors that play as well. This response. I don't think anyone imagined how much hospital capacity was going to be needed for how long. And now we're in a situation where we've got tens of thousands of people (still infected people) in hospital bed recovering in Hubei. And that was another one of the big ones. But the single biggest lesson is speed. Speed is everything. And what worries me most, sorry, I didn't catch it in, but what worries me most is that has the rest of the world learned the lesson of speed? We have outbreaks in multiple countries right now, increasing at exponential growth rates. And you see what that does, you know, this is the difference between getting on top in every other area and exponential growth in one area. It's devastating.

And what I don't understand is China learned a lesson in one way really sour and horrific, but the others 30 provinces have not gotten out of control. It is extraordinary. And then as soon as it hits other countries, boom, it's going like this. And that was the reason I took so long to explain what I did. There's really important lesson about speed here and the aggressiveness of these. These are not control measures that people

know how to do anymore. They don't do case finding or contact tracing, except for Ebola in West Africa or in DR Congo.

This is old fashioned stuff using really modern tools like these to try and that's what China did.

There's one other point to this I think is important as well though and is that the President himself has said the stage for made and we've got to look at this and the reforms needed to make sure that this doesn't happen. He's already said that. And it's gonna call for a reform of whatever's needed in the system to try and address it. So I think there's a recognition, and again, it comes back again and again, the human cost is unacceptable. We've all got to look at our systems, frankly, because none of them work fast enough in these settings.

Liang Wannian: The main purpose of the Joint Mission is to find out which strategies and measures are effective. Of course, what are the optimal interventions for the epidemic in Wuhan have long been discussed among Chinese and international experts. Generally speaking, measures based on the traditional knowledge of known viruses, especially coronaviruses and influenza viruses, will not work for COVID-19. Therefore, Bruce has emphasized this point when he talked about the evaluation results and recommendations earlier. That is, maybe initially we tried to use the existing knowledge (such as knowledge about SARS and influenza) to deal with this new disease and new virus. They failed. The new coronavirus is very cunning and tricky. Our current knowledge is not sufficient. We need to summarize experiences and change measures and strategies before we can stop its spread. This can be said to be our experience, and it was also our inadequate knowledge of it in the early days that limited our action.

CCTV: The Joint Mission has visited four places in China. What’s the mission comment on the disease prevention and control measures in China? And more

importantly, what are your top recommendations on the next-step efforts? Are there any challenges in the current prevention and control work?

Bruce Aylward: The most important message is don't be complacent as cases declined. That's the bottom line. A huge part of the world in China is still susceptible to this virus. It's a new virus, so people don't have immunity to it. So cases have gone down. But there's still a lot of people who are vulnerable and has gone down through a massive effort.

It can come back up and it will require really rapid work again. Sometimes when we're used to dealing with the virus, we get complacent. It's as simple as that. And that is always the single biggest risk. The investments have been made in hospital beds managers, therapies, ventilator, and vaccines. It has to continue because as Dr. Liang said, this is a tricky and dangerous virus, and complacency is the single biggest risk. Thinking you've beaten this virus is the single biggest risk. And China doesn't. Interestingly, despite the success they are worried about or concerned and know that this has to be managed.

Liang Wannian: I agree with Dr. Bruce's recommendations, and the journalist just asked about comments on the effectiveness. Dr. Bruce just summarized his comments with one sentence, a sentence that the Mission members discussed and agreed on, that is, China's non-pharmaceutical interventions have changed the course of COVID-19. Bruce has made this point clear repeatedly through the epidemic curves he just showed. There is neither effective drug nor vaccine for COVID-19 for the time being. However, the Chinese government and the Chinese people have used the non-pharmaceutical measures (or the social measures) including isolation, medical observation, social distancing, and personal protection and prevention. These measures effectively changed the course of the disease, as evidenced by the epidemic curves. I think this is one of the biggest achievements during China's fight against the new coronavirus. In the report we have recommended this method to the international

community. Before drugs and vaccines become available, this measure should be adopted as early as possible.

Another success in China's efforts against COVID-19 is that all the work is carried out under unified leadership but meanwhile follows the principle of scientific, localized, and tailored decision-making that enables the constant adjustment and optimization of strategies and measures.

I think the Joint Mission was quite impressed by these two points.

Singapore Lianhe Zaobao: Regarding the situation in Wuhan, when will a turning point occur in Wuhan and when will the social and economic life of Wuhan return to normal?

Bruce Aylward: Regarding when such a turning point occurred in Wuhan, we have already seen such a turning point in the picture just now. I remember that the number of confirmed cases here dropped about ten days ago. When the number of cured patients is greater than the number of sick and hospitalized patients, this is a welcome change. When the difference between the two is zero, this is a very delicate problem, because we are facing a cunning virus. What we know now is that there are still tens of thousands of patients in the square cabin hospital of the designated hospital in Wuhan. They are in the process of treatment and rehabilitation. On the epidemiological curve, we often see that when this decline occurs, the subsequent decline rate is often faster and faster, which is supported by epidemiological theories. However, in the face of a previously unknown virus history, there is no such precedent, and I cannot hold such a crystal ball to predict when the difference between the two will drop to zero or life will return to normal. But after seeing it for a few weeks, if this number, that is, the diagnosed number drops to double digits, we know that the situation is fully under control.

During the introduction process, Professor Liang mentioned that our concern is that the number of new cases related to the exposure history or residence and travel history in Wuhan is also decreasing, and the risk from Wuhan is decreasing. Of course it is important to manage the existing cases, but we are aware of the risk from Wuhan in this process.

Liang Wannian: I agree with Mr. Bruce's comments. We have repeatedly discussed this issue. The overall judgment is that Wuhan is still the epicenter of the epidemic in China. The current situation is still grim and complex, but to a certain extent, we are now at the most critical period that determines whether the epidemic prevention and control efforts will prevail. The number of new cases per day is decreasing, the number of reported cases is declining daily, the proportion of severe patients and critically ill patients is declining, and the mortality rate of confirmed cases is declining. All these are good news. However, we cannot forget that there are still about 400 confirmed cases and 400 to 500 suspect cases each day, which means that there are some new cases appearing every day, which means that the epidemic situation has not yet been completely contained by us. However, our basic judgment is that Wuhan had an outbreak in the early stage, but the rapid increase of cases has been effectively contained.

Therefore, we strongly recommend that Wuhan still strengthen its prevention and control measures. It is necessary to strengthen the prevention of exported cases. And within Wuhan, two tasks are the key. One concerns the discovery and management of infection sources, which specifically means diagnosing patients and suspect cases as soon as possible and tracking, managing and treating all close contacts. That is the fundamental way to prevent new patients. The second key task is to strengthen the treatment of patients who have been hospitalized. Effective measures, such as the use of traditional Chinese medicine and comprehensive therapy, should be taken to prevent the large number of mild cases from progressing into severe cases. For severe patients, we should do everything possible to implement the principle of "concentrating experts

and resources to treat them collectively" to reduce their mortality. Those are the most critical tasks.

Moderator: Please continue to ask questions.

Sky News: You mentioned some skepticism around Chinese statistics. Given that skepticism, that lack of transparency, why has it taken so long for outside experts from WHO to arrive in China?

Bruce Aylward: So WHO has been here from the start of this crisis, an epidemic, working every single day with the government of China. We've had a team on the ground in Wuhan, on, I believe it was the 19, 20, 21st of January. So WHO was here from the beginning and never left. What's different about this mission is it's complementing with a lot of other external experts. And the invitation to do that was, I think, about two weeks before I landed on the ground, and it takes a long time to put a team like that together. And once we got moving, it moved quickly. And it was the right time to be coming now, in fact, as we have enough information and also space to try and understand what, is anything working, and if so, how is it working? So in terms of WHO, we have a full office here, dozens of people who have been working pretty closely with NHC all along and with multiple areas of the crisis.

And we talked about the numbers, and I can't remember the word I used, but I mean I keep hearing people asking me to explain, why is the numbers like this here, and then the next day it's like that. And in any crisis like this, especially for a new disease, you're trying to figure out what is the case definition? What are the characteristic of every confirmed case? You're trying to be as efficient as possible so you can get people into treatment. And that takes a while to figure out, and numbers bounce around it, that's not unusual. And from my side, what I'm interested always in are the trends. The numbers on the day-to-day basis aren't issues, what's really happening with the trends? If we go back and look over time with China, with all the different information, the trends have been incredibly clear and consistent. So I was

reflecting something I read in the news, and you guys write that. But in terms of the trends, it's been pretty clear. And I'm not surprised the numbers bounce around. I mean I've had to be on the explaining side of numbers so many times in my career.

Moderator: Please continue to ask questions.

Xinhua News Agency: Yesterday, President Xi Jinping said that the COVID-19 epidemic was a major public health emergency with the fastest spread, the widest range of infections, and the most difficult prevention and control in China since the founding of New China. Just now two experts said that this virus is very cunning. I would like to ask why it is the most difficult to prevent and control it? Thank you.

Liang Wannian: Regarding why the prevention and control of this disease is the most difficult, I feel that it is due to the following aspects. Because of this disease, first of all, from the perspective of etiology, is different from SARS. Its transmissibility is currently higher than that of SARS. The indicator R0, "basic reproduction rate", measures the number of people that can be infected by a patient in a natural state. The Joint Mission conducted a comprehensive analysis and referred to the studies by some scholars a while ago, and estimated the R0 value of COVID-19 to be around 2.0-2.5. That means the disease spreads relatively fast, and perhaps even faster in confined spaces. And we don't know much about the virulence. The source of this virus and its pathogenicity are not clear.

What we feel most strongly about this disease is its high latency. A typical symptom of SARS patients was fever. Almost all SARS patients had a fever, and it was high fever, which can be identified with a thermometer. After a patient was identified, we can track its close contacts so that the source of infection can be quickly placed under control. However, in the case of COVID-19, there are asymptomatic patients, mild patients, common pneumonia, severe pneumonia, and critically ill pneumonia patients. The proportion of common pneumonia, asymptomatic infection, and mild patients, calculated with existing data, is relatively large. If these patients do not seek

medical treatment in time, neither the patients themselves nor health care workers can spot it in time, let alone control it and track and manage close contacts. Such latency and elusiveness is a salient feature that sets COVID-19 apart from SARS.

Clinically speaking, most patients in the early days of infection may only show mild respiratory tract symptoms, and some patients have some minor respiratory tract symptoms and fever and cough as well. The progress of the disease is slow, but it can rapidly deteriorate after one week for many patients, and their signs and symptoms often are often disproportionately severe. In addition, available data shows that the virulence of this disease to the elderly and some patients with underlying diseases seems to be relatively stronger. That is a unique clinical characteristic of COVID-19.

And there is no effective vaccine available to protect the susceptible population. Therefore, compared with all the new infectious diseases and major public health events since the founding of the New China, COVID-19 is indeed an infectious disease or public health emergency that is the most difficult to prevent and control, in terms of controlling infection sources, cut off transmission routes and protecting the susceptible population. Thank you.

Moderator: One last question for time constraint.

CNN: Question for Dr Aylward. Your message, your core message to us seems to be that the Chinese way is the way forward, that strategy seems to be this all government, all of society approach seems to be the way to contain this virus. But this is, the government has been able to put half of its 1.4 billion people under some type of quarantine which is something not feasible for the rest of the world, for many countries around the world. Given that, I know you mentioned it as one example, but given that, could you elaborate on what you mean by other measures and approaches that other governments can take to contain this virus?

Bruce Aylward: This is actually a very good question, because people have such prejudices that the Wuhan method and the Hubei method are Chinese methods, but they are not. The Wuhan method and the Hubei method is a special approach in one place, due to the clustered cases at the community level in Wuhan and Hubei. For example, in other provinces, the clustered cases we have seen are clusters of families, and there are no second-generation cases at the community level, so we see that the method adopted in China is to conduct exhaustive case identification and close contact tracing, quarantine, and basic hygiene measures, including constant emphasis on the importance of frequent hand washing to the public. As we all know in hygiene, 30% of infectious diseases of the respiratory tract are caused by hands touching the mucosa of the respiratory tract. Then on this basis, different areas canceled public gathering activities, closed schools, suspended return to work and production, and then slowly progressed to more severe and powerful measures.

At the beginning of our joint mission, I also communicated with Professor Liang. I would say this is the Chinese way, he would tell me, no, this is not the Chinese way; the Chinese approach is tailored to local conditions, and it is a case-by-case approach. Of course, when we pass on the most classic methods of public health, we must use modern technology, because the evolution of viruses and diseases is fast, and we must respond quickly. I want to emphasize that we don't need to adopt the method of shutting down the city, and we don't need to wait for the remission of a disease when the outbreak changes. There is a middle way to go, which is to speed up its response with modern and technical methods like these classic ways. The choice of such a middle way surprised me, and same did my colleagues who work together. Of course, this requires social cohesion at the whole society. The willingness to make such a commitment requires the firm and strong leadership of the government to bring together relevant practices, so that there is clear leadership. I think in this public health emergency, the strength of the people can be gathered, so I want to emphasize that this traditional classic method really works, and it works in China. Let us do the same.

So I also want to take this opportunity to deeply apologize to Professor Liang,

because at the beginning I kept saying that this is the Chinese way, but he was very patient and explained to me again and again, no, this is just the Guangdong way, or this is just the Beijing way. There are many tools and the most basic classic things are the same. Thank you for your patience.

Moderator: Thank you experts, and thank you for your questions. Today's press conference is over.

(End)