CDC Ebola Response Oral History Project

The Reminiscences of

Amy L. Callis

David J. Sencer CDC Museum

Centers for Disease Control and Prevention

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Amy L. Callis

Interviewed by Samuel Robson
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Interview 1 of 1

CDC Ebola Response Oral History Project

Q: This is Sam Robson here today with Amy Callis. Today's date is June 23rd, 2016, and we're here at the audio recording studio at CDC's [United States Centers for Disease Control and Prevention] Roybal Campus in Atlanta, Georgia. I'm interviewing Amy today as part of our CDC Ebola [Response] Oral History Project. Thank you so much for being here, Amy. Would you mind pronouncing your full name for me?

Callis: Sure. Amy Callis.

Q: Great. What is your current position with CDC?

Callis: I am the head of communications and social mobilization for STRIVE [Sierra Leone Trial to Introduce a Vaccine against Ebola], which is the Ebola vaccine clinical trial in Sierra Leone.

Q: Can you tell me when and where you were born?

Callis: I was born in Baltimore in—you really want when? [laughter]

Q: You don’t have to. You really don’t.

Callis: No, I’m teasing, I’m teasing. I was born in ’67 in Baltimore, Maryland.

Q: That’s so recent! I’m sorry. [laughter] Did you grow up in Baltimore?

Callis: I didn’t, we moved around quite a bit when I was a kid.

Q: Where did you spend most of your time?

Callis: Well from Baltimore, I’ll try to get the order right. From Baltimore, we moved to Florida, from Florida to northern Virginia, from northern Virginia to Upstate New York. Then Pennsylvania, then New Jersey, then back to Virginia.

Q: What took you around so much?

Callis: My dad was corporate. We were corporate brats.

Q: What was he doing?

Callis: He worked for Xerox.

Q: Was your mom in the household as well?

Callis: Yeah, yeah. Pretty standard middle-class, two-parent household. Great upbringing.

Q: What kinds of things were you interested in growing up?

Callis: Nature, animals, art. Ironically, I wanted to be a nurse when I was a kid. Always very interested in sort of the little guy. The underdog.

Q: Where did you go to high school?

Callis: I went to high school in New Jersey.

Q: And in high school, were you still wanting to be a nurse, or—

Callis: No, I—so my path is incredibly nonlinear. I got very, very involved in theater in high school, and actually had intended to make a career out of theater, although I was at NYU [New York University] for a summer and realized that all of my friends who were a little older than I was, and graduating, were all unemployed. So I started to think about perhaps a different future. [laughs]

Q: So what were you thinking about when you were looking at colleges?

Callis: Theater. That's really, at the time, that's all I was looking at, yeah.

Q: Theater. Got you. And what made you decide to go to [the University of California], Berkeley?

Callis: Well, I did Berkeley as an adult, so it was—

Q: Oh, I'm sorry.

Callis: —yeah, no, it was when I was in my twenties, a boyfriend and I went to India. We lived in Calcutta, India, where I volunteered for Mother Teresa. At that time, I had lived a pretty sheltered life. I had been to Paris, I had been to France prior. I really hadn't seen any poverty, and it affected me deeply. I didn't even realize that a human being could actually live in that level of poverty, and it felt really unjust to me. When I came back from India, I started to think about how I wanted to contribute maybe a little differently, and that's when I went back to Berkeley for international development.

Q: I hear you. Is there anything, any images that stick in your mind especially from your time in Calcutta?

Callis: Yeah. I remember, and it was before I really understood poverty, and I remember seeing a woman with a baby, she had small children, and she had a grossly premature baby in her arms, and I knew that child just wasn't going to make it. I started bringing her baby formula. Before you understand all the consequences, you do well-intended things

that maybe aren't that [well-informed]. She ended up selling the baby formula to feed her other children. I was furious because this baby died. It took me a while to realize that this woman faced that Sophie's choice of trying to feed a child that she knew wasn't going to survive, or trying to help her other children survive. That's when it really hit me that I wanted to show up differently in the world. Work on leveling that playing field a bit. Because nobody should make those choices.

Q: Tell me about Berkeley.

Callis: I loved Berkeley. Berkeley was a dream come true. I went there and did an undergrad [undergraduate degree], international development and microeconomics in developing economies. Then I did a minor with the Blum Center [for Developing Economies] in global poverty and practice. It was fantastic. It was also where I started my first nonprofit with a professor who was a physicist there and had developed this amazing, fuel-efficient stove to help women in Darfur reduce the risk of exposure to rape. He and I, with some other folks, started this nonprofit where we were able to build up an inventory and a supply chain to get these stoves into Darfur for the women.

Q: Wow, that's incredible. Where are those stoves now?

Callis: They're in Darfur, they're in Sudan, they're in Ethiopia. And I think they're expanding to some other countries in the continent. I'm not with the organization any

longer so I'm not entirely sure where they are. But it's definitely grown by leaps and bounds. They're doing fantastic.

Q: Oh, that's incredible though. So what happens after that?

Callis: After that, I came to Atlanta to attend Emory [University] for grad [graduate] school. I got an MPH [master of public health degree] in global health and infectious disease, and I did a graduate certificate in complex humanitarian emergencies and one in human rights. While I was at Emory, my first job was with CDC while I was at Emory. My first public health job, I should say. That was with international emergencies, which was actually my first time in Sierra Leone, years ago.

Q: Do you remember what year that was?

Callis: 2009.[1]

Q: 2009?

Callis: Yeah.

Q: Okay.

[1] Note from A. Callis, October 2018: I think it was actually 2010.

Callis: I worked in Sierra Leone on a project that was assessing a community based health intervention for children under five.

Q: What kinds of issues did you see there?

Callis: Sierra Leone is an amazing country. It is incredibly poor—a lot of the children under five won't live to see their fifth birthday. The maternal mortality rate is incredibly high, the poverty is really, really—impacts everything in the country and in people's lives. That said, it is culturally an amazingly welcoming place. It's one of the places—it struck me the first time I was there—it's both a Muslim and a Christian country. I would go into these tiny, tiny villages, up in Kono, and there would be a mosque sitting right next to a church, and the villagers would celebrate each other's religious holidays, and it struck me as, this is how it ought to be. They're not without their problems, and I'm not idealizing it. They were coming off of the heels of a very gruesome civil war. But they had worked hard to achieve their peace, and they were determined to keep it. And I was really impressed with how everybody respected each other's differences.

Q: How long was that first trip to Sierra Leone?

Callis: Oh, I was back and forth a couple of times. I spent months there though. I was doing a household survey, a child mortality household survey, and so we surveyed about sixty-six hundred houses, it was a post-conflict survey. At the time it was the largest household survey, post-conflict, of its kind. We were up in a northern district, Kono,

which is the diamond district that had been hit very hard during the civil war. We were there for months—we did a couple of trips to set up the study and then we were there for a couple of months.

Q: What did you learn from the study?

Callis: We learned that the children are dying of wholly preventable diseases, things that in global health we know—diarrhea, pneumonia, malaria—things that are preventable, that are generally treatable. But access to good healthcare is really tough to come by in very poor countries.

Q: You were there in 2009, 2010?

Callis: Mm-hmm.

Q: Up through when?

Callis: I have to think through this, it was probably 2010—well, 2009 was probably the first trip, in July I think. And then went back August, September, October, and I think I came back in November.

Q: Were you involved in other things at the time as well?

Callis: I had started in a nonprofit while I was in grad school with a friend of mine, so we were running the nonprofit as well, which was working on education for children in Africa. That's just a—I don't get paid to do that, that's just a labor of love for me.

Q: Can you tell me a little more about it?

Callis: Sure. We started—it's the TARA Project, it was my dream that came out of working with Mother Teresa. When I really looked around and felt like I wanted to change the paradigm and figure out ways to level the playing field, it became clear to me that education was really the way poverty was going to change. If you had access to education, women who have access to education are less likely to get HIV [human immunodeficiency virus], they have smaller families, they marry later, their children are healthier and more likely to live to age five. It's a game changer. But in poor countries, education isn't free. We were working in Kenya, where elementary school is free, but secondary school is not free. So if you come from a poor family, or a poor community, by the time you're—you know—in sixth grade, you're done if you can't afford to pay for school. We raised money to put those kids through school.

Q: Wow, that's incredible. What were you involved in right before the Ebola epidemic started to catch fire?

Callis: I actually was working on polio. I was in the Global Immunization Division, working on social mobilization for polio eradication.

Q: Were you then in the Middle East, or—

Callis: I was in Africa, most of my work has been in Africa. In fact, when they called me in November of 2014 to ask me to work on this, I was in Dadaab, which is one of the world's largest refugee camps, on the border of Kenya and Somalia. I was an international monitor for a polio campaign there. That's when they called me to work on Ebola. I didn't actually come to Ebola for a couple more months, but that's when we first started talking.

Q: Do you remember that first phone call?

Callis: Yeah. I was dying to do it. Sierra Leone has a really special place in my heart, and I wanted to go back and help.

Q: But you weren't able to at first?

Callis: It just took some time. You know, the wheels—it was just getting ramped up, it just took a little time to get everything in place. In the early days, we were just trying to figure out how best to move around, and we knew my deployment over there was going to be six or seven months. We wanted to figure out when that right six or seven months was.

Q: Do you remember when that first phone call would have been?

Callis: The first time I spoke to them was October or November of 2014.

Q: Of 2014?

Callis: Yeah.

Q: And then when do you really start to talk about getting involved?

Callis: Well, we were working through November, December, to make it happen. November, December, January. I left in February.

Q: At that point, when you leave in February, do you have a pretty good idea of what you're going to be doing?

Callis: Yes and no. I knew I was working on the clinical trial for an Ebola vaccine. And I knew I was going to be heading up the communications for the field team. It was such a dynamic time, things were changing daily, that you just never really knew what the day was going to look like. We hadn't launched yet, we were really working hard to get—I mean, a clinical trial can take years of planning. We were working really hard to get all of the pieces in place from even the buildings. We had to refurbish some buildings. It was logistically a really heavy lift. It took us a long time to get it off the ground and actually

launch. Prior to that, from a communications and social mobilization standpoint, Sierra Leone had never seen a [vaccine] clinical trial. Nobody had ever done one. We were in the midst of a horrific emergency. We needed to be able to talk to the potential participants in a way that gave them the information so they could make an informed decision, but didn't promise. People were so desperate for a solution. We wanted to really be clear, this was a trial, we didn't know. We had a good sense that it would probably work [but] we didn't know. We didn't want to hold out hope in the middle of this emergency, and so it was a delicate—it was a bit of a tightrope, trying to talk to people about the trial and their participation in it.

Q: Can you talk more about, so what that communication work really entailed in the beginning?

Callis: Before I came, there were folks who literally mapped out every single hospital, every single Ebola treatment unit, every single Ebola holding unit, everything, so that we knew where all of the potential participants were. The trial was only open to healthcare workers and frontline workers, burial workers, people who swabbed out the ambulances, things like that, and the reason why was because they were at highest risk. They were dying by the numbers. I remember when I got to Sierra Leone in February, I went to Connaught Hospital, and I had been there years before, and when I walked in, every wall was plastered with obituaries. Photos of all the nurses and doctors who had died, and it really hit me. I think there's a great responsibility that comes with that. This country had a fragile healthcare system to begin with. And then they lost so many of their best and

brightest. And we, I felt a deep responsibility to both honor the risk that these people were taking, but also make sure that we provided them all the right facts, so that they could really decide if they wanted to participate or not.

Once we had done this enumeration of all of those hospitals and everything, we literally went to every single hospital and we sat down and gave an information session where we talked about everything from the science that had come before this trial, what we knew, what they could expect, what we felt that some of the side effects would be. All of these things. After, we opened it up to questions, and everybody was able to ask their questions and everything. We did this in hundreds of places. And probably talked to, unfortunately we don't have great records, but I would guess that it was upwards of one thousand to two thousand at least.[2] Then, if they decided they wanted to participate, when they came to the actual vaccination center, we again did a smaller information session and allowed them to ask questions. Then they did an informed consent one-on-one where they would sit down with someone who spoke Krio or Temne, or whatever it was that their native language was. Often cases, it was English. They would go through the informed consent step by step by step, and allow them to ask any additional questions at that point. It was a very high touch and in-depth process, but from an ethical standpoint, I feel very strongly that we did it exactly the way it should have been done.

Q: What makes you think that?

[2] Note from A. Callis, October 2018: In looking back, it actually had to be closer to ten thousand because everyone who was enrolled sat through an information session and we enrolled 8,651 people.

Callis: Well, we—first of all, the response was amazing. We never had backlash, we never had any big rumors or backlash against the trial. I think a lot of that was due to the fact that we one, worked so hard to provide the right information to the participants. But we also worked with the community. I sat down with chiefs in the area that we were working in, and would sit and talk with them, and I would go back every six weeks, or part of my team would go back every six weeks and update them and the mayors and the city council and hospital administrators. We really made it a priority to continually communicate with these people and make sure that they felt a part of this process, and that they could talk to us if they had concerns. Because we knew that they were people that the community was going to talk to, and say hey, we heard about this vaccine, what's going on? I think that was really important. It's ethical, it's respectful when you're in a country to sit down and talk with the stakeholders and the leaders. But it also helped our trial. We had hoped to enroll six thousand people—we enrolled over [eight] thousand. There was a lot of support for this. A lot of hopes hung on it.

Q: I'm wondering, this is kind of a strange thing to ask.

Callis: Sure.

Q: But could you kind of like, pretend that I am—sorry, this is kind of strange.

Callis: That's okay.

Q: Could you like, pretend that I am like a hospital administrator, for instance, and kind of explain the trial to me?

Callis: Sure. The first thing you need to know about Africa is it's a relationship-based culture. The first five, ten, fifteen minutes of a conversation is really talking about our families, and I would often, when I would leave the meetings, would take notes about their families, so that when I came back, I was able to ask about how their son was doing in soccer or whatever, and it's very much a relationship culture. These meetings tend to go very long, so I'll try to keep it really short. We would talk about our families and how everything is going, and then I would say to them: as you probably have heard, we are looking at doing this clinical trial. It's a partnership between the CDC, which is the Centers for Disease Control in the US, and our partners here in Sierra Leone, which is the Sierra Leone Ministry of Health and Sanitation, as well as the College of Medicine and Allied Health Services. That was one of the things we wanted to make sure people understood. It's about partnership, and we weren't coming in and doing this. We were the technical support for our in-country partners. Then I would go into what we knew about the trial, what we knew about the vaccine, what we thought that some of the side effects were going to be, go into some of those more technical conversations, talk about the Phase One. With clinical trials, there's Phase One, Phase Two and Phase Three. And Phase One is [about safety], and Phase Two is more about [efficacy and side effects]. And they're smaller studies. Ours was a Phase Two/Phase Three, because it was a large amount of participants, but it's also a huge amount of safety data [and side effects data].

But before we even started this trial, there was already safety data that we knew. We conveyed what we knew, and we conveyed—one of the questions we got a lot of times was, why are you doing it here? We don't want to be the guinea pig. And we wanted to make sure that people understood that previous trials had happened in the United States and Canada and Europe, and other African countries, and that there was no way that we were looking at this population as being guinea pigs. It was a delicate balance. We wanted to study the vaccine to see if it worked in the midst of the epidemic because—but we also were very hopeful it would offer protection. We were very clear with people that we didn't know if it worked. But we were hoping it would offer some of these healthcare workers some protection as well. It was this really delicate balance.

Then we would talk about what the process for a participant would look like. That the enrollment would take several hours because we wanted to really go over everything with them, and that they would be balloted, and this was one of the things I think we did really well. Normally, you're just randomized. But what we did in the spirit of transparency was put a handful of envelopes in a bucket and let the participant pick one so that they felt that they had some agency in whether or not they were going to take the vaccine immediately or in six months' time. If they took the vaccine immediately, they got the vaccine that day. If they were balloted to be delayed, we would contact them in six months' time. Then they were followed, and we had a phone line for them to call in, we had monthly calls to follow up. We told all of the administrators this, and then we would ask permission. Would we be allowed to talk to your staff? Is that something that would be agreeable to you? Almost without exception, everybody was willing to let us talk to

the staff. Then we would have this big information session that I had described to you. And a question-and-answer period.

Q: When you're describing the side effects, can you kind of—can you do that actually here?

Callis: Sure. This was actually something that was a little concerning, because in the midst of an Ebola epidemic, we had a modified case definition, which means that the threshold to decide if you had Ebola or not was a little lower because of the epidemic at the time. This modified case definition was fever, diarrhea, vomiting. The vaccine could give you fever, which was a real concern for people. It was a short-term, you know, within a day or two you would be fine. But some of the side effects were—the same side effects that you'd get with almost any vaccine. Soreness in your arm, a fever, you might feel a little flu-ish. Those type of things. Some that were a little more unique and more rare were pain in your joints, or some painless blisters in your mouth or your hands or your feet. They all resolved. But we wanted to make sure people understood that that was a potential for them, even though it was rare, that that was a potential. We didn't want anybody to feel like they didn't get all the information in order to make an informed decision.

Q: Yeah, right on. You mentioned that a lot of people had questions about—people were concerned about the fever, and you said a lot of people had—I'm trying to remember the question. Can you tell me about some of the most common questions that you would get?

Callis: [laughter] Well, we did recommend that women refrain from getting pregnant for several months after the vaccine. We got a lot of "marriage business" [Sierra Leone phrase for sex] questions. That was probably [laughter] our number one series of questions. But then some of the other questions were questions about, what if we found out that there was a problem with the vaccine? Were these people going to be protected and taken care of? And there were questions about how they would be taken care of. What would happen. We had offered healthcare for those who were participants in the study during the time that they were in the study. They wanted to understand what that healthcare meant. Because that's a new concept for a lot of these folks, in a very poor country. The idea of being able to get your health needs met without having to pay for it is—I mean, we know in the US that has not been true for everybody. And certainly in poor countries that's even more the case. So, it was a lot of those sort of more administrative questions than the technical questions about the vaccine. I think in some ways that's because this was a healthcare population. There was an EPI [Expanded Program on Immunization], which is a vaccine program, that had been going on and going well in the country, and so these healthcare providers were not unaccustomed to vaccine. They did have a lot of concerns about it being experimental. And I understand that. That's where the—if something happens, what's going to happen to my family? Or to me? How are you going to take care of us? Those were a lot of the questions.

Q: Okay. Sorry to pry a little bit—

Callis: It's okay.

Q: —but—okay. The business of marriage, what does that mean?

Callis: Sex.

Q: Right. Okay.

Callis: So they wanted to know about if it would affect a man's ability to conduct marriage business. And why we were recommending that. The reason we were recommending it is because we hadn't studied it in children, much less in unborn babies. While we don't think that there are any major safety signals, we don't know. We haven't studied it yet. We just wanted to be abundantly cautious and safe. That's why we were recommending it. That said, a number of women have gotten pregnant, and are—their pregnancies have been fine, and we're following their babies for a month afterwards. But we just wanted to be safe. But of course, that raised alarm bells. And I get that.

Q: Yeah, absolutely. Can you talk about some of—I'm not asking you to share personal information or anything, but some of those consulting sessions that really stand out to you when you look back?

Callis: The one that stands out to me was, we were—the police force in Sierra Leone had a heavy role in being frontline workers. A lot of them were eligible, and we did an info

[information] session at one of the police headquarters. I don’t know, there were about one hundred people there, and one of the things that really concerned people when we described it was that there was a little piece of Ebola in the vaccine. Which is terrifying in the midst of, you know—and it can’t cause you Ebola, but obviously if you don’t know a lot about science, that’s a terrifying, terrifying concept when you’re seeing what’s happening in your country. We were really having trouble describing to them how—why it wasn’t a problem, and finally I thought, well, they’re police officers. So we talked about how somebody commits a crime in a village, and you go into the village, and you get a description. They say, “They’re wearing a red coat and a red jacket.” So you’re looking for that red coat and that red jacket, because you’re on the hunt for that. And that’s sort of how antibodies work in your body. They’re looking for that specific thing which is what the vaccine brings. But that red jacket isn’t what caused the problem. It’s the guy inside. And what’s in [the Ebola vaccine] is like the red jacket. It can’t cause the problem, but it allows you to recognize. It allows your body to recognize it. And it clicked for everybody at that point. That was a real turning point for us, because it had been really tough for us to describe how that worked, you know, prior. And as soon as I said that, everybody was like oh yeah, I totally get that. Yeah.

Q: I think I understand it better now. It’s great.

[break]

Q: So Amy, what happens after this series of consulting, question answering, and making sure people understand the risks and potential benefits?

Callis: We finally got the okay in April to launch. We had been prepping the sights, we had gone out and talked to hundreds and hundreds[3] of healthcare workers and all the chiefs, and it had been months and months and months. There were people on the ground working on STRIVE in December and November. Finally, in April, we got the okay to launch, and I remember that day. Jane Seward and I were out, it was at a rural facility in Western [Area], which is just outside of Freetown. The energy was just incredible. All the staff, we were waiting for this day. Everybody was so excited, and I remember the first guy who went to get vaccinated, and I asked him, "Do you mind if we take your picture?" A lot of these folks at that time were a little hesitant to want to admit that they were with STRIVE, or that they were participating. Because they were afraid of stigma. Of course, the participation is totally confidential. So if you don't want to, that is absolutely your choice. I thought we probably had less than a 50/50 [fifty percent chance] of being able to capture the first vaccine. And this guy was game. He was all for it. "Absolutely, take my picture." I remember Jane and I walked into the station, and they unzipped the CryoCube, which is where the vaccines stay at the right temperature, and they pulled it out, and they gave him his shot. Jane and I just looked at each other and thought, my god, that's the very first vaccine for Ebola in Sierra Leone, and we just witnessed it. It was a really great moment. Because we had been working—none of us

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[3] Note from A. Callis, October 2018: In hindsight, it actually had to be thousands.

had days off. We were working sixteen-hour days, and just to see it finally happen, it was like oh my god, we did it. Yeah, it was pretty great. It was a great day.

Q: That's really cool. Tell me about what happens then after you get the okay, and you're moving forward.

Callis: We're moving forward, and so we opened up—we were working in Western, so we had two sites in Western, one in Freetown at Connaught Hospital, which was the major hospital in the country. And then one in [Western Area] Rural. And then we worked in Port Loko, where we had three sites. Then we worked in Tonkolili and Bombali. These are different districts. We staggered the openings of these sites, and we had over three hundred Sierra Leonean staff who were brilliant and were really running the day-to-day operations. It's a pretty in-depth operation because you walk in the door as a potential participant, and the first thing you have to do is be screened. Are you even eligible to participate? Are you a healthcare worker? Are you a frontline worker? Are you pregnant? Right off the bat, that's the first thing. So we had screeners to train. Then if you were eligible, you passed your screening and you were eligible, then you went to go get consented. In my mind, the consenting was probably one of the most important things because this is where somebody really says, "I have made an informed decision, you have answered all of my questions, and I choose to participate, I'm not being coerced." Ethically, I think that's incredibly important. They would sit quietly, they had privacy screens, and it was a very private conversation between the consenter and the participant. That took some time. Once they were consented, they were enrolled. They would then be

balloted to taking the vaccine now, or to being deferred to take the vaccine in six months. If they were deferred, they were done for the day. But if they were immediate then they would go to get vaccinated. Our nurses were great. The actual vaccine was the shortest part of the whole process. Within five minutes you were done. Then they would be observed for an hour, just to make sure that they were feeling okay. But it's ironic that the vaccine itself was the shortest part of the process.

Q: Do you remember, did people have different reactions about whether it was immediate, or whether it was going to be in six months?

Callis: You know, it's funny. When we first opened, the first week or two, people were scared. They were actually happy if they were deferred, and a little nervous if it was immediate. But they were—those few first brave souls, I give them a lot of credit because everyone was watching them. As soon as their friends saw that they were fine, people were coming in droves. Then, it changed a bit. Then it was, if you got deferred, you could see sometimes their faces would fall because they were really hoping that this would give them some protection. A lot of these people had already suffered great loss. Coworkers, family members—their whole cultural and family infrastructure had been changed. Even if they didn't have an immediate loss, the whole world in Sierra Leone was nothing but Ebola at that time. And they were on the front lines.

Q: Sorry, switching gears a little bit. Can you tell me—I'm sure that over time, you got to work pretty closely with a number of Sierra Leonean colleagues. Can you tell me about some of those people you worked with?

Callis: Yeah. I had the absolute pleasure of working with the Peace Corps language and cultural facilitators. At the time, Peace Corps was shut down. The doors were shuttered, and all the Peace Corps volunteers had been evacuated. But there are in-country staff, and they are brilliant communicators. Brilliant communicators. It was their job, when Peace Corps was up and running, to work with the volunteers to integrate them, to get them to understand the culture and how to really work within the culture and language and everything. Karen Swails, who was the director of Peace Corps in Sierra Leone, very graciously offered them. As communicators, we were overjoyed. They were instrumental in helping us think through how to say things, anticipating certain questions so that we wouldn't fumble when we were asked. One of them, Alhaji Barrie, who actually right now—I'm so proud I want to give a shout-out. He right now is in the United States as one of the Nelson Mandela [Washington Fellowship for] Young African Leaders. He's here for the next six weeks being trained in the US. I'm very excited for him. But he would go with me to meet with the chiefs and everything. His presence and decorum and understanding really went a long way to facilitating how successful we were.

Then our other folks who were instrumental were the pharmacists. They were pharmacy students. Because of Ebola, all the colleges, schools, everything closed. Everything closed in Sierra Leone. You had these pharmacy students who had completed all their

studies, but they just couldn't sit down to take their test. They technically hadn't graduated, and there was nothing for them to do. Everything is closed. So we hired them on, and they worked with me on the information sessions. They have a great scientific background, they understand vaccines well because they're pharmacists. They worked with me on the information sessions. They were actually the folks who lead those sessions. They were amazing. Amazing group of guys.

Q: I assumed that you would be working with these cultural intermediaries in cool ways, so that's just really neat to hear. So things kind of start moving in—you said April?

Callis: April, we opened the doors in April.

Q: In April. Any other events that you'd look back—what's the next thing that you remember?

Callis: We had immunogenicity, which was a sub-study that we were doing, which requires that you take blood. The idea being we wanted to see how your body—if your body produced an immune response to the vaccine. And if so, how long that immune response lasted. For those who agreed to participate, we would take their blood before they got the vaccine, and then we would take their blood during intervals. Twenty-eight days, three months, six months. I remember that we got a lot of pushback. Taking blood is not a common occurrence. The idea of routine bloodwork in Sierra Leone, there is no such thing. A lot of especially the young nurses were really alarmed at the concept of

taking the blood. What we finally ended up doing is I got a [small] water bottle and a [large] water jug, both of them were clear, and I ended up going to the chef at the Radisson [Blu Mammy Yoko Hotel] and begging him for red food coloring. We dyed the water red so it would look like blood, and we put just the amount that would be taken from a syringe into the tiny water bottle, and the whole amount of what you have in your body in this big jug, to show people, this is what you have in your body, this is all we're taking. We put these sort of dioramas up in the waiting rooms so that people could really understand that what we were looking at was a tiny amount compared to what you have in your body. And that worked really well.

Q: That's really neat. Other memories?

Callis: I'm trying to think. One of them—I'm going a little out of order, but one of them was, I believe it was February. We were really working hard, and it was frustrating because we hadn't opened. It's just hard when you see the need is so great and you're not getting anywhere. We really needed some good news, and I remember the day they reopened the schools. The schools had been closed for nine months—there were no children on the streets at all. It was weirdly quiet. I remember the day they opened the schools, driving out to Connaught Hospital and seeing all these kids in their school uniforms marching off to school. I just thought, oh my God, we're on the back end of this. Things are going to start to get normal again. It took a really long time for that to happen. We still had cases and clusters, and even after we got to zero, we got another case, but that to me signaled like we're on the back end of this. It's contained, if not

controlled entirely. But it's contained, and we're on the back end. This is a country that had lost so much that just seeing the kids walking to school was just this vision of normalcy that there hadn't been any of it for months.

Q: I imagine that would be really powerful. Were you working—you must have been working quite closely with Jane.

Callis: Yes.

Q: Can you tell me about working with Jane?

Callis: She's awesome. Jane is great. Jane calls it like she sees it, and I love that. She is fun and no nonsense and wickedly smart. It's a great combination in a leader. She just really got us moving forward. She had managed also to develop a very, very good working relationship with Dr. [Mohamed] Samai, who was her counterpart in Sierra Leone. I think that he trusted her, and she trusted him, and I think that went a long way to getting us moving forward. Yeah. Jane's great.

Q: [laughter] Any funny moments you remember in particular with Jane?

Callis: I don't know. Oh, yes. Birdwatching. Oh my God, Jane's an avid birdwatcher. We have a photo in the STRIVE offices of her and one of the deployers, Jane Zucker, who heads up immunization programs in New York City—she came and deployed, she's a

lovely woman—and the two of them are avid birdwatchers. We were driving along one day, and how they even see this—somewhere in a tree, they see a bird, and immediately screech that they have to stop the car, and both of them are out there with their binoculars up, looking at this bird. Which none of us would have ever noticed, but they were hilarious. They were two peas in a pod. Everything, when they were together, was all about the birds.

Q: That's so great. [laughter]

Callis: Yeah.

Q: Can you tell me about your work as 2015 winds down?

Callis: Yeah. We're on the back end now. All of the participants have been vaccinated. I should say not all of them, but most of them, we're done vaccinating. There are a couple that we lost to follow-up, but we're done vaccinating. We finished that in December. This month, we're finishing the six-month follow-up for those last folks. We're really closing down quite a bit. The only pieces that we have left are immunogenicity, which is happening—one of the blood draws is happening this month. Obviously, we continue to follow women who got pregnant within two months of taking the vaccine. I think at this point we anticipate that the last woman would give birth in November, and we would see her baby in December, and then everybody will have been released from the study. We are right now working on a plan to disseminate the results, probably in September. One

of the things that has always been very important to me: when you do international work, you work in these communities, you rely on their goodwill. They trust you, and then too often, nobody comes back and tells them what the results were. I felt very strongly that we needed to have a very robust dissemination plan for the results. We're building that out right now. We'll go back and obviously do the higher-level national work, but we'll also go back to all the chiefs, and all the hospitals, and everybody, and really let them know what we found. Because the success of the study is primarily on them.

Q: That's kind of inspiring.

Callis: Yeah.

Q: Sorry, not just kind of.

Callis: Yeah.

Q: Wow. What other communication issues have come up for you? Say this year?

Callis: It's been—we've been really lucky. Communications-wise, it has been relatively quiet for us, and I really do attribute that to all of the work we did before we even vaccinated the first person. We continue, even throughout the summer—in fact, I was in Sierra Leone in May, and I went and visited all the chiefs and all of the mayors and everybody, and continue to do all of that. I really do think that because we have kept

everybody as partners, true partners, and really kept them abreast of what's going on, we haven't had communications crises. Which has been fantastic. As communicators, we always want to work on being proactive and not reactive to emergencies. The fact that we really haven't had too many of those has been pretty great for us. From that end, it's been generally quiet. We're writing our papers and getting ready to disseminate the results in September. I've been—it's weird to be on the opposite side of this because what I've been spending time doing is recording interviews with a lot of the deployers and the staff there. Because I think we all recognize that this was something historic. For most of us, this will probably be the most important thing we do in our careers. I really wanted to both honor the people who deployed—because a lot of people made a lot of sacrifices. A lot of family members pitched in, it wasn't just the folks who went. I wanted to honor that, but I also wanted to capture what their role is, what they did, because I think that this was a very historic moment in time.

Q: Can you tell me more about the project, and what you ultimately want to put together?

Callis: Yeah. I actually thought about the project a year ago while we were still vaccinating, we were still in the midst of it. I was with a reporter from the German version of NPR [National Public Radio]. I remember something he said to me. He said, "You all live on an island called Ebola." I thought, God, that is absolutely true. We— 24/7 [twenty-four hours a day, seven days a week], we eat breakfast, lunch, and dinner with each other. We never have days off. All we do is Ebola. It makes for some very boring people, [laughter] very one-dimensional folks, but for us it was very true. I

thought, we need to really capture the remarkable moments out here. So we started interviewing, in the field, some of the staff. The nurses, and the—my language and cultural facilitators from Peace Corps, and the pharmacists. Our surveillance workers and all of those folks. And their stories are amazing. Stories about why they wanted to be involved in this, how Ebola affected them. It was just incredible. And we interviewed some participants as well. From there, I wanted to complete the picture by interviewing some of the CDC folks. So we interviewed a bunch of deployers. I think all told, we have so far I want to say close to fifty interviews. Hours' and hours' worth of tape. Obviously, it's far more than any one person would ever use, but for historical purposes I think it was important. There are some real amazing stories in there. Really amazing stories.

Q: I imagine. Have there been patterns that you've been able to pick out from listening to all of these?

Callis: One of the things, the last question I asked everybody was, "If you could sum up STRIVE on one word, what would it be?" Without exception, they were all—amazing. It was all about gratitude and inspiration. I thought that was very telling because you won't always hear that. For me, I was there 217 days, and I never had a full day off the entire time I was there. That's not unique. I am sort of normal for every deployer who was there. When you work that hard, the first thing out of your mouth typically isn't, "The most inspiring thing I've ever done." Except for us, it was. Yeah. It was incredible.

Q: That's incredible. Sorry, this is an unrelated thing again that just kind of popped into my mind. I know that one of the—the prime direction for STRIVE was that you were going to conduct this in a way that does not interfere with the response, with making sure that cases plummet as soon and as universally as possible. However, were there any moments where there might have been tension between those two goals?

Callis: No, never. We were very clear, the most important thing was to get the outbreak under control. There was never any tension. I worked incredibly closely with the head of communications for the response, Kathy Hageman. We coordinated every step of the way. There was never, ever any tension. The stakes are too high. It was just the stakes were too high. There was no room for territorial playground nonsense. Everybody was just nose to the grindstone, get it done.

Q: Yeah, absolutely. Can I ask, what has the response meant for you?

Callis: I'm proud, I'm really proud to be a part of it. For me it was deeply personal because I have a great love for Sierra Leone. I was really, really happy to go back and be able to help during one of the darkest times—this country, its history has been—they've had such a tough go. To be able to go back and help them, I think for me, it probably is the most meaningful thing I will have done in my career. I hope to never see another public health catastrophe like this again. And if there were, I'd sign up again. But it was amazing to feel like you were part of something that important. It was really amazing,

and even my family got it. I know they weren't really thrilled with my going, but nobody—everybody said, "I totally get it. This is what you're supposed to do."

Q: I know you're still working on it, there's still a lot of work to be done, but do you have any inkling of what comes next for you?

Callis: [laughter] I have no idea. Maybe a Zika deployment.

Q: Okay.

Callis: Yeah, I'm a glutton for punishment.

Q: Apparently. [laughs] One after another. Well, I want to give you the opportunity also—I know that the questions I ask don't always get to everything that you want to talk about. Is there anything that we haven't discussed that you want to make sure that we have on the record?

Callis: I touched on it just a little bit. I think one of the things that is so important is recognizing that this work doesn't happen in a vacuum. For every deployer who went, there was an entire network of people, both professionally and personally, who picked the ball up at home. Professionally, when someone gets deployed, their work still has to happen. Their team at home is spread a little thin picking up that slack, and I think very often, we don't give props to the folks who didn't deploy. This was a huge response for

this agency. Without exception, I think probably every center was stretched a little thin. There were people here at home that were not officially part of the response that came in every day and picked up the slack for people who were. I want to make sure that we make that clear, that even if you didn't directly work on the response, you directly supported it. But then also, on a more personal level, we all have families. On my team, I had a guy on my team who had two young toddlers at home. And he deployed. There was another person on STRIVE whose wife was expecting, and he deployed. People, you know—mother-in-laws and father-in-laws would come in to help take care of children, and family members stepped in to foster pets. My dog went to live with my parents for close to eight months. There were an awful lot of people who really bent over backwards to make it happen because if we didn't know that our children or pets were well cared for, we couldn't focus, right? You've got to know the home front's working in order to focus this way. I think that there are just an awful lot of people, like this response encompasses far more than the people who actually set foot on African soil.

Q: Absolutely. Do you—I'm sorry to ask you this also, but can you talk a little bit more about your family, and—

Callis: Yeah.

Q: —you know, talking to them through the response.

Callis: Oh yeah. I have my mom and dad, and I have an older sister and a younger sister. I'm very close with my family, and I remember when I was asked to go, at the time, I had a pit bull, a very special-needs pit bull, and I thought the only people I could leave her with are my parents. And I'm not so sure they're going to want her. I didn't want to put pressure on them, but I knew if they didn't take her, I probably couldn't take this deployment. So I mentioned it to them on the phone, and I said, "Don't answer right away, just think about it." I was stunned when the next day my dad called up and was like, "You need to do this, we'll take her." I went, "Oh my God, that's fantastic." They spoiled the hell out of her, it was ridiculous. [laughter] It was just ridiculous. I got to talk with my parents, and I think this was true, with friends and family through Skype. When I first started working overseas in India, there was no Skype, there were no cell phones. I remember my mom, I would go down to the corner phone place and call her up on a prescribed time, and my mom would say, "God, it's like you live on the other side of the moon." And here you could Skype, or you have cell phones, and it's such a different experience. It really makes doing these deployments, that can be pretty stressful, a lot easier. Because you have that real-time ability to contact your family and friends. And also Facebook, honestly. Social media, you feel like you're still a part of—you know what's going on. It makes a big difference. It makes a big difference.

Q: Got you. Well thank you. This has been a total pleasure, just hearing about your experiences. Yeah. Thank you so much, Amy.

Callis: Thank you.

[break]

Q: We're back with Amy Callis, June 23rd of 2016 at CDC. Amy was going to tell us a bit about her own experiences being a potential patient. Is that right?

Callis: Yes. I ended up leaving after 217 days, I left Sierra Leone in September. I got back here. It's not that way anymore, but at that time, you would have to go through special screening when you got into immigration. They would make you put a mask on, they would make you take your temperature and all this stuff. At the time, you had to follow up for twenty-one days with whatever public health agency you are, whatever state. Which of course for us is Georgia. But I was missing my dog terribly, and I missed my parents, and so I had told them that I wanted to leave the next day to go up and get my dog from my parents in Virginia. They said that that was totally fine, and I got on the road, and I felt fine. I got into North Carolina, and I spiked a fever, and I was sick. I made the case definition, this modified case definition. When that happens, you're supposed to call the EOC [Emergency Operations Center], which is great. Those guys are amazing. I called them up, and I told them what was going on. They said, "Alright, you're going to need to get checked out. We'll notify North Carolina state and get this ball rolling." I said okay. And I don't know, maybe an hour, forty-five minutes later, my fever had spiked even higher, and I knew I wasn't safe to drive. At the time, I had actually said no, no, I'm going to drive through to Virginia. I'm going to drive straight through to Virginia, it's fine. I want to be in a hospital close to my parents. They said okay. So they had actually

notified Virginia first. So they notified Virginia, and about forty-five minutes later, my fever spiked even higher, and I just knew I wasn't safe to drive anymore. I had to call the EOC back and say, "I'm as far as I'm going. I'm really not feeling well." They then called a second [state to notify them about a potential Ebola case]—I feel really bad for them because these are not easy processes. They called a second state, and the state epidemiologist called me up and was so charming with her Southern accent and said, "I understand you're not feeling so well. We've totally got you covered, don't worry about it." She said, "I want to take you to Wake Forest Baptist Hospital rather than this community hospital that's very close to where you are, because I think the community hospital's going to freak out, but Wake Forest will be fine." I said, "That's fine." She said, "Just give us a little while because they need to get set up for you." Because now remember, I was 99.999% sure I did not have Ebola, but you've got to treat it like it is. They had to institute all of the protocols. God, they were so excited. [laughter] They were so excited, the head of infectious disease called me up—and I've never had this kind of customer service in my life in a medical emergency. He called me up and said, "I'm going to take your case." I get there and they had men in the space suits, and it's weird to be on that side of it. They had men—I realized like, oh my God, the men in the space suits are here for me. It's a weird one. They made me park the car, and they cordoned off my car with tape. And I walked into a negative pressure room. Of course, the nurses and doctors are all in their full PPE [personal protective equipment] and their space suit PPE. We figured out pretty quickly it wasn't Ebola. It ended up being the most dramatic case of norovirus ever for Wake Forest. But they were so delightful, and they were so excited because in their minds they had been training for this. Now remember, we have the whole

response over in Africa, but here, all the hospitals and everybody have been training for this. They thought they had a potential case, this was not a test run, this was the real thing. Man, they were so excited. I say this all sort of tongue-in-cheek, it was all fun and games until I had to make the call to my parents and tell them I'm in the hospital, I'm not going to make it up there today. You can tell your family not to worry, but that doesn't mean they won't. All the doctors and the nurses and I were having actually a grand time, considering how sick I was. But making that call to my parents was pretty tough. They'd been waiting seven months for me to come home from an Ebola country, and then to tell them I'm hospitalized was not—but we knew what it was pretty quickly, and it ended up being, like I said, probably the most dramatic case of norovirus that Wake Forest has ever seen or will ever see. [laughter] But yeah.

Q: And I'm sure you eventually made it up to see them.

Callis: I did. I did. I stayed for a couple of days. [laughter] I didn't want to get anyone else sick. I finally got up there a couple days later.

Q: How was your dog?

Callis: My dog was I think a little confused. She wasn't sure—the other thing is, my parents are retired, so she got like seven walks a day and everything. I think she was pretty psyched with the gig that she had going on there.

Q: That's pretty funny. Okay, thanks for sharing that.

Callis: Thanks.

Q: Yeah. Oh, you know what? And another thing I wanted to ask you.

Callis: Sure.

Q: Did you also have someone interview you for the STRIVE interviews? No? Okay. I kind of want to ask you the question about the one word.

Callis: Oh, okay. [laughter] You know, that's so funny, I've asked so many people that, and I haven't thought of my own one word. [pauses] It was a gift. It was a gift to be part of it, I think it was a gift to Sierra Leone. So many people benefited from it, not just potentially with the vaccine but a lot of the capacity building in the work, in a time the economy had stopped. It was a gift to get to know amazing Sierra Leonean friends and other deployers that I would never have known.

Q: Thank you for that.

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