WHO Virtual Press Conference following a consultation of international experts on potential Ebola therapies and vaccines

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Speaker Key

FC Fadela Chaib
MK Marie-Paule Kieny
OT Oyewale Tomori
SS Samba Sow
FD Frédéric Durand
LB Laurent Burkhalter
JH Jan Herbermann
GV Gunilla von Hall
MF Miriam Falco
HB Helen Branswell
CS Catherine Saez
HJ Hans-Jürgen Maurus
JD Jordan Davis
JK Jean-Pierre Kapp
MC Maria Cheng
SB Simeon Bennett
CH Charlotte
JC Jon Cohen
JG James Gallagher
DK David Kroll
AG Anne Gulland
JZ John Zaracostas

00:00:02

UF Good afternoon or morning. Welcome to the WHO Press Briefing, both in person and virtual. So, before we start, just to mention that the audio file and the transcript will be posted on the WHO website – www.who.int – and a video package will also be transmitted later. To talk about the conclusion of the consultation on potential Ebola therapies and vaccines we have three speakers. We sent you their names maybe ten minutes ago. First, Dr Marie-Paule

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Kieny, Assistant Director-General here at WHO; on her left, Professor Oyewale Tomori, he is Professor of Virology, Nigeria; and Dr Samba Sow, who is Director General, Center for Vaccine Development in Mali. I will turn over to the speakers who will make opening statements. Just to remind you, to ask a question during this session, registered participants should type 01 on their telephone keypad. This will place you in the queue to ask questions. Thank you. Marie-Paule.

MK Thank you very much. It's a pleasure to have you and to see your interest in this topic. As you all know, West Africa is currently facing the largest, most complex and severe outbreak of Ebola virus disease ever seen in the history of this disease. More people have fallen ill and died during this outbreak than in all other outbreaks in the four decades since this virus was discovered. One of the things driving fear and panic in communities and in the world is the belief that there is no treatment for Ebola virus disease.

However, tremendous work is being done to accelerate our knowledge of potential Ebola intervention and give us some promising tools. Despite being a very large group – we had over 200 people, including experts from affected countries, the group developing the interventions, regulators, ethicists, virologists and Ebola care specialists – we managed to reach consensus. One of our chairmen told us there is a tide in the affairs of man and that tide is now. We have to change the sense that there is no hope in this situation to a realistic hope.

I know that you are eager to hear what we concluded, so here we are. We agreed that whole blood therapies and convalescent serum may be used to treat Ebola virus disease and that all effort must be invested into helping affected countries use them safely. Two promising vaccine candidates were identified. One is called chimpanzee adenovirus Ebola and the other one VSV Ebola. Safety studies are currently underway in the United States of America and soon to start in Europe and Africa. One of my fellow speakers here tonight, Dr Samba Sow, will tell us more about the studies in Africa. What we know from these studies that will soon start is that safety results may be available in November 2015 and this would open the way for use in affected countries, initially starting with healthcare workers and other frontline staff as advised by the ethics panel that met recently to look at the ethics of use of these medicines against Ebola.

Of the experimental therapies, several have shown promise in animal studies while others have undergone some safety testing in humans but have not yet been proven effective against Ebola virus disease in humans. These will now be the focus of priority clinical evaluation in affected countries using standard protocols in order to allow determination, as soon as possible, of their efficacy. Now, I would like to hand over to my fellow speakers, Professor Oyewale Tomori, Professor of Virology at Redeemer's University, Nigeria, and first to Professor Samba Sow, the Director General of the Center for Vaccine Development in Bamako, Mali.

OT Thank you very much. Good evening. My name is Oyewale Tomori. I'm from Nigeria, one of the countries that is currently having the Ebola epidemic of the four countries in West Africa. We got a case of Ebola through a Liberian who got into Nigeria, broke through the
normal procedure and processes. It was both an issue of fear and also a breakdown in infection control which if had been applied earlier on we probably wouldn't have the extension to another country.

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This meeting has gone on to look at issues of therapy and vaccines however it must not detract from what needs to be done. If we had proper infection control in those other countries where it occurred we wouldn't be having the same problem we're having now. It is also important to mention that, if you do it properly... I think we've been quite lucky in Nigeria that the number of cases have gone down last week. We thought we were at the end of it but one individual who broke through the infection control has created another focus in another part of the country. But I think the message I'm trying to say is that if you do what needs to be done, proper infection control, you can actually bring this disease under control as quickly as possible.

While we are focusing on therapy and the vaccines, I think the most important thing now is to see what we can do to see what we can do to get this disease out by, one, ensuring that we have protective materials for our staff, having treatment centres which have been set up, well-managed by well-trained staff and getting involved with the community. One of the greatest areas where we've had problems was not getting into a community, buying their confidence in us and ensuring that we don't spread this disease, explaining to them how the disease is spread and to make sure that if we keep all that situation in place we won't be having what we're having now.

This is not the first time Ebola is ever in Africa but this is the first time we are hearing that it is becoming a global issue. It has been known of the last 40 years in the Congo, Gabon and at no time did you ever hear that it became a major issue but when you do not follow those infection control rules then you have the problem that we have on our hands. And so our effort is to make sure that we go back home, get all those things ready, get involved with our communities and ensure that we put the disease under absolute control. Thank you.

00:07:35

FC Dr Sow, please.

SS Thank you very much. I am Samba Sow from Center for Vaccine Development, Bamako, Mali; Ministry of Health for Mali. It's a real pleasure for me to part of this panel today and share some of our knowledge and experience so far with Ebola in West Africa. So, to me, this is historical. Why is it historical? This is actually the very first time to have such a big epidemic in this part of the world, West Africa. We didn't know Ebola before and we have never seen such a big killer, very fast killer ever, such a pathogen in the part of the world. So, we're talking about the poorest countries in the world, resource limited and very limited health infrastructures and the borders in those countries, also, we're talking about, there is almost no border. So, we are so close the control is very difficult, so that makes this whole Ebola story very, very special.

So, Professor Tomori just talked about the control of the situation and we feel we're doing all we can to manage the situation in the field. As part of that, in collaboration with WHO and a
lot of research organisations and institutes, we're trying so hard to come up with medicines and vaccines. So, I will be sharing some of the… Mali has been selected as one of the sites to run vaccine trials and, I mean, the only reason that Mali is selected so far is maybe because we're not experiencing Ebola epidemic yet there has not been – touching the wood here – not a confirmed Ebola case, as yet, in Mali so far. And the places where Ebola is going on right now are very similar to Mali so, in terms of environment, in terms of epidemiology of the diseases, in terms of health infrastructures, organisation and capacities.

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So, second, the reason Mali, maybe CVD Mali, is because also we have very good infrastructure, the research centre with good expertise in vaccine trials. Over the past decade we did a lot of vaccine trials including one very good example for WHO and the entire Sub-Saharan Africa that was the monovalent meningococcal A conjugate vaccine, MVP, Meningitis Vaccine Project, run by WHO and PATH and countries in Africa. So, we helped develop through different trials, that vaccine. So, that has been used as a very good experience and a very good example. And then, so, we believe that then for those reasons Mali was selected and we then will be conducting this phase 1 trial. And, plus, it's very difficult to go in a country where epidemics are already going on. This is a number one killer right now in this part of the world, so you cannot go there and talk about studies, the trials, in those situations. Those countries, Guinea and Liberia and Sierra Leone and Nigeria, when you go there now, you have to talk about case management, you have to talk about stopping the infection in the community.

Then we will be conducting this phase 1 trial in only 40 participants aged between 18 and 50 years. So, we are hoping to enrol the very first participants in Mali around end of September, beginning of October. This will happen. Now, we have started in the United States. We have the first three participants, at least, as I'm speaking and the UK will follow very soon and then UK will enrol up to five participants. So, a week after enrolling five participants and generating some safety data we will then start in Mali and then enrol, stepwise, participants into this vaccine trial. We are aiming, so far, to enrol because Ebola is touching… there are three high, high risk groups of people.

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So, if you are talking about prevention you have to do a kind of strategic prevention. We're talking about vaccine. We don't know whether or not vaccine will work very well or not. We don't know that yet but we are targeting the high, high risk group people. Talking about Ebola, number one high risk people are health workers; they are the ones who are seeing all the suspected cases and they are the ones who are in contact with all the confirmed cases. And number two high risk group is the family. If you have a confirmed Ebola case coming from a given family, that family will become, immediately, a problem. You have to go investigate all the contacts and make sure that they are not contaminated. And number three, this is people who are in charge of organising the burial, you know, the funeral ceremony, taking care of the body. Those are also at very high risk.

So, we will be enrolling into this study, the first phase 1 study, mainly health workers, if possible, so that if a vaccine works they will be protected and then what we are seeing in Liberia and maybe in some other countries because 10%, at least, of health workers in this
specific, this given epidemic… 10% of the health workers are dying. So, this is making the fact that health workers now are scared to come to the health centres and take care of patients. So, health workers, if you vaccinate them that will help them. If they are protected it will help the countries to have health workers to remain, stay at the health centres and help take care of our participants. So, we really hope that this will be a very successful story.

00:14:26

FC Thank you, Dr Sow. Just to remind you to ask a question, participants who are not here with us in this room should type 01 on their telephone keypad. This will place them in the queue to ask questions. We will start with questions for journalist here in the room. Please state your name and the media you are working for. Thank you. Yes, Frédéric. We have microphones.

FD Yes, thank you. Frédéric Durand with NHK, Japanese TV. So, if I got it right, you have identified maybe two treatments that seem the most promising. What will happen from now on with these two molecules? And, then, second question, briefly, the first meeting was about also giving some priority once we have enough treatment. Have you addressed this issue because it seems that these vaccines you say health workers should be the first to receive it but how about with the treatment? Thank you.

MK Okay. Thank you very much. Actually, we discussed more than two molecules. The number two comes with the vaccines. We discussed that two vaccines were the most advanced and these were the ones that must be prioritised in terms of clinical development. There was discussion about priority population for rollout of the vaccine and, indeed, in line with the recommendation of the panels, this was determined as being the health care workers and other frontline responders. In terms of molecules, the therapy, there are potentially more than that. We discussed between five and ten and we are reviewing more who are coming into the pipeline. So, the idea is that there is an absolute need to determine whether these molecules work or not and this can happen only at the place where the disease is present.

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So, therefore, what we will be doing, like with the international community will be doing, with the affected country, is develop protocols that would allow to have a parallel evaluation of several of these molecules in different sites but with a protocol which is standardised in order for as soon as possible after 100 or 200 treatments, it depends what is the molecule, that there can be definite conclusion about whether they bring benefit to the patient treated or not so that they can be either continued or discarded. And this will be done in the treatment centre on the patients which are present at that moment in the treatment centre but following informed consent and information to the patient because, of course, we do not know at this moment – so this is why we talk about experimental treatment – we do not know whether they are 100% safe and we do not know whether they will be effective.

FC Thank you, Dr Kieny. Yes, please.

LB Yes. Laurent Burkhalter, Swiss Television. I just wanted to make sure I got it straight. You mentioned the safety results of these vaccines will be known in November 2015, so that means that…
MK '14.

LB 2014, okay. You said '15

00:17:51

MK Oh, my apologies. Let me go again. The safety of these vaccines; the initial data on the safety these vaccines will be available in November 2014 and therefore this is only in a few months and therefore this will allow their utilisation in the affected countries immediately after that and I'm sorry for the…

LB Thank you for the clarification. There's been a lot of media attention around the ZMapp treatment. Now, how does that stand after your two days of meeting?

MK So, there was discussion on the ZMapp and, for the time being, there is not enough experience with ZMapp to conclude whether this treatment works or not, although there seems to be encouraging signs that it would work. So, with ZMapp, like with other therapeutics, as soon as there are more supplies available they will be evaluated in population, in treatment centres, in the affected country, in order for the researcher and the community to definitely conclude on whether this treatment works or not.

FC Okay. Another question.

JH Oh yes, here. Over here.

FC Yes, thank you.

JH My name is Jan Herbermann. I write for Tagesspiegel Berlin and other German media. Just to clarify on the vaccines. You were saying, so you get the results in November 2014 for the two vaccines and what about the molecules you were talking about? When you do think you get the results?

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MK So, we say that we will know about the safety of the vaccines, the initial safety, of course, because we are talking about what is called a phase 1 – so, this is something which is in a limited number of volunteers – will be known in '14 because, as discussed by Dr Sow, we know when the trial will start, so we know when we will have the results. Now, for the molecules, they will not all start at the same time and the first step will be to have agreement on the protocol in which they will be experimented and then they will be put in practice, if I may say, in real term, in the treatment centre. So, it depends on the time that it will take to evaluate them but I think that we should have an evaluation of their efficacy within a few months.

FC Gunilla first, please.

GV Hello. My name is Gunilla von Hall. I'm a Swedish journalist, Svenska Dagbladet. I wanted to ask you if you had discussed blood donations – blood from Ebola patients that have
survived – because this seems to be promising. Is this something that you could imagine that could work in the field to limit this outbreak?

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MK Absolutely. And there was a lot of discussion and emphasis on blood, on blood transfusion, whole blood transfusion, as well as on plasma that can be purified from convalescent serum. There was consensus that this has a good chance to work and that, also, this is something that can be produced now from the affected countries, themselves. So, what needs to be done? And there was a consensus on that we need to help the country build the capacity in order to do the blood drawing and the preparation of what needs to be re-injected in the patient safely, both for the donor as well as for the recipient and this should be done, as a priority, from the international community to support this capacity building in-country so that this procedure can be put at play as soon as possible.

FC Thank you, Dr Kieny. We will take a first question from Miriam Falco, CNN and I will come back to you. Miriam, please.

MF Hi, can you hear me?

FC Yes.

MF Hi, there. There is a little bit of problem with the language. I also heard 2015, so I'm glad that was corrected but can you give me the names of the monoclonal antibodies that you do think are under consideration and reaffirm what the conditions are for this use? And also we've just had one more American health worker who became infected in Liberia transported back to the United States for treatment. What kind of a signal do you think that sends to the thousands of people in Liberia and Sierra Leone and Guinea who don't have this type of access? What message should they be getting about how they can be helped? You just discussed a little bit about blood but both vaccine and treatments are a long way off. What is being done now to help those patients?

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MK Well, we didn’t discuss specifically any monoclonal antibodies. What we said is that we discussed, in particular, whole blood and plasma and serum which would be derived from the whole blood and then we discussed also potential other molecules which are worth investigating. So, there is a whole range, as I say, between five and ten molecules that seems to be high priority and among those, in particular, the molecules who have shown in animal models, in monkeys, that they can protect the animals and each of those is worth putting forward. So, I don't want to enter into making a list because usually when you make a list you're not complete with a list but among those, certainly, that were discussed would be the ZMapp when it becomes available again but also the small siRNA. We have discussed a few others that need to be prioritised in terms of evaluation of efficacy in man. So, all the details these drugs and of their potential and of their results, so far, in animals is presented in the document that was derived for this meeting and which has been made available to the media and that we will make available to the broader public now.
In terms of the healthcare workers which have been evacuated to the US, I think that it is clear that the people, the expatriates who are there and who get infected far from their home have an expectation that they will brought back home in order to have care as much as possible. As you know, there is no ZMapp anymore so he will receive supportive care like the treatment centres try to give to all the patients currently in the affected countries, the local as the others to the best of their capacities in these countries.

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FC   Thank you, Dr Kieny. Helen Branswell, Canadian Press.

HB   Hi. Thank you very much for taking my question. I understand that, you know, in the world of this kind of science, the development of these kinds of therapeutics, things are going very quickly now but they can't keep pace with the outbreak and I'm wondering if you have any kind of a sense of when it would be realistic to think that there might be therapeutics or vaccines, either preventive or post-exposure vaccines that can be used in the field with people to help stop this? How far out is that?

MK   Well, as Dr Tomori has reminded you, what needs to be done now is put the emphasis on the strategies that are in the roadmap that WHO has issued recently which is about identifying the people who are sick, isolating them, treating them. We know that with a good standard of care you can decrease mortality rate absolutely significantly. So, this is what needs to be done for them. There is a need to identify the contacts, to trace the contacts and to isolate them if they become sick and there's a need to do something so that the burials are done both in the respect of the local ways of burying the dead, of respecting the dead as well as a way which is not spreading the disease. This is what needs to be done.

Now, about the new therapy. As I said, there is a real opportunity that a blood-derived product can be used now and this can be very effective in terms of treating patients. So, if I may say, with the very negative point that we have so many patients, there is one positive point is that there are also many people now who are convalescents, who survived and who are doing well and these people can provide blood, can provide, then, serum, also, in order to have something to treat the other people who are sick now. And the more we treat the more we will have convalescent and the more we can hope to have more plasma to treatment. So, this is one thing which is real time now. And, actually, this is something which has already started and maybe Professor Tomori wants to elaborate on the use, right now, on transfusion.

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Now, for the others, the vaccines are real term, as I said, we will have results of safety by November 2014 and, after that, these vaccines will start to be rolled out in the affected countries starting with health care workers and other frontline staff in the affected countries. So, this is real. This is going into the field. This is not staying in laboratories. In terms of the drugs, what is available, in terms of quantity, will be used now, also. So, the difficult, of course, is that the total amount is still low but the industry is working really hard in order to expand their production capacity but what is available will be used in the field to treat real patients as soon as possible. Dr Tomori, about the transfusion and what is happening right now in the affected countries.
Thank you very much. Maybe I should go back a little bit, back to 1995 during the Kikwit, convalescent sera were used. I think out of nine people, eight of them survived. That was at a time when even the techniques for blood transfusion were not as good. Now that a lot of survivors have come in different parts of West Africa it is to enable those convalescent sera to treat those who are there. I think the main objective for us in the West African region, take Nigeria, for example, eight people died, we have five people who have survived and we're already monitoring those people and trying to store their serum for future use. I believe that is really what is going on in some of the other countries.

Again, I think it is important to reiterate that the immediate solution to this problem is to follow-up and obey the rules of infection control processes. If we were doing that from onset we wouldn't be where we are. I think it is never too late to start it and I think most of the African countries should need to follow-up on that. The results of vaccines, the result of drugs will come but we cannot wait for that. Action must be taken now by employing those infection control processes to get in place. As I said earlier, having the protective garments for the people, establishing those treatment centres with well-trained staff and getting involved with the community, educating them on the need on how the disease is transmitted and how we can prevent it from getting to each other.

Thank you, Dr Tomori. We will take a question from the lady over there.

Yes, good afternoon. My name is Catherine Saez. I'm working for Intellectual Property Watch and I would like to know if, at this stage, intellectual property such as patents can come as a barrier to all those new treatments, for example, is there a patent on the virus or on all kinds of medicine that are actually being assessed?

Well, we haven't had the time since we have been working on that to assess the intellectual property characteristics of all these new medicines but it is most likely that there is intellectual property rights and patents which have been filed. What I can say is that so far we have seen absolutely no problem and no barrier to the use of these and to the development and most rapid use of these drugs. At the end, when the Ebola outbreak will fortunately be terminated, there will need to be discussion with the owners of the patents, with the manufacturers who are making these products to see how they can be made available at appropriate and affordable to the population who need them but for the time being this has not been seen as any barrier to access.

Thank you, Dr Kieny. The gentleman over there, you had question.

The name is Hans-Jürgen Maurus from German National Public Radio. I have two questions please concerning the figures. The latest came out 24 hours ago and I wondered if there are any new figures of infections respectively. We were told we have to look at a period of 21 days. If you could maybe give us those figures. And the second question is WHO was saying last week that you need about 750 experts from outside and 12,000 nationals at the frontline. How many do you have by now? Thank you.
MK  I am sorry that I really cannot respond to these figures because these are new figures coming all the time. I know that ones that were issued a few days ago but I would give you a bad service in trying to guess.

FC  Yes, Jordan.

JD  Hi, Jordan Davis with Swiss Radio. Two quick questions about the testing of these potential therapies. You talk about the need for informed consent and doing things ethically but in the context where there is a panic, a lot of people are very concerned and it's not the easiest area, is it really realistic to expect the normal sorts of procedures of informed consent where there is a lot of hysteria in some of these countries from some of the people I've talked to who are working there? And also, number two, who is going to define the protocols for the testing?

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MK  First, on the protocol for the testing: there is already protocols that have been worked on by a number of experts and this will be refined now with the affected country in order to see also that what is put in place is doable in the context of the epidemic which means that it needs to be robust but also collect the essential data and cannot go into maybe the finesse that you would want to do in something which is happening outside of an emergency. Now, about informed consent: I think that we would not be giving credit to the population if we think that they are not able if they are properly informed to give consent. So, maybe on this, Samba, if you don't mind, you are doing informed consent with local people all the time if you want to say something about that.

SS  Yes, okay. Thank you very much for this question. Yes, this part of the world, I have to say there are a couple of criteria. First of all, you cannot do research anymore without following international guidelines of good clinical practices and ethics. So, for example, for the vaccine trial this protocol, after writing the protocol, it's now going through different ethical committees including the one at WHO, here. In Mali this was the very first time, very historical, when we informed the Minister of Health we were asked then to send the protocol through. We have three functioning ethical committees. We have to send the protocol to all three and all three have to approve it. So, that's one.

So, it's no more a question to test any new drugs, any new interventions to people without having ethical approval in regards to giving the right information to people so people will have to have the right to accept or to refuse no matter what. And then you also have to make sure that you are respecting kind of some rules by doing so. For the vaccine trial, after getting now IRB approvals, we will organise a community meeting where we will community healers. So, for this instance, since we are going to enrol health workers, we will gather those potential health workers, organise a meeting and the information sheet explaining the purposes and the benefit and the potential risk, etc, of the study will be translated into the official language of the country where the study is going to be conducted and also the local language, the national local language in an audio cassette and also in writing. So, even if I'm, for example, a doctor, I know how to read and write. If I still want a witness, so I will be allowed to have a witness to consent so that they vaccinate.
So, it's very, very important to respect the consent process. If you don't do that I don't think it will be approved by IRB and if you are not approved by IRB I don't think these studies are going to happen. So, no matter what, we will have to do that. That's a kind of contract and transparency between the investigators and the participants. So, I just want to mention one last thing before closing this. For example, for vaccine trials we're using health workers, frontline people. If the vaccine works, then perfect. If for some reason it works only partially, then still fine. If it doesn't work, then still fine because we would have learnt something and we will have some more additional guidelines on where to go next.

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So, I am ready to be the first participant to receive the very first dose in Africa. I would love to be the first African because, right now, I am the one who is in charge. I am responsible for a national emergency committee for Ebola control in Mali. We have had about 19 suspected cases so far and all of them, except the one we detected we suspected yesterday, because I was here, so I have to ask my assistant to draw blood yesterday… I mean to take a swab, yesterday. So, all the 19/18 cases I took their blood myself. There were four dead bodies. I did the autopsy myself. I swabbed them, myself. So, if there is a vaccine, a potential vaccine coming in, I have to be the first to get this and, plus, it will show transparency, it will show confidence, it will show respect and everything to the rest of the community. They will say, he is the principal investigator, he brought this in and he is the first one to receive the first dose.

FC Thank you, Dr Sow.

JK Jean-Pierre Kapp, Neue Zürcher Zeitung. Just to clarify things. The vaccine will ready by November but that's for a last testing phase or to be applied? And, secondly, you will have the test phase for the different molecules but the companies will produce the drugs like the ZMapp during all these days now? What will be ready will be used anyway despite the protocol and the testing or not of the different drugs?

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MK So, the vaccine, in terms of the use of the vaccine in the field after it has been determined as being safe, of course, there will need to be some protocols to be discussed because you remember that we need to know what works and doesn't work. It may be that we will go with two different dose levels and so we will have to see if one is better than the other. So, it will need to be in a form of a study but the study will be with people who are potentially affected in the ground. It will not be a study that will take place in an irrelevant place; the next stage then.

In terms of the molecules for drugs, these are being developed and we will have to see the moment they will be put into a study, likewise, because it is crucial also not only to provide care but it is also crucial that we know whether these molecules work or not. So, therefore they will be put in studies which are currently being defined right now that could be also comparisons between two different drugs in order to help determine which one works; whether both work; whether only one; whether none of them work. So, it is highly likely that any deployment of these drugs in real numbers and we are not talking about one dose to treat
one person here and there on a compassionate basis. This deployment will take place in the form of studies.

JK To a larger public these vaccines will be available when? And excuse me if I'm repeating myself but I think you didn't reply to the second question. ZMapp and the other medications which are in the field now will be produced in the coming days, coming months. They will be sent to West Africa and used in clinics, even if the testing has not been finished or finalised?

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MK Okay. The vaccines, we have to see when they will be available and in terms of their use but if the data, indeed, we have good safety data, again, I mean not only that we will have a result but the results are positive, then after we the result they will start to be used in healthcare workers in order to protect and also to evaluate whether it protects them. So, it will, at the same time, be given to these healthcare workers but under informed consent with telling them that we don't know whether they will be protected by these vaccines or not. So, this will be a study but a study on the people who can potentially benefit from that.

For the drugs, at the same time, it will be used in real patients in West Africa but these patients will have also to give informed consent and they will have to be informed that we don't know whether these drugs will work and that, indeed, in taking the drugs, they take a risk and they will have to accept that they take this risk. To be clear, they will be used in real patients but they will be used in the conditions that allow, also, their evaluation; I mean, evaluation of their efficacy and safety.

JK I think my colleagues are also interested in that. My question is when do you think a vaccine will be ready to be used in a larger context and are the medications which are on the market, have been used because there was nothing else around in the past two/three months? Will they still be used even if not declared safe yet, with your allowance?

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MK So, the vaccine, as I say, if we have results that the safety seems to be appropriate in November then there will be plans – and we will discuss this in advance with the affected country – to see how many healthcare workers they have, where they are, in which treatment centre and this is the population that will be selected to first receive an administration of vaccine to both potentially being protected and also, through the vaccine, that we also move towards getting an idea if the… as you know, unfortunately the healthcare workers have had a lot of disease and casualty so by vaccinating them, they will, of course, continue to work and we will know, as soon as possible, I hope, that this vaccine is effective but we don't know for the time being. So, if you want the time, immediately when possible after it is determined safe, somewhere in November, there will be the first deployment in the field in healthcare workers.

Now, when will there be enough vaccine to treat the whole population? This will be gradual. At the beginning, as you know, we are all, and you have heard about that, the Canadian Government has made a donation of one of the vaccines to WHO which is of 800 doses. So, what will be available first is 800 doses and then a month or two months later there may be
more. Likewise, with the vaccine developed by GSK, they will start with 10,000 doses which might become available at the end of the year, then continue to produce. And as the vaccine is produced and available it will be rolled out as it comes.

FC Thank you, Dr Kieny. We have lots of questions online and we will do our best to take as many as possible. Now, the next question is from Maria Cheng. Maria.

00:45:43

MC Hi. Thanks for taking my question. I wanted to go back to this issue of the convalescent serum and given what we’ve heard about the state of Ebola clinics in West Africa, that there’s not enough PPE, some patients aren't getting enough food and just basic care is just really lacking how can we expect this infrastructure to be put in place? And with regards to further testing for the vaccine and therapy use, do you expect to send people to specifically work on these trials or do you think that healthcare workers, given the burden they're already under, can take this on? I mean, how can we realistically do this with the strapped resources over there? Thanks.

OT Yes, I did mention that. Even far back, in 1995, it was used in Kikwit. Situations have improved much more than what was in Kikwit at that time and I think the issue you raised about the current situation, that's the point we are raising that African countries must make sure that they put in all that is required to get all those places, the treatment centres and the lab workers there enabled to carry out what we said they should do. And it is important to say that these are some of the simplest things that even we, in Africa, can do and I think it’s important to encourage a country to do that and to contribute this control diseases. And I think it would not be fair to assume that situations there are that bad they cannot do blood transfusion. So, it is possible, with a little enablement and support from the government that can be done and done well.

FC Thank you, Dr Tomori. Now, we will take a question from Simeon Bennett, Bloomberg News.

SB Hi, Marie-Paule. Thanks for your time. Just on convalescent serum, I'm sorry to go over this again but could you just clarify. You said that it's already started; use of that is already started. Could you just clarify, is that just in Nigeria or in the other countries, as well? And how many patients have been treated with convalescent serum and is there any anecdotal evidence to date on the efficacy of that? Thanks.

00:48:02

OT The answer I gave was not for West Africa. So, it was used in 1995 but if facilities are available we have enough convalescent people who are now convalescing in all the three or four countries that have had the epidemic that we can follow-up. I did mention that the issue of blood transfusion is well done in many African countries, so this should not really be a problem. That's the point I raise. Still, a number of people have issues. I think it was only at this meeting that we took a firm decision to use convalescent serum. So, maybe if you ask in another we’ll be able to get figures.

MK So, Simeon, also, what we were told by our colleagues that is actually being practiced
is whole blood transfusion right now so what we don't know is how many cases, how many transfusions were made, how many patients but what we will try to do is get a better idea in the coming days and weeks about this data so that this can also feed the amount of data that needs to be collected in order to be able to determine the safety and efficacy of all these procedures.

SB  Okay, thank you.

00:49:16

FC  Thank you. Next is Tulip from the BBC. Tulip? Tulip, can you hear us? Any other questions? Charlotte, RT [?], are you online?

CH  Yes. Can you hear me?

FC  Thank you. We are ready to take your question. Yes, we do.

CH  Good afternoon. I found in the Chinese media an information about a possible drug named JK-05 which could innovate the replication of the Ebola virus. This drug is supposed to have been developed by the Chinese army during the last five years and clinical tests are supposed to have been completed. I would like to know if the World Health Organisation is aware of the drug and if the use of JK-05 has been discussed these past two days and if we could learn more about it? Thank you.

MK  Well, we are aware of a drug which has been developed in China which is the same molecule as the one which is called in Japan, T-705 or Favipiravir, so my response will be in assuming that this is this drug that we are discussing. So, we have reviewed the data which is currently available on this drug. This is a drug which is potentially promising. There is data in test tubes that show that there is an effect on the Ebola virus growth in culture. There is not enough convincing data in an animal model and in particular in the primate, in the monkey models but we know that there should be results of this molecule in monkey models in the weeks to some. So, as soon as this data is available we will review it, the experts will review it, and this will indicate to which level this molecule is a priority or not.

00:51:30

FC  Thank you, Dr Kieny. John Cohen from Science magazine. Jon, go ahead.

JC  Hi. Thanks for taking my call. Dr Kieny, is it correct that this is unprecedented to contemplate moving so quickly from phase I safety and immunogenicity studies to up to 10,000 and it seems to me steering around the usual regulatory? And then I have a quick follow-up.

MK  Yes, it's absolutely unprecedented, there is no doubt. It's unprecedented in the willingness that everybody has to move as quickly as possible and this includes the regulators. As we know, the regulators have a very important role in ensuring that what is used in the human population is safe and effective, so they are really helping us in order to facilitate processes that while trying to preserve, as much as possible, safety – this is very important;
safety should be preserved – that at the same time development goes very quickly. And this is the case for the regulators but also for the ethics committee. The protocol in Mali, for example, has been approved in a matter of days. With any other clinical trial that I know of you would talk about weeks and months. So, there is clearly the timelines a change of all the processes that we know for this particular Ebola outbreak.

FC Thank you, Dr. Kieny. James, you had a follow-up?

00:53:04

JC I did, yes. So, given that there's a limitation of vaccine available, if that limitation somehow was overcome and there were millions of doses, would you be hesitant about widely distributing the vaccine to the general population right after the small safety and immunogenicity studies are completed? Are you glad that there is a limited number doses so you don't face that quandary?

MK What if? Well, you know, frankly, you don't know with vaccines and some vaccine potentially can be deleterious for the population. There is history where vaccines have made the situation of a vaccinated people worse. So, one is well know and which is proven is the vaccine for newborns against viral disease, RSV, and it was proven that the babies who were vaccinated had more cases of death. So, the same, there is a famous, also, study that you might have follow-up of a vaccine against HIV. The study was stopped because there was some evidence that the people vaccinated had actually more incidence of HIV infection than the others. So, we must also be cautious about that and rollout must happen as quickly as possible but step by step.

FC Thank you, Dr. Kieny. James Gallagher, BBC.

JG Hello. I was just wondering if you could describe the best evidence you have on the effectiveness of using survivors' blood in treating people with Ebola.

OT There is a paper published in… I can't remember the journal. I think it was The Journal of Infectious Diseases which reported the 1995 epidemic; that's the only one I know. But I do know that, not for Ebola but for other disease, convalescent sera have been used. So, as I said, it's not new. It has been done before and I expect we will get some positive results with what is happening. The important thing is to have the ability to check the strength – if I use the word – strength of the serum and ensuring that the blood is safe, is free of HIV, hepatitis and other things, also check that it has the amount of antibodies. Then it's been used before and I'm sure it can be used now.

00:55:36

JG Thank you.

FC Thank you, Dr. Tomori. Next journalist is David from Forbes Magazine. David.

DK Yes, David Kroll here. Thank you for taking my question. I wanted to ask a little bit more about the survivors' blood and plasma because I think you've already mentioned there this possibility of antibody dependent enhancement of infection and this has been shown with
both Ebola and Marburg viruses in laboratories, particularly by a group in Japan. So, you mentioned that we're going to be using survivors' blood and plasma in countries where we already have an effect and I think Maria Cheng asked the question, do we have the infrastructure to monitor this. Are patients going to be monitored for viral load who are getting the survivor serums and then I had a follow-up?

OT Well, whatever is done, ethics is most important and every step we're going to take will be done with all the ethical considerations; checking of the blood, monitoring of the blood and I still want to believe that these are possible in many of the African countries. They may need some help but the basic infrastructures, the staff are available to do that. I just want to say that compassion without ethics is actually condescension and therefore we will not accept that and back at home all the colleagues who are working on it are aware of all that needs to be done and we will not do anything, I can assure you, that will jeopardise what is on the ground currently.

00:57:25

FC Okay. Follow-up, David?

DK Yes. So, my follow-up then, I believe was asked by one of my German colleagues but wasn't completely answered. There was a proposal in the New York Times, professors, to use existing, approved, inexpensive drugs, things that are already available like statins or ACE inhibitors that have immunotherapy effects that could be deployed right now. Was there discussion about this any time during the two-day consultation?

MK This was discussed and statins, in particular. Some people think that it may be worth using them but there was quite a level of discomfort from most experts on the possibility that statins could actually do harm. There was a discussion of other products which are commercially available like interferon and there is no evidence that this would work but the expert opinion was that if some investigators want to try interferon, they should try it in patients with early disease and not do this at a time where they have already a lot of fever and where the condition has really been degraded. So, this has been discussed but this will be up to the individual, I think, clinician, to develop protocols and use these molecules. And what we hope is that we will be able to collect the evidence coming out of these treatments so that they can inform, then, the community on whether there is success with these treatments or whether they are actually causing harm.

00:59:16

DK Thank you, Marie-Paule.

FC Thank you, Dr Kieny. We apologise to the questions we could not get to within the time we have. We remind you that an audio file, a transcript and video package will be available on the WHO website. Last question online, maybe; Anne Gulland, BMJ. Anne.

AG Hello. Yes, thanks very much for taking my question. I was just wondering, given that the WHO roadmap said, you know, that they're hoping that the outbreak can be contained within six to nine months, I mean, do you think any of these products and the therapy,
particularly the convalescent serum, do you think that will actually be ready to be used within that period of time?

MK  Certainly. There's no doubt about that and convalescent serum will be used well before the end of transmission, so this is something which is near term.

01:00:12

FC  Thank you, Dr Kieny. Any other questions from the room? John, we will really take the last one. John Zaracostas.

JZ  Yes, John Zaracostas for the Pharmaceutical Journal in London. I was wondering, Professor and Minister, can you elaborate a bit what technical assistance you're getting from donor countries to do what you're planning to do on the ground with the trials for vaccines and to enhance the treatment facilities? What are you getting concretely from member states and from the WHO?

MK  Do you want to do vaccines? Go ahead?

SS  Yes, thank you. I have a little clarification. I am not the actual minister of Mali, so I want to go back home safe. I work at the Ministry of Health of Mali. I'm Head of the Centre for Vaccine Development in Mali. Since we hear about this epidemic in Guinea there has been a lot of mobilisation. The first step mobilisation, where at a country level, the Government, Ministry of Health, we all have what we call the National Disease Control and Disease Surveillance System in our countries. So, different teams were mobilised including a communication team and then I can say, for Mali, since we started, we started with communication and we're continuing with communication and communication and communication; that was the first thing we did.

And the second thing is to put together a team and train people and ask support from WHO and from CDC and from NIH. These are the most technical agencies that were available to us right away. So, after training our teams we have to go into different borders with the epidemic countries and set up what we call in French cordon sanitaire which is a team of four or five health workers, including a medical doctor, a nurse and an auxiliary, so they will stop all the passengers through the borders and check them.

01:02:37

If there is a sick person, temperature will be taken and we will be looking for suspected symptoms. In case we find a suspected case that suspected case will be isolated and samples will be taken, sent to our lab. NIH was able to set up a mobile BSL-3 lab for a quick diagnosis. So, within six to eight hours, if you are a suspected case, these days in Mali, we will be able to give you a confirmation. So, once you are negative – so far all the suspected cases in Mali are negative, so far – then we will have some counselling. In addition, your family also will have some counselling before you go home.

So, this is running and in countries where epidemics are going on we also have the same kind of team together at all places – airports, bus stations, train stations, all the borders – and in addition we have isolation areas, well equipped now with very much support from WHO,
from MSF and from all the country partners. So, this is an international crisis to me. For me, this Ebola outbreak is equivalent to an earthquake. It's a disaster. So, our governments have to be sensitive to this. The international option, WHO and others, every single person, yourself, you all have to be sensitive. You all have to try to help and do whatever you can.

01:04:15

But, having said that, these days, maybe except Nigeria and maybe a little bit Senegal, when you take Guinea, Liberia, Sierra Leone, those are the least developed countries in the world and the part of Guinea... Guinea and Mali, for example, there is a village between Guinea and Mali, half is Mali and half is Guinea, so there is no border. And Mali is also among the poorest countries in the world. And, plus, these countries have been experiencing the worst political crises between coup d'états and wars, civil wars and religious wars, etc, etc. So, it's a very unstable situation. So, we really think that so far it's working well and we believe that there will be continued support from partners so that we can be able to sustain once we have vaccines and good medicines.

JZ Thank you.

OT Specifically, for Nigeria, we've received support from CDC and first of all from WHO, that where it originally starts from, from CDC, from the European Union. The European Union has assisted us in the laboratory diagnosis of the disease. We've had CDC bringing in body scanners into our airports. We've had the WHO, itself, sending staff, physicians to manage some of our treatment centres side by side with the Nigerian team. I think one of the most useful things for us has been the Emergency Operation Centre which was set up in line with what we have with the Polio Centre that we have. That initially started us up and thereafter we got more support from those other countries and agencies I've mentioned.

FC Thank you, Dr Tomori. Thank you journalists for coming to the WHO press conference. Just to tell you that we have sent you the press release about the conclusion of this consultation. Thank you so much and have a nice weekend. Bye.

01:06:24