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in West Africa  
Presented by the Kaiser Family Foundation  
September 30, 2014**

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**FEMALE SPEAKER:** Right now I'd like to turn the conference over to Penny Duckham, Executive Director of the Kaiser Media Fellowships program. Please go ahead.

**PENNY DUCKHAM:** Thank you and welcome today's web briefing on the response to the Ebola outbreak in West Africa. As you know, this is exclusively for journalists and the whole point is to give you as much time as possible to send in questions, call in questions to our speakers today. So we're going to start with some brief presentations by our speakers and then we will really dedicate the bulk of this web briefing to your questions. As you probably know, the Kaiser Foundation has a series of these web briefings on global health issues and today is obviously somewhat more of a news story and a crisis situation than some of the previous briefings we've done. It's a great privilege that we have today with us Dr. Steve Monroe, the Deputy Director of the National Center for Emerging and Zoonotic Infectious Diseases at the CDC in Atlanta; Sophie Delaunay, the Executive Director of Médecins Sans Frontières, MSF Doctors Without Borders; and then my colleague Jen Kates, who heads the Global Health and HIV policy work at the Kaiser Foundation; and Josh Michaud, the Associate Director of Global Health Policy. And with that, I am going to turn this over straight away to Steve, Dr. Monroe, to you. Please, if you would get us started.

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**STEVE MONROE, MD:** Good afternoon and thank you, Penny, for that introduction and I'll try to be brief in summarizing the current state of the outbreak. Again to allow a lot of time for the Q&A part at the end. If we could go to the next slide please.

So this just shows by week the number of cases that were reported and just one caveat here is this is not the date of onset, this is the date of report, recognizing that there might be different lag times in the different countries and at different times throughout the outbreak. What one can clearly see is that from the time it was first reported to WHO in the end of March through April and May there were a fair number of cases, but it looks like the outbreak was under control. Then, unfortunately, in late May, early June, and into July the outbreak spilled back over from Guinea into Liberia, into Sierra Leone, and as we all know, has expanded rapidly up until the current time. With the number of cases doubling almost every three weeks in total in the worst affected countries, that being Sierra Leone and Liberia.

Could we go to the next slide please? This map shows two important points I want to make. The first is it shows the number of districts or counties in Liberia that have been affected with the Ebola outbreak, but importantly, the circles there, the red and the gray circles. The gray circle represents all cases that have been reported in that district

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or county and the red circles indicate the number of cases that were reported in the last 21 days as of the date of this report from WHO, which was the 24th of September. What you can see is that in some of the counties you can see more of the gray circles meaning a smaller percentage of the cases where in the last 21 days. But in many of the counties the red circle almost completely coincides with gray circle indicating that most of the cases have been in the last 21 days. So indicating that the outbreak is ongoing.

We can go to the next slide please. What's shown on this slide is essentially the same map and the same counties and districts affected. But it shows where some of the response activities currently are and we'll hear more about this from Sophie and what MSF is doing. But the 'L's represent the field laboratories or national laboratories and the 'A's represent the Ebola treatment units, the dark colors, which are concentrated around where the majority of the cases are. But you can see there are districts that currently are affected by the outbreak and where there are no treatment centers or laboratories nearby and the main thrust and one of the things that came out clearly from the modeling data that were released by CDC last week is that the most important thing that we can do now is to get cases into appropriate isolation and treatment in order to stem the outbreak and to stem the curve, as we say, and get the number of cases coming down. And so a big focus of

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the efforts from the U.S. Government side, but also more and more now, the other international communities that have decided to participate in the outbreak response is to increase the number and the locations of the treatment units or community based treatment. So that we can get cases into isolation and break this chain of transmission.

And finally, the next slide please. So we look at this outbreak as sort of using an analogy to a forest fire. Four different kinds of countries that are affected and this is a map that was generated by WHO, again. In the countries in red are those three countries where there's clearly ongoing endemic transmission. Guinea, Sierra Leone, and Liberia. In the sort of pale pinkish color, particularly Senegal and Nigeria, countries where there was introduction of Ebola but where it seems to have been brought under control. Importantly, in both Nigeria and Senegal, we're now more 21 days since the last case was identified. So the standard is to wait two times the incubation period, 42 days, before declaring the outbreak to be over. But given the high levels of surveillance that are going on in both those countries it's reasonable to assume that there will be no more transmission in those countries. It demonstrates that with the proper kinds of case identification and contact tracing Ebola outbreaks can be brought under control. As you're probably aware the other large pinkish country there is the Democratic Republic of Congo where there

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was a completely separate introduction of Ebola and there is ongoing transmission there. But this looks more like the classic Ebola outbreaks where the initial focus is in a remote area. Most of the cases are restricted to a relatively constrained geographic location. The country there has dealt with Ebola outbreaks in the past. In fact, this is the country where Ebola was first identified and so the hope is that this outbreak can be brought under control using the standard approaches to case identification and contact tracing.

In the yellowish color there are the countries that border directly on the countries where the endemic focus is and where we're concerned that there could be introduction as there was into Senegal and Nigeria into those countries. There's enhanced efforts and preparedness there in making sure that they are capable of detecting an introduction if it were to occur.

The green are countries that are in the neighborhood in West Africa who also are somewhat at risk for having introduction and where we're also working. In particular those countries that have the little blue rectangles are countries where CDC has an existing country office focusing primarily on HIV through the PEPFAR program and working with our staff on the ground in those countries to make sure that those ministries of health are also prepared in case there's an introduction.

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I think finally the last slide there is just links on the CDC website where you can the most up-to-date information that we have about the outbreak and then I would just add one thing that's not on here. One of the things that we did today on the CDC website/MMWR there are three early release reports from MMWR focused on Ebola and the plan going forward is to use Tuesdays as the day to put out these sort of updates on the Ebola outbreak. Various things that'll be published in the MMWR and importantly there are descriptions in there of both the Nigeria situation and the Senegal situation describing the introduction in those countries and then the response efforts that took place and how they were able to effectively bring those outbreaks under control relatively quickly. And with that, I'll wait for the Q&A and turn it back over to you Penny.

**PENNY DUCKHAM:** Thank you so much. That was Dr. Steve Monroe at the CDC and now Sophie Delaunay, we are going to turn to you please.

**SOPHIE DELAUNAY:** Thank you Penny. As we speak here MSF, Médecins Sans Frontières, we use the acronym MSF if you don't mind, has run programs with about 3,000 staff in the three most affected countries: Guinea, Sierra Leone, and Liberia and we have also, in line with what Steve was describing, deployed some teams in neighboring countries. In Nigeria and Senegal where we have provided technical assistance to the Ministries of Health so that they would get prepared in

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case of an outbreak and we're also conducting an exploratory mission in Ivory Coast as we speak, as well as responding to the more classical Ebola outbreak in the Democratic Republic of Congo. But going back to the three most affected countries, our operations take the form of providing treatment or providing isolation beds to the infected patients. We have about over 600 beds available, made available in the three countries. We have admitted about 3,500 cases, which accounts for about 60-percent of all confirmed registered cases in the three countries.

Treatment is not the only aim. Providing a capacity of isolation is only among the activities that we are running, we have about 600 community health workers doing wellness education, engaging in distribution of disinfection kits, doing some contact tracing and assistance to the population in numerous activities including burial practices.

This is what our activity consists of at the moment. In addition to that we've been engaging a number of trainings organizing in Europe in Brussels, both for our staff but also for any organization willing to increase the response capacity. These trainings are ongoing every week in order to be able to get more labor force on the ground.

The main challenges as we speak, for us at this very moment, lie precisely on the uncertainty, uncertainty of the



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mobilization, the deployment, but also uncertainty about the outbreak.

As you know, we started our intervention in March, and as early as June it was clear that the situation was out of control. It took a number of months before we were able to mobilize a greater portion of the international community. I would like to take this opportunity to highlight how responsive the CDC has been in this outbreak and the very effective and positive collaboration that we've had between CDC and MSF all along. However this mobilization has taken time to materialize, and there's still a major gap between the intent and the clear political mobilization around the Ebola outbreak and the concrete action on the ground. This is a matter of concern to us as we all know the more we wait and the more cases we're going to register and the more out of control the disease is going to be.

**PENNY DUCKHAM:** Thank you very much Sophie. One thing maybe you could come back to, I don't think you mentioned how many medical staff you actually have in the three countries at the moment.

**SOPHIE DELAUNAY:** We have over 3,000 staff working, 90-percent are national staff and about 10-percent are international.

**PENNY DUCKHAM:** Thank you, and with that I'm going to now move over to my colleagues in the Kaiser Family Foundation

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Global Health Policy team starting with Josh Michaud and then Jen Kates will contribute too.

**JOSH MICHAUD:** Thanks Penny. This is Josh Michaud speaking and thank you all for joining the call today. In my brief comments, I'd like to talk about two specific aspects of this, one of them being a reflection on the cases and the death estimates that are out there and some of our recent work on putting into perspective those numbers, and also go in to some more detail about the U.S. Government's presence in the region in terms of the Ebola response as well as the funding situation from the U.S. Government in support of the Ebola response. Regarding the case counting and the epidemiology, as we know there's lots of new information coming out every day about this outbreak. The WHO, the CDC, others are publishing updates and models on future projections as we've already heard. So in order to put it into perspective, we published a policy insight piece yesterday that tried to take a look at this and give some sense of scale of some of the key aspects of this outbreak. Some key points from that policy insight are that it's—next slide please—based on information from the World Health Organization, the cases and deaths continue to grow and even at an increasing rate, especially in Liberia and Sierra Leone. The estimate now out there is that every 30 days in Sierra Leone the cases may be doubling. In Liberia that number is every 24 days. Using the WHO data on cases, we illustrated

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that if you take into account a level of underreporting that's assumed to be out there, some cases are not counted, are not officially recorded. If you take those things into account, in Liberia Ebola may have already effected up to 1 in 500 people in that population as of the case totals that were available as of the 22nd of September, which is a very striking number of course.

Looking into the deaths we also wanted to get a comparison. Is Ebola a major cause of death in these countries at this time? Using the information from the World Health Organization we estimated that even without using the underreporting correction a count of around 263 deaths per week due to Ebola in Liberia since August 1st, so just over the past seven or so weeks. In fact that number is two-times the estimated death rate from causes of death during a normal year from the primary causes of death in the country. Just to get at this new perception that may be out there that Ebola is not a major cause of burden of disease in these countries, the data seems to indicate that it definitely is. Regarding the modeling projections that are out there that Steve alluded to, you've all probably heard about the worst case scenario being that by January 20th of 2015 that if nothing changes, and the trajectories continue as they are going now in Sierra Leone and Liberia there could be up to 1.4 million cases in those two countries alone. That would be equivalent to 14-percent

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cumulative incidence. To put that in perspective for the U.S. population that would mean about 45 million Americans. It should be pointed out though that the models also indicate that if interventions are scaled up the impact could be significant and the rates of declining cases could be sharp, as Steve alluded to.

Regarding the U.S. Government's support for Ebola, on the ground right now the latest information that we have been able to put together are that USAID has had a 28 member disaster assistance response team, part of the Office of Foreign Disaster Assistance on the ground since early August. They are the lead organization in the U.S. Government coordinating the response across all of the agencies there in West Africa. The CDC of course has a major presence and I'll let Steve comment if he wants to on the number of people, but it's over 100 people according to recent information. The Department of Defense, of course, is scaling up its engagement in the response and the Commander of U.S. Army Africa, Major General Darryl Williams is there and leading the Response Team West Africa and at the Pentagon the Assistant Secretary of Defense for Special Operations in Low Intensity Conflict is leading the response from here. It's unclear exactly how many people from the Department of Defense are on the ground right now, but their estimates are approximating 200 personnel already with more arriving. A 25-bed hospital has arrived in

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Monrovia that was slated for health care workers, and additional material and equipment as well. I also wanted to mention that the U.S. Government supports the investment in research and development for Ebola vaccines and that includes the Department of Defense, the NIH, and the HHS BARDA, and in fact NIH has already begun Phase I trials on an Ebola vaccine. Safety trials, early trials and the DOD has received approval to do so.

Now just quickly on the funding, the administration has made a pledge of providing \$175 million in support for the Ebola response and USAID reports as of a few days ago that \$95 million has already been committed to that response. In addition, the Department of Defense has requested the flexibility to provide additional monies in support of the response, an initial \$500 million to come out of the Overseas Contingency Operations account was requested and approved for both Ebola and humanitarian responses in Iraq and Syria. Then an additional \$500 million, meaning up to potentially \$1 billion, but it's unclear what proportion will be used for the Ebola response could be made available. There has been conditional approval in the Senate on releasing that or allowing DOD to reprogram that funding. Making \$50 million available immediately but requiring DOD to supply further operational details about how U.S. personnel will be kept safe during the response and other details about the operation.

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I would like to leave it there and now turn it over to Jen Kates who's going to be talking about the international aspects of the response. Thank you.

**JEN KATES:** Thanks Josh. Hi everyone I'm going to be brief because we already have lots of questions coming in that I see. Really just a couple of points on the international response and this will pick up on some things Sophie already said. I think the big question is will it be enough and will it be fast enough? Will the statements and the convenings such as the U.N. high level meeting on Ebola, the U.N. General Assembly and Security helpful resolutions, will these translate into material actions? By material actions I mean money, supplies; people in the places that they're needed. The latest estimates from the U.N. are that about \$1 billion at least is needed and more than 12,000 staff are needed in the next six months to effectively respond. The U.N. also estimates that so far about \$346 million has been mobilized—provided already and others pledged. Of course this doesn't capture some recent announcements by the World Bank, by Canada. Cuba's sending more doctors, the U.K. is mobilizing its defense. But still the gap is there as was mentioned earlier and it's not clear how this is going to translate into getting things on the ground. I do think it's important to note that there are a lot of firsts here. In terms of the response of this particular epidemic that we haven't necessarily seen in the past. For

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example, USAID mobilizing its Disaster Assistance Response Team-its DART team-on a public health crisis for the first time ever. The DOD mobilizing also on a public health crisis specifically for the first time and the first time a U.N. mission-the U.N. mission for Ebola Emergency Response-first health mission has been created in this kind of situation. It could signal an apparent shift in the global response to health crises, maybe one that had its origins in the global AIDS response. I think a key questions remains both will it be enough soon enough for Ebola and, beyond that, will this be a lasting change in terms of how donors and others respond and promote potentially a global health security agenda going forward. Whether it's for Ebola or other outbreaks and I think we're still very much in the unknown phase of that question. Thanks.

**PENNY DUCKHAM:** Thank you and now we are going to focus on the questions that are coming in. I would encourage you to continue to send in the questions by chat or if you wanted to you can phone in your questions too. I'm going to start by-there are a couple just seeking clarification on some of the points that we've already heard about-Sophie this is starting with you from Helen Branswell in Canada. She asks, "You said that MSF is doing an exploratory mission to Cote d'Ivoire. Is that to assist their capacity to respond if they have an importation or is this because there are concern that

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there may already have been importations that has not been detected?"

**SOPHIE DELAUNAY:** So it's both we're actually doing an exploratory mission on the border with Liberia. It's with a view to help the Minister of Health monitor the situation in this region but also provide, if necessary, a capacity to respond quickly and promptly. Because this is where we, at this state we feel quite desperate and powerless in being able to control the outbreak in the three most affected countries, but we do believe that we have a clear value in being prepared and able to respond as soon as potential, one first case emerges in one of the neighboring countries.

**PENNY DUCKHAM:** Thank you and this is a follow up really. I think to you, Steve. Although I think it's going more broadly than that. This is from Ann Graul, at *Thompson Reuters* and she asks, "Regarding the CDC projections that quote, 'Without intervention, the number of cases could reach 1.4 million by January 2, 2015.' At this point in the epidemic what kind of intervention would be required to turn this curve around? Is it enough to continue using the standard approach of isolation, tracing of contacts, aggressive supportive care, or at this point is the identification of effective vaccines,"—this is a big question, I'm sorry there's a lot of it—"and or antiviral agents the only possible solution?" There were a lot of questions in there.

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[Interposing].

**STEVE MONROE, MD:** Thanks for that question I'll go sort of backwards. While there is promising hope for a vaccine, it's unlikely that any of the vaccines that are currently available are going to have a significant impact on controlling this epidemic, just because of the time involved in scaling up both the production and the clinical trials of those vaccines. It's likely that there will be some use of vaccines in limited clinical trials during the outbreak, but it's unlikely that that will have a huge effect on the course of the outbreak. In terms of the modeling, the most important messages that we take from that modeling are; One, that we can bend the curve, and that we need to get at a minimum 70-percent of the cases into effective isolation. While clearly MSF has been there from the very beginning, MSF has been there in all of the outbreaks in recent memory and knows exactly how to both isolate and provide care for the patients. In this situation we believe that we can't let the perfect be the enemy of the good, so to speak. We need to look at some other approaches including community centers to isolate people so that they're not transmitting the virus on to other people. The other important message that comes out of the modeling is that every week or day or month of delay has a significant impact on the projected number of cases and so that's why we and also President Obama have stressed this sense of urgency in the

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response. That we need to do as much as we can as quickly as we can because every delay results in an increasing number of people who are impacted by this disease. Thank you.

**PENNY DUCKHAM:** Sophie or Josh or Jen, do you have anything to add to that?

**SOPHIE DELAUNAY:** Yes, I—oh, go ahead Josh.

**JOSH MICHAUD:** No, no, no. You go ahead. I just said, no, I had nothing to add.

**SOPHIE DELAUNAY:** Yeah, I would just like to add our take to the vaccine because it's true that in an ideal situation, and the situation today is everything but ideal, a safe and effective vaccine would actually be the best potential game changer to control the outbreak. Officially also because a vaccination campaign could be conducted outside of the isolation unit and so it would allow to reach out to a much larger population than we are reaching today. But as Steve was alluding to, a vaccine is not likely to be available before several months and therefore in the meantime we absolutely need to increase the capacity of isolation for the patients.

**PENNY DUCKHAM:** Actually there's a slight sort of follow-up question to this whole point while we're on vaccines. This is Denise Grady at the *New York Times*, "How many candidate vaccines are there?"

**STEVE MONROE, MD:** Steve Monroe here. In the U.S. there are two real candidate vaccines that are currently being

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sponsored for clinical trial. That is the adeno, the chimp-adeno vector vaccine and the VSV -vector vaccine. Both of those are essentially at the same phase where they're undergoing a Phase I safety trial and then, hopefully, during the outbreak we'll be able to go into Phase II trials. But again I must stress that with the relatively limited number of persons given the total number of people who are potentially affected.

**PENNY DUCKHAM:** Thank you.

[Interposing].

**JOSH MICHAUD:** PSteve, there was U.S. candidates and there are at least two others out there, I believe the GSK vaccine and an additional one from Canada, sponsored by Canada. Are those included the ones you're talking about Steve?

**STEVE MONROE, MD:** Right. The one that was developed by Public Health Agency of Canada is the VSV-vector vaccine which is being produced by a company here in the U.S.

[Interposing].

**PENNY DUCKHAM:** Thank you. There are a number of questions all sort of circling around. We have discussed this, but I don't think there's any problem in coming back to this—is the adequacy of the response so far and there are a couple of questions here from Stella Dawson of *Thomson Reuters*. First of all, she is asking again how adequate is the response to the epidemic to keep it under control. If it's not adequate, what

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else is needed? Then most specifically, when do you expect the ETUs—I do have to say I hate all these acronyms but anyway, there we go—from the U.S. and the U.K. to be up and running? Linked to that really or a follow up discussion is, can we talk more about staffing and the adequacy of having enough health care workers in the short and in the longer term. I don't know who wants to start. Those are profound and important questions.

**STEVE MONROE, MD:** Right. This Steve Monroe and I'll give my view at first. I think as President Obama has said, at this point it's impossible for us to do too much. There's so much that needs to be done that yes, the response is not sufficient at this time, and we—the collective we, the global community—need to do as much as we can to try to get this outbreak under control. Because as I said, the modeling theory shows that the sooner we can get a more effective response, the larger number of people that will be protected.

In terms of the direct question of what the U.S. Government is doing, the latest information I have is that a site has been identified for the construction of the U.S. Army led facility, the 25-bed isolation unit. I don't know at this point what the time line is for completing the construction of that. I also don't know, maybe Josh or somebody who's following it more closely knows what the timeline is for the U.K.-led effort. The point about adequate staffing is a real

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concern. As Sophie mentioned MSF is doing training at their facilities in Belgium and elsewhere. We at CDC have sent folks to that training and are trying to use it as a train the trainer model. We have set up a training course here in the U.S. over at a FEMA training facility in Alabama. We did our first pilot course with that facility last week. We're evaluating and tweaking and then starting next week we'll be running weekly courses there to try to train as many people as we can and as quickly as we can.

Recognize that there's really, as I see it, three aspects to training that's needed for medical professionals to actually go and operate in the field. The first is important training on appropriate infection control measures, and that's the kind of training that we're doing over in Alabama. The second is clinical treatment of Ebola cases, particularly in this resource constrained environment. For U.S. physicians and other physicians from developed countries it requires a little bit of education in how to treat a patient where you don't have access to all the things that they take for granted in a U.S. hospital. Then finally, it's going to be what I would call the site specific training. So, whatever facility they're going to be operating in, to know what the procedures are there. How the flow goes from the clean side to the contaminated side. How to put on the PPE, take off the PPE, etcetera, disposal medical waste. So those kind of trainings are going to have to

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take place at each one of these facilities and will be slightly different based on what the actual physical layout of the facility is. There is a huge need for both identifying medical staff, but also in terms of training staff so that they can operate safely and effectively as these new treatment units are stood up. At this point I don't have a simple answer to how that's all going to be done and how many people over what period of time we can get into the field. But we're working as much as we can to try to facilitate those training programs.

**PENNY DUCKHAM:** Sophie is there anything you want to add to that?

**SOPHIE DELAUNAY:** Yes. I would echo what Steve said, the current deployment is not sufficient to respond to the crisis there is not enough capacity and means to isolate the infected patients and to protect their relatives. What needs to be done, but ironically we know what needs to be done. We know that the only way to cut the transmission, protect the people, and give a chance also for the patients to recover is to isolate the patients. But we don't know how to do it quickly and with which resources. It's linked with the deployment of the U.S. response, because there's also a lot of uncertainty about when the Ebola treatment units would be ready to operate. But more importantly, which is a real matter of concern to us, it is still unclear who's going to run this facility and who is going to supervise the capacity of treatment? What we've

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learned not only in this Ebola outbreak, but in previous ones, is that the quality of the response is not necessarily linked to the quality of the treatment itself. Because there is no appropriate treatment. It's a symptomatic treatment. The quality of the response is very much dependent on how rigorous and disciplined the treatment of the patient is. If you want to protect your health staff and make sure that you're not actually spreading contamination, but properly isolating the patients, you need to have a very strong discipline and chain of command. Our main concern at this stage is that even if these Ebola treatment units are deployed rapidly on the ground, even if some staff have been trained in order to work in those facilities, there is a need for a clear oversight and clear chain of command. We're still not clear about which organizations are going to take over and should. There are very, very solid and rigid protocols attached to this care.

**PENNY DUCKHAM:** Jen, did you have something to add?

**JEN KATES:** I was going to say a few things. One, a response to the question of whether what's been done so far is adequate. I think the data speaks for themselves, it's not. The cases are rising at such a quick rate and in such a recent time period that it's pretty clear that the response has not caught up and it's not clear if it will. Just on the ETUs and when those might be ready—quickly on the DIFD U.K. response, my understanding is that DIFD's announcement that it was going to

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stand up for ETUs, was made recently last week, and they're just mobilizing their response in Sierra Leone now. Similarly, the U.S. is still making preparations but I don't know what the ETA is on getting those set up.

**STEVE MONROE, MD:** Penny, this is Steve again and if I could just make one more comment and Sophie alluded to this in her opening remarks. On the other side of the coin, so to speak, is this issue of the safe burial practices and the safe burial teams. MSF is making strides to try to increase training and get more of those teams into the field. It is clear that's also another important source of transmission in this outbreak is during the burial practices and that's another area where we, the global collective community, need to increase our efforts.

**PENNY DUCKHAM:** Thank you. That's very helpful because there are a number of questions coming in, moving on really, to the community. For example this question from Sarah DiLorenzo of the *Associated Press* asks about community care centers which were mentioned and she says, "I think these are small centers without treatment capabilities. We've also heard about home hygiene kits," and so she's asking are these community care centers happening and if not, when will the first ones go up. Second, can you talk more generally about these kind of quote make-shift solutions. How do you imagine a home hygiene kit would be used? Is there a risk of making people think they are

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safe when they're not? And generally there are other questions coming in about if the current approach isn't sufficient and were moving to these other efforts in the community. I think that question from Sarah DiLorenzo captures many of the questions coming in now about community efforts. I don't know, Steve do want to start with that one or?

**STEVE MONROE, MD:** Right. I'll start with a little bit of where we see it. Again it's clear that the kind of facility that MSF has used in this outbreak and previous outbreaks is the gold standard, is what would be ideal if we could scale that up to what's needed in all of the districts and all of the places where it's needed. What's also clear is that that's not going to happen quickly and so that we need to look at other approaches to effective isolation to break the chain of transmission, so that the outbreak can be brought under control. Whether that's a community care setting. The point was made about potential risk of providing untrained people with a PPE and then saying go take care of your loved ones could exacerbate the problem instead of solve the problem. But I think our view is that what we need to do is to just try some of these approaches and see what'll work in these situations and it may be different from country to country. It may be different from district to district within countries. But on this notion of trying to do something quickly rather than wait around and discuss further about what's the best approach, we

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feel it is important to try some of these community approaches recognizing that there has to be some level of support both in terms of food and basic materials for the patients and also in terms of some sort of training in use of the PPE. One thing that we'd like to see more of in these situations is engagement of survivors. Not that we would send survivors in without any protection but recognizing that survivors probably have immunity and so would be less likely to pick up a second infection. To use them either in terms of providing direct care or in terms of mobilizing, or in terms of the safe burial at the other end. Back to you.

**PENNY DUCKHAM:** Sophie do you want to talk a little bit more about those home health kits?

**SOPHIE DELAUNAY:** Yes, Penny. Like Steve says we're really exploring every other possible means and we're actually quite involved, including in the content, in the composition of those hygiene kits that we've tried to adapt over the weeks. The concerns that MSF has is that—it's two-fold. One is while encouraging some more localized care for the patients, it's absolutely crucial to ensure that the health staff is protected. The health staff is the most affected by this crisis, and so if we were to engage in more traditional care and acknowledge that we won't have all the ideal isolation units at least the very minimum because we're not even reaching a minimum standard of care at this stage. Gold standard—it's

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very kind to call it a gold standard but in fact it's not a gold standard at all. It's very, very basic and minimal. If we want to engage local health facilities in providing care and in really trying to step up in this response we need to provide minimum protection to the health staff and to the families.

When it comes to the hygiene kits we see these hygiene kits as a very valuable tool in order to limit the transmission in the communities, but our concern is that it should not be conceived as a home based care kit. Because those kits are totally ill adapted to treat patients and we are afraid that it would actually be dangerous for the communities to feel that they are protected and that they can take care of their loved ones just because they have access to those types of kits. So this is the tension there and we don't have the answer. We are very open to try to explore ways to increase this response beyond the Ebola treatment units, but at the same time we're very afraid of sending the wrong messages to the population and the communities and we're afraid that it has actually an impact on the transmission.

**PENNY DUCKHAM:** Staying with this issue around the community Natasha Loder, the *Economist*, is asking how much do we know about community transmission other than burials. For example taxis, buses, local transport?

**STEVE MONROE, MD:** Steve Monroe here again. From the data that we have, which is not complete by any means, most of

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the cases can be explained either by direct patient care, either family members or as Sophie said, unfortunately health care workers in some of the less protected health care environments, or associated with burial practices in funerals. That's clearly the main driver of transmissions still within these outbreaks and we don't have accurate data on the kind of transmission that you alluded to, what I might refer to as fomite transmission. Either through contaminated surfaces in taxis or something like that, so it can't really answer to what extent that kind of transmission is playing a role.

**PENNY DUCKHAM:** There are a couple of questions coming back around onto funding and this first one, Steve, is for you again. Would you just go back over the dollar figures about what is being promised, if not committed, to date and I think that we did cover a lot of dollar figures rather quickly. In a related but certainly separate question about money, Sophie this is for you at MSF, there's a question about how much money MSF has received from American companies and private initiatives, I guess outside government funding, and how much more do you feel is needed in the short and longer term.

**STEVE MONROE, MD:** All right. This is Steve Monroe. So I'll start with CDC and Health and Human Services, HHS, figures. As probably most people are aware today is the end of the fiscal 14 year. All of our response efforts in fiscal 14 have been funded out of our global response efforts or our

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center-based efforts or by scraping together funds to get the response going. Fortunately, in the continuing resolution that takes effect beginning tomorrow for fiscal '15 the Congress has appropriated and the President has signed a budget that includes two main figures for Health and Human Services, so \$30 million dollars for CDC. Recognizing that this is the amount that we requested for the time period of the continuing resolution which goes from tomorrow through the 11th of December and that's really for us to scale up our efforts in the country and as I said in some of the surrounding countries that we consider to be at risk.

To move back a little bit to the discussion about vaccines, the continuing resolution also contains 58 million dollars to BARDA. I forget exactly what the acronym stands for, but the folks that are supporting the development of both the vaccines, but also some of the anti-virals. This is really for them to scale up production of these counter-measures so that they can be available for use in some of the clinical trials that I alluded to. In terms of specific funding for this response in the government budget that begins tomorrow there's a total of 88 million dollars for health and human services.

**JOSH MICHAUD:** I can follow-up a little bit as well regarding USAID funding, and it may have been—my rushing through the numbers that you may be referring to in the

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question. The U.S. Government as a whole has made a pledge of \$175 million towards the Ebola response and to date, meaning as least as far as September 24th according to the USAID website, there has been a little bit over \$95 million provided. Part of that is the CDC total that Steve referred to, so CDC is included within that, but there's also the Office of Foreign Disaster Assistance and other programs within the USAID, which are included there as well. In addition part of the Department of Defense money. Putting aside the Department of Defense for a moment one aspect of the funding is that for USAID at least they have given USAID, meaning they, meaning Congress, has given USAID the flexibility to reprogram 75 million dollars of their funds towards this response. What's unclear is where that money will come from, because it's not additional funds. But it's funding that they can pull from other areas. So one concern that's been raised out there is where that money will come from and we don't have a clear answer on that yet. Then there's the additional money from the Department of Defense, returning to them. Where there might be up to an additional 1 billion dollars that has been taken out of the supplemental war funding, the overseas contingency operations account, but again we don't have a good sense of eventually how much of that potentially 1 billion dollars will be spent on the Ebola response.

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**PENNY DUCKHAM:** Sophie, the question to you about private companies and funding.

**SOPHIE DELAUNAY:** Our budget for 2014 and what we expect carrying over to 2015 is around 120 million dollars for our operations on the ground. So far we've received half of this budget in the form of donations. The vast majority from private donors, not just U.S. donors, but all around the world from our various offices. In the U.S., we've tried to limit the amount of earmarked funding because we are also dealing as we speak with major crises in South Sudan, in Central African Republic, and of course Ebola being a very visible and highly reported crisis. There is a strong risk of cannibalization and of being overfunded for Ebola and underfunded for all other organizations. What we're trying to do is to convince our donors give us unrestricted for our emergency fund so that we're in a capacity to dispatch the resources where they are most needed. Just like we do for human resources actually, because we hire constantly some new staff and we dispatch them on the different appeals, so this is what we've done for Ebola. But clearly it's going to be one of the major crises, not just medically speaking, but also financially speaking.

**PENNY DUCKHAM:** This is going back somewhat to—we've talked a lot and there's been quite a lot of attention around the lack of basic supplies like gloves, masks, gowns. There's a follow up question here from Olga Khazan at the *Atlantic*

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about whether or not those kinds of—the shortfall in supplies—whether that’s being addressed. A more specific question from Denise Grady about going back to the hygiene kits—the home hygiene kits, what exactly is in them? Different questions, but go back to this issue around the adequacy of gowns, gloves, and supplies at the community level.

**SOPHIE DELAUNAY:** Go ahead Steve.

**STEVE MONROE, MD:** So just quickly, in terms of the adequacy of supplies, and this is something that as Josh alluded to that the first time in this kind of response that USAID has activated their Disaster Assistance Response Team to coordinate for the USG anyway, the requests on the ground. The process is that requests are identified either through the ministry of health or through partners that are working in the field. Those go to the DART team that’s in the country. The headquarters is in Monrovia but there also are teams in Freetown and Conakry and then the DART process they try to identify resources to bring those into the country. I think one of the additional things that Josh alluded to with the Department of Defense stepping up their engagement is the so-called air bridge where they’re going to help with actually flying in the necessary materials. So CDC doesn’t have an active role in that except to the extent that our folks in the field are working with the folks there to identify what the needs are. As much as possible that’s the process that the



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U.S. Government is using to try and match the needs in the field with resources to fill those needs for PPE and for other things. In terms of what's exactly in the home hygiene kits, I actually know there's been a couple of different forms of the kits that have been proposed and have been distributed. I don't have the complete list of what's in each of those kits. Sophie may know more about what's in the kind of kits that they have been consulted about. Over.

**SOPHIE DELAUNAY:** Yes. Actually, the kits contain both information and material for protection. So information about disease, risks, transmission, contact numbers. There's also some basic training material in the kit explaining how to protect ourselves and to disinfect better. In those kits you have some dental materials, some gloves, some buckets, some chlorine, and some protective equipment to limit the spread of the disease. So these are—I'm talking about the kits that MSF is making and Steve was highlighting there are numerous discussions on the ground with various partners to make sure that we try to have a standardized approach as much as possible in order not to increase confusion in all the communities and the population. It will be difficult to have exactly the same kits distributed to all over these countries simply because every organization has their own chain of supplies and might not have access to the exact same material. But there is an

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effort to harmonize the composition of the kit and the approach to them.

**PENNY DUCKHAM:** I'm going to just as we have a little time still left, so some bigger questions and a sense going forward and one of them is about the children in the epidemic and in particular those who've been orphaned, whose parents and extended family has died. I don't know whether you've had the chance really to focus on this either Steve or Sophie or Josh that you can respond to broader questions about orphans.

**STEVE MONROE, MD:** This is Steve and I don't have any direct information about what's going on to care for orphans. All I would say is that this highlights how what started as a medical and public health response crisis has become really a humanitarian crisis. These so-called secondary effects in terms of food security, as you say the problem with orphans, a disruption of their routine medical care, all of this is something that also needs to be addressed as part of our response to the specific Ebola parts of the outbreak.

**PENNY DUCKHAM:** Sophie or Josh?

**SOPHIE DELAUNAY:** In a conversation with Save the Children a few weeks ago, they expressed their intention to look at this issue and set up some response in this area. I don't know how far it has materialized, but I know that Save the Children had been made sensitive about this aspect.

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**PENNY DUCKHAM:** There's a couple of questions here. We talked right at the outset about Senegal and Nigeria. Sam Loewenberg is asking if you could go back to this about whether or not those countries really have the capacity to respond if the Ebola outbreak isn't quashed there. If that's the case why have they been more effective than apparently the three countries we've really focused on today?

**STEVE MONROE, MD:** This is Steve Monroe again. I think Senegal and Nigeria are—because of their heightened awareness—they would recognize if there were another importation and would be able to respond quickly to the opening question about has the response been adequate. I think one of the things that happened quickly in Nigeria and Senegal was recognition of the case and then steps to identify any potential contacts and made sure that they were followed up. In Nigeria there was a little bit of delay in getting that going, but one benefit for our response here from CDC was that we did have staff in country, both working on HIV/AIDS through the PEPFAR program, but also as part of the polio eradication program and so we were able to quickly mobilize our staff that were already within country in Nigeria to send them to Lagos to help with that response and to get that response going quickly. Why it worked is that there was a small—that importation was recognized in both countries when there was a small number of cases, and so the response was able to quickly identify the contacts and try to contain it.

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In Nigeria, again the reports have come out today in the MMWR that shows the chains of transmission that were actually secondary cases and then tertiary cases in the Port Harcourt episode. But, again all those were recognized relatively quickly and gotten into isolation. As Sophie alluded we know how to control these outbreaks. Get the patients into isolation so that they don't transmit to other people and follow the contacts and that was done in both Senegal and Nigeria.

**PENNY DUCKHAM:** We have unfortunately come to the end of our time and there are some outstanding questions. To those whose questions weren't answered we can certainly follow-up by email afterwards and just so you know this whole web briefing will be archived and posted online so you could go back and check out the charts and the figures and this discussion. I just wondered; Steve, Sophie, Josh, Jen, whether you had any last thoughts or remarks you would like to make before we unfortunately have to stop.

**STEVE MONROE, MD:** This is Steve. I'll start and just say that I think that hopefully we can start to get a handle on this and to bend the curve, as we say, to bring the outbreak under control. Then hopefully again at the end, once the cases start to come down, one important thing to remember is that we need to keep the pressure on to make sure that it's completely contained. That's where we, again the global community, failed

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a little bit back in May and early June in not recognizing that the outbreak was starting up again and increasing our response and making sure that the fire was completely out. Over.

**PENNY DUCKHAM:** Sophie?

**SOPHIE DELAUNAY:** Yeah. Nobody knows when and how we're going to contain this outbreak. But what is quite clear is that Ebola will remain a threat in the region for some time. My hope and my call at this moment is really to make sure that whenever a vaccine is—an effective and safe vaccine is developed, it will be primarily accessible to the populations of this region. My hope is that it's going to be produced in sufficient quantities and also at an affordable price so that we can avoid such dramatic crises in the future.

**PENNY DUCKHAM:** Josh and Jen?

**JOSH MICHAUD:** Just a quick mention. I think we went through this briefing without mentioning the Global Health Security Agenda, which is something that the administration has been working on since February. It's an effort to—the U.S. Administration, excuse me—an effort to build up the capacity of countries to detect and respond to emerging infectious disease outbreaks and public health events of international concern. After not getting a lot of attention when it was initially announced in February, it seems to be getting a lot more attention now. One thing that we'll be looking out for is will this event be a transformation in the way that the U.S.

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Government and any others approach funding for platforms such as the Global Health Security Agenda and building up general health care capacity in countries like those in West Africa.

**PENNY DUCKHAM:** Now Jen.

**PENNY DUCKHAM:** Yeah, just a couple things. One thing we didn't really talk about but something to watch out for is with any public health crisis, it's always the most vulnerable and marginalized who get hit the hardest. It might be hard to see that right now, but I think that's going to become clearer and we should pay attention to that as well as the other effects on other health problems in these countries. Lastly there were a number of questions that came in on the budget figures, on the pledges, global and U.S., and we'd be happy at Kaiser to provide any more detail to any of you after this call because we couldn't get to those questions. Thanks.

**PENNY DUCKHAM:** Thank you to everybody. Thank you to our speakers and to all the journalists who participated. I hope we can keep our focus on these questions long-term because clearly this isn't something that's going to end anytime soon. Thank you again and this will all be available on the Kaiser website by tomorrow.

[END RECORDING]