



World Health Organization

WHO Virtual Press Conference on the Zika virus

Speaker key:

MC	Margaret Chan, WHO
FA	Facilitator, WHO
TD	Tarun Dua, WHO
BM	Bernadette Murgue, WHO
CD	Chris Dye, WHO
AC	Anthony Costello, WHO
UM	Unidentified male speakers
UF	Unidentified female speakers
RO	Robert
TM	Tom Miles
BS	Bernard Simon
HB	Helen Branswell
ST	Sabrina Tavernise
ML	Mariana Lindardo
VB	Veronique Berglier
MB	Maria Belario
DG	Derek Gabrer
LS	Lisa Schnoeren
MS	Michael Smith
BG	Brenda Goodman
BR	Mrs Brauna

MC Good afternoon and thank you for coming. Perhaps before we begin our discussion of Zika virus infection and its implication it is important for us to take a moment to acknowledge the tragic events today in Brussels. Our sympathies are with the victims of the bombing and of course with their families and their communities.

Now let me once again thank you for coming and joining us for this press briefing. We would like to give you an update on the science and the evidence base that WHO, working with experts of the world, have built up since 1st February.

Let me remind you that the world was alerted to the first appearance of Zika in the Western Hemisphere on 7th May 2015 when Brazil confirmed that a mysterious outbreak of thousands of cases of a mild disease with rash was caused by the Zika virus.

The appearance of an infectious disease with epidemic proportion in a new part of the world is always cause for concern. The absence of population immunity gives a virus licence to spread, to spread rapidly and behave in possibly unexpected ways. At the time of the May announcement the disease looked surprisingly mild with no hospitalisations or deaths reported. Past experience has taught us that we need to expect the unexpected, especially when it is dealing with new and emerging viruses. This came from Brazil in July with a reported increase in cases of Guillain-Barré syndrome, followed by an unusual increase in microcephaly among newborns reported to WHO in late October.

The possibility that a mosquito bite could be linked to severe foetal malformations alarmed the public and astonished scientists. The association with Guillain-Barré syndrome and other serious disorders of the central nervous system has expanded the risk group well beyond women of child-bearing age.

We now know that sexual transmission of the virus occurs.

In less than a year the status of Zika has changed from a mild medical curiosity to a disease with severe public health implications. The knowledge base is building very rapidly and I'd like to recognise all countries and their scientists that have worked so hard under the co-ordination of WHO and the convening of WHO to provide evidence and the science.

Ladies and gentlemen, the more we know the worse things look.

A pattern has emerged in which initial detection of virus circulation is followed within about three weeks by an unusual increase in cases of Guillain-Barré syndrome. Detection of microcephaly and other foetal malformations comes later as pregnancies of infected women come to term. In the current outbreak Brazil and Panama have reported microcephaly. Colombia is investigating several cases of microcephaly for a possible link to Zika. In other countries and territories the virus has not been circulating long enough for pregnancies to come to term. A WHO team is currently in Cabo Verde to investigate the country's first reported case of microcephaly

Today, 12 countries and territories have now reported an increased incidence of Guillain-Barré syndrome or laboratory confirmation of Zika infection among Guillain-Barré syndrome cases. Additional effects on the central nervous system have been documented, notably inflammation of the spinal cord and inflammation of the brain and its membranes.

The virus is currently circulating in 38 countries and territories. On present knowledge no-one can predict whether the virus will spread to other parts of the world and cause a similar pattern of foetal malformations and neurological disorders. If this pattern is confirmed beyond Latin America and the Caribbean the world will face a severe public health crisis.

Ladies and gentlemen, we need to build the knowledge base quickly, very quickly. Since 1st February WHO has convened seven international meetings and published 15 documents that translate the latest research into interim practical guidance to support countries to manage Zika infection and Zika outbreak. Over the past two weeks WHO convened three high-level meetings to look at the science, the convention and new tools for mosquito control and what

we know about the management of complications, including microcephaly and Guillain-Barré syndrome. These meetings help answer pressing scientific questions and gather advice on the best way to respond to a situation that is rapidly evolving.

The science meeting looked at the evidence linking Zika infection with foetal malformations and neurological disorders. Though the association is not yet scientifically proven the meeting concluded that there is now scientific consensus that Zika virus is implicated in these neurological disorders. The kind of urgent action called for by this public health emergency should not wait for definitive proof. As to new medical products, the experts agree that a reliable point-of-care diagnostic test is the most urgent priority. At present more than 30 companies are working on or have developed potential new diagnostic tests. For vaccines 23 projects are being worked on by 14 vaccine developers in the US, France, Brazil, India and Austria.

As the vaccine will be used to protect pregnant women or women of child-bearing age it must meet an extremely high standard of safety. WHO estimates that at least some of the projects will move into clinical trials before the end of this year but several years may be needed before a fully tested and licensed vaccine is ready for use.

Several scientists warned that the first explosive wave of spread may be over before a vaccine is available. However all scientists agree that development of a vaccine is imperative. More than half of the world's population lives in an area where the aedes aegypti mosquito is present. During the meeting on mosquito control the experts concluded that well-implemented control programmes using existing tools and strategies are effective, effective in reducing the transmission of aedes diseases, including Zika. However they also identify a number of challenges in implementing these tools.

The experts evaluated the potential impact of five new tools for mosquito control. None was judged ready for full-scale implementation. While investigations of all five should continue the experts recommended carefully planned pilot deployment of two, namely microbial control using Wolbachia bacteria of human pathogens in aedes mosquitoes and the use of genetic manipulation to reduce mosquito populations.

The third meeting, ladies and gentlemen, looked at the management of complications, including foetal malformations and neurological disorders, and the heavy burden this places on health systems. Evidence supports the likelihood that Zika infection during pregnancy will have a broad range of effects on the developing foetus beyond microcephaly, as we originally thought.

As the experts concluded, a shift in our thinking is needed away from the management of individual cases and towards the longer-term building of capacities in countries to cope with these added burdens. Foetal malformations place a heartbreaking strain on families and the communities, as well as systems for healthcare and social support. Neurological disorders like Guillain-Barré syndrome call for additional capacity to provide life-saving intensive care.

So, ladies and gentlemen, friends from the media, thank you for coming.

FA Thank you, Dr Chan. As we turn our attention now to the questions and answer section, I want to acknowledge that we have about 40 reporters on the phone. We also know that we have a substantial number of viewers on WHO's Facebook page. We'd ask for

reporters on the phone, if you would like to ask a question, to dial 01 to reach the operator and we will be calling on you momentarily [sic].

During the next section of the conference we will be asking other WHO experts, technical experts to join the director-general, Dr Chan, in answering your questions. So I'd like to introduce them in turn and to let you know we will be sending to you their names with correct spelling and titles for your use as you write up stories.

With Dr Chan is Dr Anthony Costello, who's director of maternal, newborn, child and adolescent health department; also Dr Florence Fouque, unit leader for vectors environment and society and tropical diseases research. Also with Dr Chan is Dr Bernadette Murgue. She's project manager for health systems and innovation. Dr Tarun Dua is also with us. She is coordinator for evidence, research, action on mental and brain disorders; and also Dr Chris Dye, the director-general's office for policy, strategy and development

So what we would like to do is start with questions from the room. We will take a couple here and then we will ask for questions from the phone. So questions here from our reporters in the hall. If we don't have questions here we will start with the phone and give you a chance to think of some inquiries. Who should we begin with? We will start with Gilles Galbrau [?] and you are from Lancaster University.

RO Lancaster University?

FA Mr Galbrau, are you with us? We'll take the next question. First name Robert; please go ahead.

RO Hi. Thanks for taking my question I was wondering if you could give any updates on [inaudible] independent link between microcephaly and [inaudible]?

FA Sounds like the link between microcephaly and the Zika virus.

MC Yes, the connection was not too good and your connection and your voice were broken. Would you please repeat your question?

RO Sure. When will there be a definitive link between Zika and microcephaly?

AC At the moment we have a growing scientific consensus that there is a link between Zika virus and microcephaly. At the meeting we held last week we heard the laboratory evidence that shows how Zika virus particularly targets brain cells. We learnt about the changing pattern of defects that are being observed in Brazil so that children are being born with unusual brain scans as well as microcephaly and also with hearing and visual impairment but not with effects so much on other organs so this is a virus that particularly targets brain cells and particularly the early brain cells in pregnancy although it can have effects throughout pregnancy.

So there is a growing scientific consensus but WHO is working on what's called a causality framework to try and accumulate the evidence from all sources to establish an absolutely proven link.

FA Thank you. For those of you listening on the phone, that answer was from Dr Anthony Costello, Director of maternal, newborn, child and adolescent health department. I think there may be other questions on the phone but they may be delayed because of direction. If you're trying to reach the operator to ask a question please dial 01 to get into the queue. Are there questions here from the room while we're waiting? Yes, please go ahead.

TM Thank you. Tom Miles from Reuters. I'd like to ask two questions please, ones that we've asked previously but not really had answered in various press conferences One is about funding We had a gentleman from the Brazilian Institute a couple of weeks ago here in Geneva and he said that there weren't sufficient funds in Brazil and he was having to reach out to other countries to fund his research. I wonder what you think about that; if there isn't enough funding what can be done?

And the other one is about where we've got to with understanding the size of the problem in terms of number of Zika cases, and then how does that translate into the number of people who get Zika who are going to get GBS and then the number of pregnant women who get Zika who are going to suffer birth defects. Do we have any handle on that or do you think we will at some point have a handle on that? Thank you.

MC I'll answer the first question and I will invite Dr Chris Dye to give you an answer to the size of the problem and how they translate into what are the possible numbers for Guillain-Barré and other formations. I remember you asked this question before and I can report to you, the situation is still pretty serious in terms of lack of funding, not just for Brazil, for the institutes that are working. And I've been talking to - including - colleagues from the US, who have been providing very generously support to many countries; they are really very stretched.

And I can speak for WHO and our partners that we have worked very closely to develop the strategic response framework, which asks for 56 million. Of the 56 million about 25 of them are for WHO and PAHO, the region for the Americas. We have only received \$3 million out of the 25. That was the last report I gave you and we received those three million and we are now under active discussion for another \$4 million so you are absolutely correct.

I would just like to make one more point because in my opening remarks I did say that we should look beyond managing individual cases; what would be the health system impact on hospitals, on social services to deal with the reproductive health of infected women as well as the birth of children, newborns, children with malformations? You need to take good care of them and monitor their progress over time. So we are now – the experts are correct that we need to take a system approach and also a much longer-term approach and prepare countries to build the capacity to deal with it.

At this point in time it is very difficult to estimate what would be the funding requirement. You know that many countries' health systems are already very stressed so this is going to be adding additional burden to them. Chris.

CD Thank you, DG. On the second of your questions about the scale of the problem, the total burden of disease, I think what's becoming clear is that Zika is spreading throughout the Americas and it's likely to affect or has already affected most countries in the Americas and we can expect – we are getting new case reports on a day-to-day basis and those are going to continue.

The number of infections is not easily measured because in part we don't have a good diagnostic tool for what is typically a mild infection but the infections from Zika certainly run into many, many millions of people who've been exposed to infection.

The second part of your question that follows on from that is how will that translate into cases of severe neurological disease which include Guillain-Barré syndrome and microcephaly and although we don't have precise estimates, some of the studies now emerging suggest that perhaps 1% of all infections will lead to severe neurological disorders.

But if we just take that as an approximation, then we know already that there are thousands of cases of microcephaly in just one part of Brazil so the expectation across the Americas as a whole is many more thousands of cases and that clearly is going to present a very large burden of illness which is going to require a substantial investment, not just in the immediate control methods that you've heard about but also long-term investment in support through healthcare services. So we're looking to both of those things.

FA Thank you. Our next question is from Sabrina Tavernise from the New York Times. Just one moment; we're transferring to the outside line. Ah. Apologies to Sabrina Tavernise; we will come right back to you The next question is from Bernard Simon from AFP. Bernard, are you able to hear us? Can anyone on the line – is anyone on the line able to respond? Sounds as if we are having a technical issue. We will wait for just one moment. Are there other questions here on the floor? Sounds as if we hear someone on the phone.

BS Hello, do you hear me now?

FA We do. Please go ahead. Is Bernard Simon on the phone, please?

BS That's me. It's Ben Simon from AFP.

FA Thank you. Please go ahead.

BS Regarding the comment just made about thousands of cases of microcephaly in just one part of Brazil, my understanding is that's not entirely consistent with the latest data coming out of Brasilia. Could you elaborate on where that area is and where those statistics are coming from?

MC I will invite Dr Costello to answer your question, Ben.

BS Thanks.

AC Thanks, Ben. The data from the last situation report which was released at the end of last week was that 6,480 cases of microcephaly were suspected, most of those coming from north-east Brazil – suspected being based on measurements of the head circumference of babies at birth. Of those 6,480 cases 2,212 have been properly investigated by paediatricians and with brain scans and 863 cases have been confirmed with abnormalities both clinical and on brain scan. That gives a conversion rate of 39% from suspected to confirmed, which means that if that rate continues we would expect that just over 2,500 cases will emerge of babies with brain damage and with clinical signs and with microcephaly

So that's based on the data currently available from north-east Brazil and that's why I think Dr Dye feels that given the rapid spread of this, and into other parts of Brazil and other countries, that we must expect that burden to increase substantially.

FA Thank you. Let's see if we can come back and get Sabrina Tavernise from the New York Times. I think you were just on the phone. Are you still there?

BS So once brain scans are done on all 2,480 cases, people...

FA Is this a follow-up question? I think we weren't able to understand it.

[Inaudible asides]

BS 806... If that rate continues we would suspect that just over 2,000 cases... yes.

AC Just over 2,500 cases, yes.

BS Oh, it's still me? Sorry.

FA Did you have a follow-up question, Ben? So it appears a couple of people had additional questions but have disappeared from the queue. Let me ask you, if you have a question, to dial 01. That will rejoin you with the queue.

We have a couple of questions.. Is Helen Branswell on the line and do you have a question? We have a couple of others in the queue. Let's see if we can... Hello, who's speaking, please?

HB Hi, can you hear me?

FA Yes, we can. Please go ahead.

HB Okay. I apologise. I missed getting on the line so this may already have been answered but I'm wondering how WHO makes sense of the differing data that is coming out in terms of the potential rate of birth anomalies in babies both to mothers who were infected during pregnancy. There was a [unclear] paper that talked about a number that was around 30% and then the Lancet paper last week that was a retrospective paper based simply on microcephaly and it was one in 100. Where do you, from what you can see, where do you think the rate will fall?

MC It's Dr Chan. Thank you for asking that question. You ask an excellent question and as you know, at this point in time we are collecting evidence which is published by various scientists following the different outbreaks or going back to do retrospective studies. The rate is different and we see a wide range so it is important that at this stage we need to be cautious and that's why I said that we need to continue to work very quickly to continue to build the database, the evidence base to get more information.

And I think the estimates and the position of the rate will become much better over time when we have more information. You are right; if you use 1% risk the number is lower but if you use the 29 or 30% risk the number is totally different so we need to be very careful in making any projection at this point in time. But to say that we value the data being shared in such an open and transparent manner so that scientists from the world can look at whether or

not the methodology of the study, or whether or not the data coming from various studies, what is the strength of the evidence?

So, Helen, you always spot them; very important question to ask, thank you.

HB Can I ask a follow-up, please?

FA Yes, go ahead.

HB Thank you. We talked a while ago and you talked about the fact that WHO had asked for money for the Zika fight and money was slow in coming in. Can you give an update on how that effort is going?

MC Helen, thank you and last time I have informed colleagues of the media that WHO works with partners to put together a strategic response framework and WHO, including PAHO, requested \$25 million. We have received three million. We are still in active discussion for another four million so in other words financial support for WHO but also for other partners, as well as for supporting countries, is truly a big challenge for all of us. Thank you.

HB Thank you.

FA Thank you. Our next question on the line is from Sabrina Tavernise from the New York Times.

ST Hi, can you hear me?

FA We can, thank you.

ST Oh, great. I wonder if you could talk a little bit about the cases of microcephaly in Panama – I guess that was announced on Saturday – and what we know about Colombia investigating cases.

MC Sabrina, I can talk a bit about the microcephaly cases in Colombia. As we know, the Government have not yet formally reported to WHO the number of cases of microcephaly but we know for a fact in informal exchanges that the Government has – even before they had the first case of microcephaly – set up a very robust mechanism to determine whether or not those cases were linked to Zika infection during pregnancy. So the studies are ongoing so formally the Government has not reported cases yet to WHO. I suppose the Government are still doing the investigation. We are continuing to follow up with the Government I suppose when they establish the linkage those cases would be reported to WHO.

This situation of reporting may be different in other countries. Some of them will report microcephaly but not to say that they are definitely linked to Zika. So some report early but the investigation will follow up. But in the case of Colombia they are very careful and robust. They want to investigate before they determine whether they are linked to Zika, before they report to us. Thank you.

HB And what about Panama?

MC Panama; I know that there was one case reported. At this point in time I will [?] give you those data. I don't have it on hand. Thank you.

FA The next question is from Mariana Lindardo. Please go ahead.

ML Can you hear me?

FA We can, thank you.

ML Okay, Mariana from the News Port D1 [?] in Brazil. Dr Chan mentioned that there's a large number of companies working to develop diagnostic tests for Zika. Is there already one effective serological test that could be used in large scale and if not how close are we to getting this test?

MC I would like to ask my expert, Dr Murgue, to answer this question

DM Thank you, Director-General. There are a few companies that are working on diagnostic test but just a few tests are commercially available and almost none of them have regulatory approval so the WHO is conducting an analysis to guide the development of different products and also to accelerate the process for this product to have a regulatory review.

FA Thank you. Our next question is from Veronique Berglier from Agence France Presse.

IE Thank you. Can you comment on the French case, please, and when you say there are 2,500 cases expected, do you mean in Brazil for the whole year or something else?

MC Dr Costello will answer the question. Thank you.

AC Thank you. Sorry. We mean at the moment 6,480 cases are suspected of microcephaly based on the measurement of head circumference and of the 2,212 that have been fully investigated with brain scans just under 40%, 863, have been confirmed as cases of microcephaly with brain damage clear on scan.

If that 39% figure – and let's not get confused; that's not the risk of having microcephaly from Zika virus infection; it's the proportion of those suspected of having microcephaly by measuring the baby's head who subsequently are confirmed by brain scan and clinical examination. If that 39% rate of conversation continues with the 6,400 cases of suspected we will expect to see 2,527 cases of confirmed microcephaly so that's what we mean by what we expect to happen in north-east Brazil from the currently available figures.

VB And can you comment on the French case?

[Unclear asides]

VB Because you didn't mention it.

AC Only to say that it's been observed. We can't say much more than that at the moment.

FA Thank you.

VB Thank you.

FA Our next question comes from Aquine Douglas, please. Is Mr or Ms Douglas on the phone, please? Then we will go to the next question which comes from Maria Belario. Please go ahead.

MB To everyone. I wanted to ask you if there is any evidence at the moment that co-infection with Dengue virus might be the cause of microcephaly in Zika-infected women in Brazil.

TD In terms of the Zika virus infection and the coexisting Dengue and chikungunya cases, the studies are ongoing to look at if there is any evidence that this is because of these two factors rather than single factors and these are being looked at in cases of Guillain-Barré syndrome as well as in cases of babies who are presenting with microcephaly.

The study that has been published from French Polynesia; it didn't seem that the Dengue virus positivity amongst the cases and control was the same. While there was high rate of positivity for Zika virus infection in cases of Guillain-Barré syndrome. So it does seem that Zika virus may be causally associated with the high incidence of Guillain-Barré syndrome as well as microcephaly. There are ongoing studies, both where the observational data is being recorded on pregnant women and their laboratory findings to see whether the Dengue virus may have a particular role to play and all that evidence is being currently recorded and once we have the data we will be able to comment on the cross-reactivity and the positivity of both Dengue as well as Zika virus.

MB Okay, thank you very much.

FA Thank you. Our next question is from Derek Gabrer. Go ahead, please.

DB Yes. Hello, can you hear me?

FA Yes, we can. Please go ahead.

DB Good afternoon. I have something of an epidemiological question about the outbreak in Cabo Verde islands in the Atlantic Ocean and what I'm wondering is do you know yet whether the Cabo Verde outbreak is of African origin or of Brazilian origin? The reason why I think it might be of Brazilian origin is because they're both Portuguese-speaking territories but I think it could be geographically of African origin because Capo Verde is closer to Africa and this, I think, is possibly relevant to the issue of whether or not the virus has mutated in some way in America, whether it's behaving more differently, it's more virulent than Africa, where we haven't had large outbreaks of microcephaly.

MC Derek, this is Dr Chan. Thank you for that excellent question. In fact I was discussing the issues with the Minister of Health of Capo Verde about ten days ago and one of the questions we discussed was whether or not it can be two viruses existing in the country on the different islands because of their proximity with Africa but also there is a lot of back-and-forth travelling between Brazil and Capo Verde. But at this point in time those are questions that we have on our mind but we do not have definitive evidence yet. That's why WHO has sent a mission with experts including laboratory scientists, epidemiologists; they are already

on the ground working with the Government to try to get to the bottom of these, get answers to some of these questions. Thank you.

DG Thank you very much.

FA Thank you. Our next question is from Lisa Schnoeren. Please go ahead.

LS Hi, thanks for being available today. I had a quick question and a follow-up as well. I'm wondering if you have some tips on how to explain the lag time for the Zika outbreak and the birth defects in pregnant women. It seems a little more clear for GBS, there's a three-week lag time that seems to be happening. How do you suggest we explain this to the public or is it still hard to pinpoint what that time lag is for the outbreak and then the birth defects to be showing up?

MC I'll ask Dr Dua to give you some perspective.

TD Thank you very much for asking this important question. So we know that when Zika virus infection happens you have a two to three-week average period after which you have the neurological complications which seem to be an immune response to the Zika virus infection and thus the Guillain-Barré syndrome happens.

As we understand from the data that has emerged from the affected areas, Zika virus infection during the first trimester of pregnancy leads to the birth defects and therefore these babies are being born with microcephaly or other brain abnormalities and thus that explains the lag period between the clustering of the incidence of Zika virus infection followed by the clustering of Guillain-Barré syndrome cases and this is followed by a six-month period because these mothers who are affected during the first trimester of pregnancy after the six months will give birth to these babies and thus we see clustering of microcephaly cases. That is the reason that we had the lag between Zika, Guillain-Barré and microcephaly.

MC Thank you. Marsha, I just want to provide answers to one of the earlier questions about the case of microcephaly in Panama. I'm not sure whether the media colleague who asked this question is still online but nonetheless, I did promise her to provide information on that so I will give you some update

Yes, Panama has reported the first microcephaly case to WHO. It's a baby, 30-week gestation and the baby died a few hours after birth and PCR is positive in the umbilical cord so that's all the information we have received so far. Thank you.

FA Thank you. I think we have time for about three more questions. I would ask that each person who asks a question also identify their news outlet. The next question then is to Michael Smith.

MS Yes, [inaudible]. Michael Smith [inaudible] Today.

FA Mr Smith, you're breaking up quite a bit. Would it be possible for you to call back in and see if you can get a better connection? We promise we will call on you again before we get to the last question.

MS I can give it a try.

FA Okay, thank you. Then we will go to Brenda Goodman. Please go ahead.

BG Hi, thank you. I'm from WebMD and I have a question about the microcephaly cases in Brazil. I was wondering if anyone there is able to characterise or describe how much of the background rate this number, the 25, 27 cases of microcephaly is for this particular region of Brazil.

AC The background rate that was reported in Brazil was around 163 cases per year on average reported in the previous five years and so you can see that this is a much larger number and we know from French Polynesia that the estimates, the background rate of microcephaly in different parts of the world varies but in North America, in Europe, many of the studies cluster around a rate of three cases per 10,000, two to three cases per 10,000 and in French Polynesia outbreak that went up to somewhere around 95 cases per 10,000. So you can see that there is something like a 20 to 30-fold increase in cases which follows after the Zika virus epidemic occurs. I don't know if Chris has anything.

FA Thank you. That was Dr Anthony Costello answering that question. We have the next question from Brazil, Mrs Brauna. Are you on the line?

BR Hello?

FA Yes, please go ahead.

BR Can you hear me?

FA Yes, we can.

BR Okay. Dr Chan said they know that sexual transmission of the Zika virus occurs. Can you talk more about that?

MC Thank you, Brauna, good to hear from you. I visited Brazil and thank you to the community and the Government for their very robust response. On sexual transmission, we are receiving reports of more cases of sexual transmission and this could happen to spouses of returned travellers, travellers returning from countries with local transmission and the virus is present in the semen and therefore WHO advise spouses and partners to practise safe sex and the use of condoms to prevent sexual transmission

FA Thank you. Let me stop and see if Mr Smith has rejoined us, Michael Smith. Then our last question will be from Dr Minh Tetra. Can you go ahead, please? This is Dr Minh Tetra, appears to be a Washington DC number. Are you with us? If not, our last question will then be from Mr Douglas. Can you go ahead, please? Okay. Please.

[Asides]

FA He did not come back? We will have a final question from the floor here in the room.

TM Tom Miles again from Reuters, still hoping to buy time for the gentleman on the phone who's trying to get through. But I just wondered if you could elaborate a little more on the funding question. The numbers you're taking about – three million or four million – when

we look back at this situation in five years' time people are going to say, were they really holding things up for three million or \$4 million? It's absolutely unbelievable.

We know we've got this governmental crisis in Brazil which is causing lots of problems and questions. I don't know where this three million or four million is supposed to come from but can you just clarify, is this actually holding things up? Because if it is it's a scandal. If it's not then I guess we can just carry on not worrying when the money comes in and that's fine but is this having an impact, are you really having to wait for somebody to give you that amount of money? Thanks.

MC Tom, you ask an excellent question. I can speak for WHO and of course last press conference you heard about an industry person who's trying to develop vaccine and he needs funding support. That is something that I cannot respond to. The three million that I talk about is the money that came to WHO from our countries, who were generous enough to provide their support. As I said, some countries are in discussion with us for another four million.

As director-general of WHO I have to move money to do the right thing. You are absolutely spot-on. We cannot allow money to be the barrier for us to do the right thing because the public health implications for so many countries, for so many families are so huge that I will do my utmost to mobilise money hopefully from other areas of work. But when I can't get money for Zika I will repay those areas. I also don't want to rob Peter to pay Paul and it is important.

HIV, TB and malaria are also important work; mental health is important work but we can do some what I call internal borrowing to start the work, making sure that our work which is so important to support member states, particularly in the Americas region – and it may go beyond that. So rest assured that I will not allow money to stand in the way of doing the right thing.

FA Thank you, Dr Chan. We see that Michael Smith is still not back on the line so hopefully next time we can catch his questions.

MC [Inaudible] we've been fair to him.

FA Okay. So I want to thank the journalists in the room – oh, we have one more question from the room. Let us take that before we close.

UF I was just wondering if those three million that you have; what are you going to do with that and basically where do you need to take the funding, from which other programmes, what is going to suffer if you don't get more money?

MC WHO needs money to send experts to countries. I just use Capo Verde as an example; the country does not have diagnostics to test cases, possible cases of Zika infection and we have to mobilise reagents for them and sometimes we have to mobilise equipment. I have to say that in this case one country was very generous. US CDC are supporting part of it and we are using part of our money to do that. Even for the reagent and equipment need for Capo Verde it is \$50,000.

So I need to be moving money around to make sure that the important work like sending missions to countries, organising all these very important scientific meetings to look at how to manage complications, what are the latest methods for mosquito control and what about the R&D, meeting and developing diagnostic, vaccines and so on? We need to convene meetings so that the best brains in the world come together, working with the industry to develop all these interventions; organising meetings, sending people to the field all require money.

The question you ask is, which programme am I mobilising money from; my principle is I will try to use flexible money first; that means 20% of my budget is flexible money; 80% is earmarked money, coming from countries of WHO. I will try to use flexible money first so that no programme will suffer the syndrome of robbing Peter to pay Paul. But depending on how long this outbreak lasts – we expect it to be a long haul so at this point in time no programme would be affected. I will use flexible money but I don't know how long – if money continues not to come in – we can continue like this.

FA Thank you. I'd like to draw this session to a close, thanking Dr Chan and all the expert panel with her. I would also like to thank the journalists who joined us here in the room and on the phone; also to acknowledge 52,000 people who have followed us on Facebook through this live streaming.

For the journalists, we will be sending you the audio file after this conference as well as the list of names of the spokespersons and their correct titles. Thank you all for joining us.

MC Thank you, bye.