CDC Ebola Response Oral History Project

The Reminiscences of

Sarah D. Bennett

David J. Sencer CDC Museum

Centers for Disease Control and Prevention

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Sarah D. Bennett

Interviewed by Samuel Robson
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Interview 1 of 1

CDC Ebola Response Oral History Project

Q: This is Sam Robson here with Sarah Bennett. Today's date is March 16th, 2016, and we are in the audio recording studio at CDC's Roybal Campus in Atlanta, Georgia. I am interviewing Sarah today as part of our CDC Ebola Responders Oral History Project, and we'll be discussing her life and career, but especially focusing in on her response to the 2014 Ebola epidemic. So Sarah, thank you for being here, and for the record, could you state your full name and current position with the CDC?

Bennett: My full name is Sarah Denise Bennett. I'm a lieutenant commander in the United States Public Health Service, and I'm a medical officer assigned to the Centers for Disease Control, currently working on the Ebola response.

Q: Great, thank you. Can you tell me when and where you were born?

Bennett: I was born in 1980 in Cheverly, Maryland, but spent most of my time growing up on the eastern shore of Maryland. So, rural farm country in Maryland.

Q: Tell me about that.

Bennett: I grew up in a small town, Centreville, Maryland, with three sisters and two parents and horses and chickens and other farm life, basically. That's where I graduated from high school, and after that left to not live in a rural town. [laughs]

Q: I want to come back to that part. What did your parents do on the farm?

Bennett: Actually, we were not farmers.

Q: Oh, you were not farmers.

Bennett: We had a farm, and we had a farmer named Smokey Cannon, and he and his family who actually farmed the property for us. We were like gentlemen farmers, I guess. We lived on a farm but we didn't actually do the farming. My dad was a newspaper carrier and my mom was either raising us or a dairy manager at a grocery store.

Q: Was it just you or did you have siblings?

Bennett: I had three sisters.

Q: Where were you in the order?

Bennett: I was number two. My older sister is about eight years older than me and then my two younger sisters were much more closely clustered in age. So, I spent most of my time growing up with my two younger sisters.

Q: What kinds of things started to interest you in elementary through high school?

Bennett: In elementary school I was interested in playing sports and art, and history, and those kinds of things. I guess the first thing I ever wanted to be, or the first thing I ever remember wanting to be, is an astronaut, but I think that's pretty common for kids in the eighties because I do remember in school you'd watch every space shuttle take off. It was just a thing that I remember from my younger years. Then when I got to middle school, I remember wanting to be, like, an architect, an archeologist. I was kind of making my way through the As in terms of types of jobs I might want to be. It wasn't until I got to seventh grade that I actually really started loving science and math. Before that I loved reading, I loved my history classes, I loved my art classes, but I hated math and science. But I had a good teacher in seventh grade and I think he changed the way I thought about science because it became more fun and more hands-on. That's when I started thinking more down the science realm, but it was mostly because we got interested in environmental science. We did a lot of projects working on, like, water quality. The eastern shore of Maryland, it's a very—the life there is dominated by the water. There's a lot of watermen and irrigation of farming. I spent a lot of time outdoors planting trees, checking quality of water, doing all kinds of weird environmental science projects. So, that's sort of like where I started. I don't remember when I first wanted to become a

medical doctor, but sometime in late middle school, high school. Then I was having this weird—like I don't know how to fit those two together, being a doctor and wanting to be outside and bringing the environmental science piece in. I actually think public health is a nice way to combine those two. I get to use my medical doctor training, but I also get to think a little bit more on the population environmental realm.

Q: When you graduated from high school, what were you thinking you were going to do?

Bennett: I had been accepted into a program, a neuroscience program at the University of Pittsburgh. At that time I was thinking I wanted to be a neurosurgeon. I loved neuroscience. It was a very fun way to spend my science time at the University of Pittsburgh, but I still struggled with this wanting to bring a little more public health, more environmental science into my life. So it just worked out that when I got to medical school, I thought a little bit differently about how I would pursue medicine, so neuroscience kind of fell out.

Q: So University of Pittsburgh for undergrad?

Bennett: Yes.

Q: Majored in?

Bennett: Neuroscience—

Q: Neuroscience.

Bennett: —but I also dabbled in this thing they called the Conceptual Foundations of Medicine, which is like philosophy, history, anthropology. Within those classes, I was focusing a lot on the science behind some of these alternative medicines like acupuncture and meditation, things like that. A lot of East Asian influences on medicine. Then I also did a lot of learning in Portuguese, so it's a language that—I had gone to Brazil as part of a volunteer program and loved it so much that I came back and started taking Portuguese classes. That was the other area of study that I had.

Q: What did you love about Brazil?

Bennett: Well, so I did this project in the Amazon. So, somebody who had had a history of loving the water, loving being outside and environmental science, I think it was just the environment I loved about Brazil. And the people are so warm and friendly. I don't know, something about it—something about that country, I loved [it] that much to come back and take the language.

Q: So, what happens following undergrad?

Bennett: Then I went to medical school. I did my medical degree and my master's in public health at Emory University, and I had chosen Emory— well, there were two

reasons. One was very practical. When I interviewed at Emory, it was February and it was blizzarding in Pittsburgh and it was seventy degrees in Atlanta with birds chirping and flowers blooming, and I was like, why would I live in Pittsburgh any longer than I have to? That's just crazy. A second reason was that you're in the taxi to your interview at Emory and the CDC is like right practically on the campus, and the opportunity to learn medicine in a place where a lot of the physicians have either done public health training or have had some relationship with the Centers for Disease Control I thought was pretty neat. Then I think just being in Atlanta in that environment of being around a community of people that think more in terms of public health, I think, was an exciting opportunity. I guess that was the politically correct reason I chose Emory, but it was also a nice change for lifestyle reasons. Pittsburgh is a great city but it is very cold.

Q: I talked with some people who came to public health later. They didn't really have a conception of what public health was and looking at things on the population level. It sounds like, for you, it was earlier?

Bennett: Yeah. I love, love patient care. The interaction with patients, I could live for that. The counseling about better lifestyles and how to stay healthy, how to incorporate healthy behaviors into their everyday. I actually miss that a lot. I just feel more satisfied by the public health work that I've been doing because you have this opportunity to impact many, many more people. It's not as timely in terms of gratification, but I think you can have a bigger impact, especially depending on the area or the field that you go

into. So, maybe I did come to it early. I think it's probably the influence of lots of different people in my life.

Q: Any especially?

Bennett: I think my seventh grade science teacher is one. I think my parents are another. My parents—we didn't do a lot of traveling together as a family, but they did encourage me to travel when I was young, so getting out and trying to see the world and the way others live, I think, was another influence. Then because I did a lot of volunteer work in Pittsburgh and had traveled to Brazil to volunteer, I got this opportunity to see what you could do in public health. So, I think it's just a lot of different experiences that came together. When you come to Emory, especially for medical school, they really are focused on trying to get more of their clinical students to get that public health experience, or at least to get some education about why public health is important and how it can be incorporated into clinical practice. So, I think it just happened to be like this environment that seemed to always be sort of around me as I was growing up.

Q: Would you say that there were any mentors that you had during med school or MPH program?

Bennett: Yeah, Dr. [John] McGowan at the School of Public Health. I met him when I interviewed at Emory for medical school and he was just so enthusiastic about the Epidemic Intelligence Service program, and about the master's in public health at Emory

that—his enthusiasm was so infectious. I met with him for like thirty minutes but I was like, this is where I want to go. I think Emory does a really good job of trying to accommodate students who want to pursue their master's in public health at the same time that they get their medical degrees so that you're not trying to figure out how to do it later once you've gotten into clinical practice or gotten on with a job. That was important I think in terms of helping me decide on Emory, and then also getting me thinking about how I might actually pursue my public health career, and I really got into CDC through the Epidemic Intelligence Service. The first person to really steer me in that direction was Dr. McGowan.

Q: Was that soon after med school?

Bennett: The first time I met him was like as I was applying for medical school. I was here for an interview and they had arranged this like, oh, you're interested in public health, we've put aside thirty minutes to go meet with Dr. McGowan just so you get an idea of what's available to you here.

Q: Right, I'm sorry, I meant when you went to EIS. Sorry, just tell me what happens after med school. [laughter]

Bennett: I did my internal medical residency training at Emory. I stayed at Emory after medical school and did most of my training at Grady Memorial Hospital, which I think also had an influence on me wanting to pursue public health because it's a patient

population that is largely underserved or isn't accessing healthcare in the way that many other people have access to healthcare. It's extremely fulfilling to work at Grady because the patients are just wonderful, and I actually really enjoyed my time there.

I finished my internal medicine residency, and I was still convinced at that point that EIS was what I wanted to do, and there were lots of people, lots of people at Emory Medical School within the residency program that had done EIS training in the past. So I applied and I got in, which was a surprise, a welcome surprise. It's a very competitive program I guess, yeah. Lots of great people apply.

Q: Okay, well tell me what happens then.

Bennett: So you apply, you go to a conference, the EIS conference, and then you sort of match into a position. I matched into the foodborne and waterborne diseases, the Division of Foodborne, Waterborne and Environmental Diseases. I was an EIS officer shared between the foodborne and the waterborne groups, so I got to do projects with both groups. I spent two years in the Epidemic Intelligence Service working in food and water, and it was fun. I actually stayed in that group after I finished EIS because I enjoyed the work so much.

Q: Can you tell me any specific investigations that you were on that stick out in your memory?

Bennett: Yeah, actually this is not with food and water—one of the sister branches within that division is the mycotics group. So the Joplin tornado, it was 2011 or ’12 when an E5 tornado went through the downtown of Joplin, Missouri, and basically devastated the city of Joplin. After that, there was an astute clinician at a hospital in a neighboring city. I’m blanking on the name, but he was concerned because there were several patients that had had like this fungus basically growing on their clinical specimens, and it’s a very uncommon diagnosis, especially for people who have normal immune systems. It turns out that we think that essentially when you’re a person in a tornado, especially that severe of a tornado, you’re basically sandblasted because the stuff in the air is like rushing past your skin at high velocity, and some of it gets embedded in your skin, and it’s carrying the fungus on the surface of those particles. So it causes skin infections, skin and soft tissue infections. Some of them were devastating. That was a memorable outbreak, particularly because the pathogen was so severe. But we were doing this investigation in the setting of a response to a tornado, and I had never seen anything like that before. I mean, just the level of community destruction and displacement of people, and for that to be in the United States, I thought it was just very unusual, yeah, hard to describe really. So that was one that sort of sticks out in my mind. There were a lot of worries that this fungus could affect the volunteers that were there to help with the recovery efforts, and I think there was a lot of pressure for us to sort out what was really going on, but there was a great local public health department team and a really close team from the CDC that worked really well together to try to sort this out. We really think it had to do with being in the wrong place during the tornado and actually just getting particles under your skin that had the fungus on it. So that was pretty memorable.

From the food and water side, my first project actually in EIS was a deployment to Malawi, and it was to Neno, Malawi, which feels like the end of the earth. It's hard to get to—you drive across rivers and up into the mountains. It's a very interesting place because it's right on the border with Mozambique. In 2009, they started having a typhoid fever outbreak, but it just kept going and going and going despite all of the interventions that had occurred. So I went to try to figure out, are the interventions not working because the community hasn't bought into the ideas of safe water and safe food and safe hand hygiene practices? I went there with a couple of data collectors to really go out and try to understand what the households' and community thoughts were about those areas of intervention, and it was a really fun project. It was a very difficult place to work. The villages were very small. They're perched on the sides of cliffs, and then the village would be divided down the middle. One side would be Malawi, the other side would be Mozambique, and we had permission to be in Malawi but not in Mozambique. The instructions for data collectors were like, your first question is: what country are we in? If the answer is Mozambique, turn around and start over. Or if you've arrived at a cliff edge, obviously turn around and start over. So, there was some interesting sort of practical problems that had to be overcome. I got a marriage proposal from a chief of one village. So, you know, it was a memorable, memorable event.

Q: I assume you accepted?

Bennett: Yes, exactly. I'm married to a chief in a Malawian village. [laughs]

Q: Was that your first time in Africa?

Bennett: No, my first time in Africa was in—it was Mozambique and it was 2006. I went for my—was that my first time in Africa? That was my first time. I went for my master's in public health thesis project. I was working up in Niassa Province which is right on the Niassa Lake, or Lake Malawi, and I was working with a doctor there that was trying to set up really like a community-based healthcare provision. There really are no clinics. There's no medical care. Actually, the people of that community at the time had a tentative agreement with the Malawian government to be seen in a Malawian hospital because it was just easier to access than anything in Mozambique. So, I was up there because she had noticed at a lot of the community meetings that this common theme kept coming up that their kids had blood in their urine. It was known at the time that in Lake Malawi there's a problem with *Schistosomiasis haematobium*, but it had never been documented on the Mozambican side of the lake, and you need to do some documentation in order to get funding to provide mass drug treatment administration programs. So, basically all I did was go up there and ask school children, do you have blood in your urine? If the answer is yes, the checkmark goes in the yes box. If the answer is no, it goes in the no box. But we added a second step where we actually tested their urine for blood and found that actually, kids are pretty knowledgeable about whether they have blood in their urine, or I guess pretty reliable to tell you that they have blood in their urine. We were able to document a really high rate of likely infection with

Schistosomiasis. Following that, they were able to get funding for a mass drug administration program.

It was interesting because I was there for three and a half months, and again, these practicalities of working in the fields come into play because just to get to Cobue, which is the main village that I was based out of, was like a five-hour drive down a very rough road, and you arrive in Cobue, but then there are no roads to the other villages. So we ended up kayaking between villages or hiking on mountain and beach paths to get between villages, and it was kind of fun. It was an opportunity to work on my Portuguese, although in that part of Mozambique, because of the war, I learned that a lot of the adults had either been displaced into Tanzania or into Malawi so they had their formative years in an English-speaking country. Much older adults didn't go to school at all so they didn't have much Portuguese skills. So it was really the kids that spoke Portuguese. So I learned a lot of little kid Portuguese, but I also spent a lot of time trying to understand Chichewa and Yao and Swahili and some of these other languages. It was kind of a fun experience.

Q: When you say "we were traveling around," who is "we?"

Bennett: I had two data collectors with me, mostly interpreters because the kids—we ended up interviewing the kids in local languages and not in Portuguese, and so my Chichewa is extremely limited. I now know how to ask you if you have blood in your urine [laughter], but it's not a very useful skill—I don't have a lot of useful language

skills in the local languages there. So I had two interpreters that one would—we had a two-person kayak, so I'd have one with me in the kayak and another one would be on foot and we'd basically leapfrog from village to village up. We did one trip to the north of Cobue, then we did one trip to the south of Cobue. We would be out for like two weeks at a time. Some interesting cultural experiences too, like I've never had an audience when I've bathed before but everybody bathes in the lake, including me. I ended up getting *Schisto* so I had to be treated when I came back. I'd have like fifty people there to watch me bathe. The joke was always that they were trying to see if I was really white all over and not just on the parts that stick out. [laughs] I'd have an audience. Then one village, the lake is actually very dangerous. It has a lot of crocodiles. I didn't know this so I'm like wandering down to the lake to do my evening ritual of bathing with an audience, and my audience is chasing me down with their hands in the air screaming no, don't go into the water! I'm like knee deep in the water at this point, and I'm turning around like, what's going on? Then I realized that fortunately, there were no crocodiles in the immediate vicinity, but apparently it's a common problem there.

I enjoy difficult travel. I enjoy logistically difficult places to work. I don't know why. To me, those are challenges to overcome. I've been lost before and while terrifying at the time, I find it kind of a good story later on.

Q: Lost where?

Bennett: I did get lost in Mozambique by myself. I was hiking to another village by myself. I'd been on the path before, and I'd traveled between those two villages before, but every path looks the same and there's like a million branches, right? The grass is taller than you so you can't see anything. One day I just took the wrong fork, fork number twenty-five, and ended up not where I was supposed to be, and having to deal with the language barrier of trying to get back on the right track. It was entertaining. [laughter]

Q: So, you wrap up EIS and continue with foodborne and waterborne for a bit. Just tell me briefly about that.

Bennett: After EIS, I joined the Enteric Diseases Epidemiology Branch. It was one of the three branches that I had worked with during EIS, and the focus of that group is really on collecting national surveillance data from the United States on the occurrence of foodborne illnesses. There's a lot of activity in trying to help states report either outbreaks or single cases of illness, and there's also a laboratory component to that. You end up with these large data sets and trying to describe the burden and the impact of foodborne illness on the US [United States] population. I really liked it because it was an opportunity to—like I'm good at doing things in the field, but it's also nice to develop these bigger, analytic sort of skill sets. That was really fun. It was really nice to have like big data sets that you could sink your teeth into and learn how to SAS code it and come up with tables and figures. The part I really especially enjoyed was trying to make those thousands, millions of numbers mean something to somebody who's then going to

prepare their own food for dinner. It's like that translational part that I really enjoy, which I think goes back to medicine where you're trying to explain to a patient a complex disease that they have, and trying to make it digestible for them so that they can then make a change. I really kind of enjoyed that about the foodborne group because you have lots of data and then you can make recommendations, but it's really about what's practical for people to really be able to do on their own to keep themselves safe. I actually really enjoyed that part.

The other piece of that job was I was on the team that responded to botulism calls. Clinicians across the country, sometimes occasionally outside the United States, would call for assistance to clinically evaluate a patient with botulism. The CDC, along with some other partners, we are involved in deploying anti-toxin and the investigation of those cases-slash-sometimes if you have more than one case, the outbreak of botulism. That was a nice opportunity to interact with physicians that really directly impacted the clinical care of patients. So, I got to bring a little bit of that medical component back into my life.

Q: Just so I have the timeline right, what year do you graduate EIS?

Bennett: I finished EIS in 2012.

Q: In 2012, okay. Are you still in foodborne, waterborne?

Bennett: No. [laughs] So, I kind of went—I did a short assignment to the Ebola response and I was on that for about six weeks, then went back to foodborne for only four weeks, then went back to the Ebola response and never went back to foodborne. Actually in the middle of the second, very long deployment for Ebola, I ended up actually just changing over to the Ebola response permanently, sadly leaving behind my foodborne job.

[break]

Q: We are back after a short sojourn. We're talking about how you got involved in Ebola, Sarah. What were you working on immediately before?

Bennett: I could not tell you. [laughs] This was August of 2014. Maybe I might have been working on a paper summarizing outbreaks associated with raw produce because I'm still working on that project. Most likely, we were getting ready to wrap up the data analysis for the—every year the group that I was with would publish a summary of outbreaks the previous year that had been caused by foodborne illness, and most likely we were working on that in August of 2014. Best guess. I feel like I can't remember much detail about my life before Ebola. [laughter]

Q: It says something that you can't.

Bennet: I was like wow, sounds so long ago.

Q: What did you know about West Africa and about viral hemorrhagic fevers before?

Bennett: I think I probably read a book about Ebola, one of the mass fiction books, when I was a child, and then you kind of touch on it in medical school, but it's not a big part of medical training in the United States because we just don't have many viral hemorrhagic fevers. I knew of Ebola and I knew what you would read in a textbook about it but that was about it. And about West Africa, I'd never been to West Africa before. I'd been to other countries in Africa, but I'd never been in West Africa before, and CDC hadn't really had much presence in the three countries that were heavily affected by Ebola. So yeah, I didn't know much about it.

Q: Well tell me how you got involved.

Bennett: I got a phone call from a friend [and colleague] of mine [Lieutenant Commander Rachel Smith] who was trying to help the Division of Healthcare Quality and Promotion to put together a team to go out to do infection control in the three countries, and she—like, I'm not a specialist in infection control. I mean, I know you should wash your hands, wear gloves, use your appropriate PPE [personal protective equipment]. That's sort of like your training in medical school and in residency. But I'm like, okay, I'll go, I'm game. And she had asked at the same time a really good friend of mine, like one of my closest friends. I remember he asked her, "Sarah and I are really good friends, we would like to go to the same country together, we don't care which one." She writes back and she says, "No way are the two of you going together. You will probably each get an EIS

officer but we can't guarantee that, so you might be on your own." [laughs] And off we went. He went to Liberia and I went to Sierra Leone. We were both there—I'm not sure exactly how long he was there, but we were both there roughly at the same time just trying to figure out how CDC could be helpful, and what would be our role in infection control activities for the outbreak response. And so begins a very long Ebola experience, I guess.

I ended up—my first deployment there [was] for six weeks, and I mostly worked on infection control. My very first project—actually almost like one of the very first days I was there, I met Laura Miller from the Ebola Response Consortium, and they were interested—this is a consortium of non-governmental organizations, and many of them had been working in Sierra Leone before the outbreak, and many of them working in healthcare facilities. The International Rescue Committee was sort of the sponsoring organization of that consortium, and they had been working in Kenema which is one of the most heavily affected districts, especially at that time in the outbreak, and many of the healthcare workers had become infected with Ebola and many of them died. So they were interested in getting more involved in infection control activities and seeing if the consortium could be helpful for rolling out control programs nationally. It turns out they were actually very helpful in doing that. So, Laura had approached me and said, "We have this pilot project in Kenema where we're working in the clinics in Kenema District, and could we meet about it? Because we are kind of interested in your feedback and whether you could help us improve the program or whether you could help us scale it

up." I said, "Sure, we'd be happy to help," and there begins the peripheral health unit project.

There were 1,188 clinics in Sierra Leone called peripheral health units, and they—of course across the fourteen districts, and so each partner basically sponsored a district, or more than one district, and they were responsible for all the infection control activities in the peripheral health units in their district. It became a project that CDC supported, OFDA [Office of US Foreign Disaster Assistance] funded and then implemented by the Ebola Response Consortium with a lot of support from the Ministry of Health. It was a really great collaborative project that I think had an enormous impact on beginning that conversation about infection control in clinics. Clinics ranged from very small, very remote units to very large, more centrally located clinics. The challenges of trying to meet the needs of all the different kinds of clinics were really—there were so many challenges. That gave us an opportunity to train nurses on how to train others about infection control and to start developing the curricula for infection control, and also starting to think about what are the most important things that clinics needed to do, especially during the Ebola outbreak. I think now there's a big effort to try to build upon that initial capacity and try to expand it to more standard precautions and transmission-based infection control not specifically focused on Ebola. So that was the first project I worked on.

Q: When was this?

Bennett: This was in August—started in August of 2014 and continued—I think the clinics were visited between October and December, then the clinics were repeatedly visited for at least another six months by the partners. It was a fun project actually in a lot of ways because the clinics are often under-supported, especially because some of them are so difficult to reach that they don't always get what they need from their district, like supplies and support, and just being able to communicate with the district that we have a problem is so difficult. So, it was actually a really fun project. I got to see a lot of the country that way because I got to go out—trying to understand what the problems were and trying to figure out best ways to move forward, I got to go visit some of these facilities, so it was a good opportunity to get out on the ground and see what they're dealing with. I think for infection control, it was kind of an idea that was familiar to people in Sierra Leone but the application of it prior to the outbreak was basically zero. I mean, people knew they should wash their hands, and they knew they should wear gloves, but they didn't always have those things and it made it very difficult to practice good infection control activities.

I think the one positive thing about the outbreak is that it moved infection control much higher up on the priority list for the Ministry of Health. Now actually I think you hear a lot of people—it's like a catchphrase almost which is sometimes very frustrating. I don't want it to be a catchphrase. I want it to be something people act on and do something about, not just tossing it around like infection control will solve every problem. That's actually not true. But there is a bigger commitment on behalf of the Ministry. Because of the outbreak, now there's a national infection control unit within the Ministry of Health.

To me, that states that they're at least dedicated to the idea of making improvements within their healthcare facilities. They've adopted a policy, they've adopted guidelines, they are working on training materials. And these are all activities that are being supported by CDC, WHO, and the partners that were responsible for some of these activities during the outbreak. It's nice to see positive things come out of such a terrible event. That was my first project.

Q: Were you in Sierra Leone the entire time?

Bennett: I was there for six weeks—the entire time, yeah. While I was there for that six weeks, I also got sort of involved in case management. So the thing about Ebola is that you want to remove people who have Ebola from contact with folks that are not properly applying the right infectious control procedures. You really don't want people at home with Ebola. You want them in isolation units being cared for by people who have been trained to manage Ebola virus disease. There were two Ebola treatment units, one in Kailahun and one in Kenema, and we had patients everywhere—not quite everywhere but in many other districts. So what would happen in August/September/October of 2014, and before that as well, people would be diagnosed with Ebola virus disease in Freetown, for example. They'd be placed into an ambulance and they would be sent to Kenema ETU [Ebola treatment unit] or to the Kailahun ETU, but they would arrive after dark when the ETU was no longer admitting patients, or the ETU would be full and there was just no room for the patients. So you just had this chaos really surrounding case management. There was a real need to actually open additional ETUs. It was that point in

time where DfID [Department for International Development] which is the UK [United Kingdom] aid, sort of like our USAID [United States Agency for International Development] group, had come in with money to build ETUs, and they basically needed partners to volunteer to support the ETUs. It was a period of time that was—I guess the only word to describe it is "terrifying" for a lot of people to get involved, especially in the clinical management part because there were so many healthcare workers that had been affected by Ebola. The ETUs were kind of overwhelmed and it was messy. The case management was really, really messy. So there was a lot of fear about volunteering to get involved in that. I remember specifically a meeting where the Ministry of Health was just almost begging really for partners to get involved. It was a very, very difficult meeting. I mean, there was a lot of concern about the safety and welfare of the international partners and a lot of fear about volunteering to be one of those organizations. But in the end they did step up and many more ETUs were opened. I think that combined with a lot of other activities was really what made a huge impact on getting the outbreak under control because if you cannot remove people from the community, you're just going to continue to have person-to-person transmission and you cannot do anything to stop it. Getting people out of the community and into safe places for care improves their survival, but it also prevents the outbreak from spreading. The ETU building, the standing up of ETUs was critical for the response, and the Ministry of Health, the Ministry of Defense, and the partners who did that, I think, should be applauded for what they did. It wasn't perfect always, but it was really important.

Q: Are there some partners that come to mind especially, and individuals who come to mind when you think about that?

Bennett: Yeah, RSLAF, so the [Republic of Sierra Leone] Armed Forces, opened an ETU with the Ministry of Health in Freetown, and they basically just decided where it was going to be, they built it, and they opened it. It didn't always work perfectly and there were definitely problems, but that was all ETUs had those growing pains. I mean, they opened like a hundred beds at a time. It was just massive, the scale which they set those up. I think RSLAF really became experts on how to manage Ebola virus disease, and they still manage the only sort of permanent fixed Ebola treatment unit in Sierra Leone now which is at the military hospital in Freetown. I think MSF [Médecins Sans Frontières] really contributed to helping other partners do what they had more exper—well, they had the only experience really prior to this outbreak. MSF is really the organization that you think of when you think of Ebola treatment units, but they obviously couldn't stand up the number of units required for this outbreak. So other partners had to come in, and I think MSF was really helpful in providing examples from their—example guidelines, patient tracking forms, just experience. Contributing their experience so that other partners could learn from them I think was really helpful. I mean, a lot of partners contributed to ETUs. MSF had ETUs, IMC [International Medical Corps] had ETUs, GOAL had an ETU, Partners in Health, the Ministry of Health and the Ministry of Defense, Save the Children, the UK military also. So, it was a lot of work by a lot of people to get those open and keep them open.

Q: One thing you mentioned, and tell me if I'm wrong, I might have misheard or misinterpreted. Work was divided between partners kind of spatially in some ways. So like one partner takes one district and another takes another. Is that right?

Bennett: Well, so it depended on the technical area. So like for the infection control activities for clinics, then yeah, it was divided up by partners through that consortium model. When we talk about infection control activities for government hospitals, then partners volunteered to sort of be the buddy partner for a hospital independent of what district it was in. The one thing I think about Sierra Leone is we had lots of partners. I think a lot of people say that Guinea was a struggle because they didn't have that same partner support. We had many, many organizations that volunteered to do very difficult things that they had no experience with. I think that's probably the underlining statement for everything is that nobody had ever had any experience with anything like this before. We were all just doing the best you can, making the decisions you can with the information you have and doing that quickly. I think nobody really had any experience with that. So there were a lot of partners volunteering to help, and a lot of them did some really great work, and it was often outside of their comfort zone. That includes things like infection control, supervising a hospital's holding unit for Ebola patients.

The holding unit was kind of a new concept. Nobody really had done that before in a hospital either. When you think about old outbreaks of Ebola—maybe in Uganda they might have had something similar for larger outbreaks there, but when you really think about traditional case management it's like an Ebola treatment unit. That's where

everybody goes who has an Ebola virus disease. But in Sierra Leone we just had so many people that required testing, and not all of them had Ebola. So what would happen is they'd be held kind of in a holding unit where they could get treatment, but it was sort of like a place where they waited for their laboratory test to come back, and they were either sent to the Ebola treatment unit or they were sent back to the government hospital for whatever it is that they were suffering from.

Partners would volunteer to help set those up, and help the hospital administration with keeping the staff trained, keeping the staff supervised, making sure the supplies were there when they needed them. Partners would volunteer for districts of clinics or to help at one government hospital or to set up a single ETU in just a random place. It was just so many partners involved in all kinds of activities. Again, another good example of doing difficult things you have no experience with. Think about burials. Who has experience doing safe burials on a mass scale? It just isn't done that I can think of. You have partners who are volunteering to support burial teams to perform safe burials for Ebola. I mean, these are partners that were doing health-related activities before, didn't have a lot of experience with this. It just—really when you think about it, it's crazy what people stepped up to do, and that it got done well.

Q: I kind of want to mention the language that partners "volunteered," partners "stepped up." It's not that partners were assigned?

Bennett: No. I don't think anybody was—I mean it's spoken of that there are partners that were in-country that did not stay, they left. Mostly they were on the private sector side, but I think certainly no partners knew what they were getting into probably when they volunteered. It was kind of like the fall of 2014 just sort of seemed like all hands on deck. What can you do? Can you bring in more people? What are you willing to do? If you could get technical support from us, could you implement it? We know it's not what you do—like we know you don't do safe burials routinely, but would you be willing to do—and it was amazing some of the things that partners did. A good example—so I was on the burial pillar while I was there for like months and months and months. It was one of the most functional pillars, and I enjoyed so much going to the burial pillar meetings because I think you had to have a certain personality, I think, to attend a burial pillar meeting because you go and you talk about dead body management, which isn't glamorous and it's often sad, and very difficult things had to be sorted. So, I enjoyed going to the burial pillar because I just enjoyed working with that group of people. One of the partners, Concern Worldwide, had taken over managing King Tom Cemetery in Freetown and it was the only cemetery at the beginning of the outbreak that would allow the safe burial of Ebola patients within the cemetery. It became the only cemetery really that would allow any burials, and it was mandated that all burials would occur in King Tom Cemetery. And it was just the number of people being buried every day. It was very difficult to keep up with marking the graves, matching a person with that gravesite which is important to people who live in Sierra Leone who want to visit their loved ones who've been buried in that cemetery. So, I visited King Tom many times over the course of my deployments to Sierra Leone, and each time I go back there's new improvements at the

cemetery with grave markers being added, mapping of the cemetery, beautification projects at the cemetery, and now they're supporting the Ministry of Health to take that over. It's just a really—what does a non-governmental organization that does mostly healthcare know about cemetery management? If you think about it, it's really crazy what partners did. Many of them, most of them I think performed their jobs really well.

Q: Can you talk a bit about, so people were doing things they had no training in and stepping up to the plate, and you mentioned that infection control, while you have training in that, is not something that you had specific career focus in.

Bennett: No. [laughs]

Q: Can you talk about your own preparation for going in?

Bennett: Well, I kind of got the call to go and then I went, so there was not a whole lot of time for preparation. I think really my first visit out there was almost like a scoping visit. I always say, and Laura [Miller] has actually mentioned this before, that it was really just like a chance encounter that we ended up being in the same meeting, and I had mentioned I was there to kind of figure out what CDC could contribute to infection control. And her light bulb went off, like, we're really looking for some help in trying to do—and she was like, "Can we meet?" It was like day number two when I was in country, so it just happened to be that that was that first project. And I think it was our first real opportunity to get our feet wet about the implementation of infection control in the setting of an

outbreak because really, you don't have time. Guidelines for infection control are like multiple volumes of textbooks, but you don't have time for that in the setting of an outbreak, and you have to really pick areas of focus. We had decided that screening at the gate of the healthcare facility was really important because keeping Ebola out of the facility is probably the best way to protect your healthcare workers. Then followed by hand hygiene, use of gloves, adding PPE to that and then waste management. But how do you convey those principles, some of those principles being brand new or those concepts being new, to healthcare workers? The literacy level of healthcare workers varied quite a lot. You weren't going to be able to just like turn over a two hundred page book to a healthcare worker and expect them to pick up the concepts. You were going to have to come up with ways of relaying the information sort of rapidly and on a national scale. I think that project was really where we got our feet wet about like, how does training of trainers really work in Sierra Leone with healthcare workers? How do you actually get out to these remote facilities? What materials really work well? We found picture-based, sort of like conversational training was a better way of reaching healthcare workers at the facility level, sort of on-the-job supervision in training. Then just repeated visits over and over and over again to try to really emphasize some of the really important principles. I think that's really where we—that project was so important for learning those things, and I think we built upon those things when we thought about new projects in Sierra Leone, even during the outbreak and for subsequent trainings. It was definitely not easy. I mean we actually, as part of the training—when our CDC team did the initial training for infection control for that project, we actually included the NGO [non-governmental organization] staff that was going to be supervising because, again, they were not experts

in infection control, but they were going to be the ones going out with nurse educators and going out to facilities to do supervisory visits. They needed to understand the same general principles that the Ministry of Health staff were going to be training on. So we actually included a lot of the NGO staff in the trainings.

It was a learning experience. I hope we never have to do that again, stand up a national infection control program in the middle of an outbreak. Yeah, there were a lot of things that people had to learn that they were really uncomfortable with, and it makes you kind of wonder about future outbreak response. Can partners dig these experiences up and use them or adopt them for a new outbreak context? I mean again, I hope we never have a response on this scale or the impact that this outbreak had. But it's interesting to think about what will happen to partners and how they will look back on their experience in terms of choosing what to do with those learned experiences. I mean, most partners will probably not continue to do safe burials, but there were a lot of things that were learned about community practices, and how do you engage a community when you are trying to take away a traditional practice that could be applied to other concepts, maybe other programs.

Q: Could you clarify quickly, were you attending burial pillar meetings during the first deployment?

Bennett: Yes. So, the pillars had not been formed really in August/September/October. There was a change in the leadership of the response in about October/November where

the Ministry of Health was overwhelmed and so it was taken over by the Ministry of Defense with the Ministry of Health playing a supporting role. So, this pillar structure got sort of implemented formally and a burial pillar was formed. When I returned in November, I started attending the burial pillar to provide technical advice to them on infection control principles. Then it just became—they were collecting a lot of data. One thing I think CDC is very good at is helping people with data management, displaying of data, and how you present data so that you can inform decision-making processes. A lot of it was just showing up so that they knew that there was somebody they could ask if they had questions. There was a lot of questions about re-trainings of staff, and infection control practices, and would it be safe to—for example, one of the things a burial pillar did was to, over time, incorporate some things into the safe burial that families would request. So, if a family wanted their loved one buried in a particular outfit, they could give the clothing to the safe burial team, and the safe burial team would dress the corpse. So, that was like the question I got. Would it be safe to do that? Of course, it would be safe as long as you're still wearing PPE. It was stuff like that, little things.

There was a lot of pressure to modify activities of the burial teams, and I think it was often because other people involved in the response, but not in the safe burial component, didn't really understand what it took to operationalize safe burials on that scale. So, one good example would be that the burial pillar had decided that practically, it was impossible to burn all the contaminated PPE that was generated in a day in Freetown for the safe burial process. It was just the volume was too much to burn. You would need tons of lighter fluid, tons of kindling. It just was impossible, and really hot fire. The

cemetery is in the middle of an urban slum. Then you have to worry about environmental contamination. It was just all these practical factors to burning PPE that was just not possible. So, they had recommended that PPE be bagged and decontaminated and placed respectfully in the foot of the grave of the person that they were burying. They thought that was the best—respect for the dead person and their family, but also the practicalities of performing this operation. It generated so much controversy. I think people just found the idea of putting trash in the grave of a loved one sort of unacceptable, but this was not a response that the burial teams were getting from family members. This was a response that was coming from people involved in the national response. It just generated so much discussion, and in the end it was, practically speaking, what had to happen. The burial pillar had to make some very difficult decisions and had to defend them against a lot of people.

Q: To what extent were you part of that?

Bennett: Abu Jalloh, who was the sort of co-chair of the pillar, who would often have to go speak on behalf of the burial pillar, he was like, "You have to come with me, you are my angel, if you're there, I can do this." What is really strange about that statement is that Abu was so passionate. He was from the Sierra Leone Red Cross. He was so passionate about the burial pillar and their activities that—like, he didn't need me there. I mean, he spoke from the heart. He would sweat bullets while speaking because he just felt so worked up about what he was there to speak about, and he just didn't need me. I think it was comforting, I think, maybe to have him. You know, if you have CDC beside you, I

think that helps too or it gives people this false impression—I don't know. But he is wonderful. He really spoke up very strongly in support of the burial pillar's practices, and really spoke up for the burial teams. That's the one thing that I really loved about those NGOs is that they were really there for the burial teams.

I remember as the outbreak was kind of winding down, they saw it coming that these folks were going to lose their jobs because you didn't need burial teams in the numbers that we had them. They were like, what are we going to do with all these people? These were often young men who hadn't had jobs before, many of them had not completed school, so their prospects were limited, and being on a burial team wasn't a popular thing. Often they faced stigma. Many were rejected from their homes, from their families. The organizations that supported the burial teams really felt strongly that they had to do something to sort of prevent the sort of end of the burial process from being this horrible thing for the burial team members. So, they did a lot of like psychosocial counseling and psychological first aid training. I know Concern Worldwide is supporting some of the burial team members who have formed their own non-governmental organization to work on environmental sanitation types of activities in Freetown. So, they're trying to find ways to get them engaged and make sure that there's a life after being on a burial team. I really enjoyed working with the burial pillar. I'm looking forward to seeing them when I go back.

Q: Is there a burial pillar anymore?

Bennett: There is. The pillars are intermittently meeting. There was a cluster. So, the Ebola outbreak was sort of officially declared over on November 7th of 2015, but I think we all recognized there was still risk for new cases, new clusters, and we hope we catch them early so that we can limit the transmission. There was a recent cluster in January and February of 2016, and the pillars were reconvened to do their portions of the operations. I think post-that-response, there was a lot of recognition that maybe for this particular outbreak, the pillars jobs are not finished at the end of the outbreak because there's a lot of work to do to strengthen the response capacity within the Ministry of Health. The pillars can be very helpful for what did we learn, then what do we need, then how can we do it differently the next time. So, I think a lot of the pillars are still meeting because they're trying to put those future processes in place. Yeah, a lot of the pillars are—and there's still some leftover things to do. The burial pillar is now trying to—one of the activities is the family linkages, being able to tell someone where their loved one is buried because you didn't always know. It wasn't always clear, when the space-suited burial team came into your home and collected your loved one to be buried somewhere, exactly where they were buried, because it was outside the normal community burial process. So, now there's a lot of work going on to put that capacity in place at the Ministry of Health, to be able to direct people to where their loved ones are buried. Then also to finish out activities at cemeteries, and to sort of scale back the burial teams and get them engaged in new activities. There's just a lot of stuff to happen.

Q: So again, wanting to get a sense for how things changed with time. You arrive in August 2014 for the first time?

Bennett: Yes.

Q: Things get really intense those first couple of months I'm sure. Can you talk about that a bit?

Bennett: Yeah, I think for me, August/September/October was difficult because I was coming into the outbreak sort of my first time, new technical area that I wasn't super comfortable with. It was also a time in Sierra Leone when it was really recognized that Freetown was at risk of a massive explosion in the outbreak. But it was also kind of a tumultuous time because there was this recognition that it was kind of overwhelming the Ministry of Health and what we were going to do about that. And then I left. I was only in Atlanta for like twenty-nine days. I call it a reverse TDY [temporary duty assignment]. I came back and I was like, I must go back to West Africa, that is where I am needed. So I pretty quickly redeployed, and I actually think for me the most difficult months were November and December. I think November was when we had the peak number of cases. We had thousands of contacts being traced every day. All teams, all partners, Ministry of Health, WHO, everybody was working flat out, very little sleep. It was a horrible period of time, and we were ramping up for this Western [Area] Surge where we were basically going to do the best we could in Western Area. For me, it was a period of time where all the ETUs were in some stage of construction but not open yet. I remember Oliver Morgan, who was our acting country director at the time, he must have called me like three times a day, asking me Friday, "Sarah, how many beds will we have?" I'd be like,

"Oliver, it's not different from two hours ago but I can look at the numbers again." We were just guessing, like what did we think Save the Children was going to do when they opened? How many beds would they open? How quickly did we think they would scale up? I mean, it was just this madness almost trying to get in place the things we needed because at that time, we were having people identify a case in the community but had nowhere to send them so they stayed at home. Nobody wants to take care of Ebola in the home. I mean, the concept of homecare is so—just can't even discuss it. So, there was a discussion about home protection and support which was basically—GOAL was one of our partners. MSF was another partner. But they basically sent survivors out to homes that we knew where a case was going to end up staying overnight or several days, and they would figure out where to put that patient while they were at home, identify the primary caregiver, give that person training on how to manage this person, how to support them at home and how to do it safely. If you really think about it, that's just totally nuts. The whole goal was to get them out, but we just didn't have enough beds and not enough transport and it was awful. So for me, November/December was really bad, particularly November. I had just gotten back in country and just trying to scale up everything as quickly as possible, and that was what everybody was working on. It just did not seem like we had enough people.

Q: So, at what point does capacity to treat people in ETUs, etcetera, meet demand, if that happens? I'm wondering why that happens.

Bennett: I'm guessing probably in January. I mean, at that point the outbreak curve had started coming down already. I think many of the ETUs that we expected to get open got open sometime in December, but with very small bed capacities. There's a big thing about what does bed capacity really mean. We were always pushing for functional bed—I don't care how many pieces of furniture you have. I care about the furniture plus the staff to take care of them, plus the supplies to manage the patient. That concept—so there would be applause when a one-hundred-bed ETU would open, except their functional capacity was really only five. There was a lot of confusion, I think, around the bed capacities. It's actually really difficult for me to go backwards and plot bed capacity by numbers of cases. It's been asked over and over again, but the clarity on what is a bed just isn't there. So, a good example is there was a House-to-House Campaign in September of 2014 where, in theory, every house was visited by somebody engaged by the Ministry of Health to see if there was an Ebola patient in that home, to get them referred to care and then to provide education to all the households. Well, in preparation for that, the Ministry of Health in every district set up isolation units, and in most districts those units had never been tested as a unit. Like, nobody's ever been isolated there. I'm not sure that it's more than just furniture. So, the bed capacity thing is a really difficult concept. I feel like in January was about when we managed to get on top of it. The problem is that the outbreak kept moving. So it was like in the eastern part of the country when I was there in August and September, although had spread into Freetown and was starting to kind of explode in Freetown. But in January was when we had a big outbreak in Kono district, but no ETU there. It seemed like we were always trying to catch up with

the clusters and trying to figure out like where to go next, and it's a really painful, painful experience.

Q: Can you tell me actually kind of like basically the path of the disease through Sierra Leone?

Bennett: Yeah, so the early days of the outbreak were focused in Kailahun and Kenema and that's like the summer and the fall of 2014, and it spread westward towards Freetown. The thing about Sierra Leone is that it's very different than—I have not spent a lot of time traveling in Liberia and I've never been to Guinea but my understanding is that the road system in Sierra Leone is so much better, that people move, and it's a relatively small country. It's easy to move from Kailahun and Kenema to Freetown. So the disease like naturally spread to Freetown, and then from Freetown it's actually very easy to travel sort of up the northeastern routes to get to Port Loko and Bombali districts and Tonkolili and so we started to have spread in that direction. The path was really from those southeastern provinces to Freetown and then kind of up into the northern districts. No district was unaffected in Sierra Leone. I mean, there are some national units or prefectures in Guinea that have never had a case. Maybe they didn't detect it but most likely they didn't have cases because there's whole parts of the country not affected. But in Sierra Leone every district was affected with Ebola I think because it's just so easy to get around there compared to the other two countries.

Q: I appreciate you talking about this because it's kind of like a broad history of the epidemic. It's not focusing on your experience but it's something that I don't think we have on tape yet.

Bennett: Yeah, it's something that we're hoping to help the Ministry of Health kind of describe. We think of it sort of as four phases of the outbreak. There's the early phase, the Kenema and Kailahun district affected, and then it moves into Freetown and you get this explosion, sort of a widespread transmission and large numbers of cases and that's like late September/October/ November, early December, kind of getting into the beginning of January. Then from January to maybe like March, you have this decline in the outbreak but you have new districts that we're dealing with. So we're dealing with Kono District or you're dealing with specific clusters in the districts that had been previously affected and I think because the cases came down, we were able to really identify clusters within the outbreak. I mean, when you have like hundreds of cases a week, you're just never going to be able to figure out the real chains of transmission. And I think it's in that period of time where we started to really think about how to describe how Ebola virus disease is really transmitted from person to person, and you really can see that it is a disease of caregivers, right? Family members that cared enough about you to take care of you while you were sick, healthcare workers who cared enough about you to help you when you walked in nearly dead into their healthcare facility, people who cared enough about you to bury you or to wash your body or to traditionally prepare you at death. So, you can really start to see that, I think, January/February/March. Then after that, you really started to have these periods of sort-of-not-quite sporadic cases, but you'd go a few

days, no cases, and then you'd have like one or two, or a little cluster. Then you'd go another one to two weeks without any cases and then you'd have a cluster. Some of those clusters were really quite big, but then you could start to see the spacing out of the cases and the clusters in that sort of very tail end. Now, we're in the post-outbreak phase, we're still expecting to have new cases and clusters, but hopefully over time they get less frequent and hopefully we also keep them to very small numbers and very few chains in transmission, very few generations in the outbreak.

[break]

Q: I've been asking you all these questions about the general response, but about your personal experiences and people you met and talked to and memories you have.

Bennett: So, we kind of wrapped up 2014 and were working on getting ETUs open. December, we had had some—well, I guess one thing to say about 2014 that I think kind of marked a little bit our response, particularly CDC's operations in the field, was an infection in one of our drivers. I think we were very, very lucky that we didn't have any more serious illnesses or injuries on our team. But it really shook us that one of our drivers had become infected with Ebola. Fortunately he survived, but it really changed the way we thought about the drivers as part of our teams and their safety in the field and our staff's safety in the field. I had gotten a lot more involved in trying to help with some of the safety and health issues on the team. The CDC team ballooned from like twenty people in the field in August to, I think at some point we had over like one hundred, one

hundred ten CDC employees in the field, and then you add like fifty drivers on top of that plus some other support and ancillary staff, other contract staff, and it's a massive team. When you think about it, you've got all these people driving all over the country in remote places, no access to any healthcare emergency services. You've got roadblocks everywhere so if you're sick, you're not going to be able to move between districts. I think that was sort of a turning point in us thinking about the safety of our teams in the field.

I had gone out to Tonkolili District to investigate the driver infection because at the same time one of the staff at the DHMT [District Health Management Team] had also been infected with Ebola, so we thought maybe there was some relationship between the two. These exposures that occur require often for us to evacuate staff back to the United States. It's disruptive to our response. We really took that and changed the way we—for example, we started paying for the drivers' hotel rooms directly because if you give the driver the money, they may choose a lower-cost option in favor of being able to save some of that money because finances are just difficult in Sierra Leone for a lot of people. So we wanted to make sure that they had safe places to stay and we started doing a lot of training with drivers on hand hygiene, how to stay safe in the field, and really putting more training for our staff about keeping the rest of the team safe and healthy. So that was sort of one event in 2014 that's really memorable for me.

Then in December, we started having increasing reports of cases in Kono District, which is a district that had had cases but not really been heavily affected, and it's a very difficult

district to reach. It's like a half a day drive to Bombali District and then a six-hour drive over a horrifically terrible road during the dry season. So in the wet, rainy season it was just impassable. So, in December the number of cases just started increasing. They had nosocomial events at the hospital there. It was a time in which we started sending staff to Kono District, and I actually got to go out there. It was an interesting place, Kono District, because it's a diamond mining area of Sierra Leone. Sort of like everywhere you look are active or remnants of diamond mines. It's just like big craters in the grounds of granite rock. So it's kind of like being on the moon. I don't know how else to describe it because there are whole parts of the district that don't have trees or grass and because they're mining, there's dynamite explosions going off so you'd hear this big boom and a little bit of a shake and there's this dust in the air, so it had this haziness to it too that was really surreal. And in the setting of that you're investigating all these infections in Kono District in some really difficult-to-reach villages. Like you can't get there by vehicle, you have to walk into a village to do contact tracing every day. So it's a very complicated place to work. That was one of our big responses in December and January while the rest of the team was really working on that Western Surge that was really trying to focus intensive efforts on Freetown. So it was the two opposite sides of the country dealing with big issues. Kono, at that time, was really trying to set up its emergency response, get it really organized, get it responding to that current—that outbreak that was going on, and they did manage to get their outbreak under control and really keep it from spreading throughout the entire district which is really remarkable considering how difficult it is to work there.

The Western Surge is interesting because it was really an opportunity to really get out to every household in Western District to get isolation units open, to get the ETUs that would service Freetown open, to do a lot of infection control strengthening at the healthcare facilities. I mean really just to intensify all the interventions we had already been doing, but to get people to really focus on it and spend some time and resources on it. Because the concern about Freetown, of course, is if it gets out of control, then you would never get it under control because people in Freetown move regularly out to the rural districts, people from the rural districts are coming into Freetown and then going back out to their districts, so it was always this big concern that Freetown would be this nidus for this ongoing continuous transmission throughout the country.

It was a lot of work. I was team lead for the infection control team, and every day team members in the vehicles out just hitting up healthcare facilities, trying to figure out what do they need, how much training they had and can we help you with the training. It was just a very intense period of time and tiring actually now that I think about it. But those were the days where we were obsessing over bed capacity numbers, obsessing over the numbers of cases, obsessing— it was just a very complicated period of time.

Then you get into 2015 where the outbreak really starts to come down, and that's where we start to really focus more on a better understanding of the transmission between people. For me, it's not enough to know that you are my brother and that's why you got Ebola. I want to know what it is that you did that put you at risk for Ebola, not just that you are related to me. Because I'm related to people but they are not at risk for Ebola if I

am living in Sierra Leone and they are living in the United States. So, what is it about your activities that really put you at risk? Really trying to describe that well for each of the new cases and clusters. I think once we were able to get past that period of widespread transmission and like hundreds of cases a week and thousands of contacts to follow, we were able to really spend some time thinking about what it is that people really do to get infected and try to really focus on those interventions that would maybe have a better impact, and I think it was also a period of time where we were—because we were no longer dealing with cases everywhere, you could start to focus on high-risk geographic areas as opposed to trying to do everything everywhere. Maybe to really intensively focus your limited resources on high-risk groups. So that's when, for infection control, we really started thinking about the ring IPC [infection prevention and control] approach where you identify the highest-risk health care facilities, and then you spend your time in those facilities daily providing support until you think that the risk has reduced to a sort of usual level. I don't know what the right term for that would be. For an example, you'd have a new case in a new village and around that case you'd basically draw a ring and you hit all those healthcare facilities in that ring, and you do that every day until you think that the risk has returned to baseline. I think CDC was a big proponent of that, I think, much earlier than many other partners, and it was during Operation Northern Push that we were really able to engage Ministry, WHO [World Health Organization], and the NGO partners in participating in it as well. Because Operation Northern Push was a really—kind of like with the Western Surge, it was an opportunity to really focus our efforts on Port Loko and Kambia especially. The concept of identifying sort of high-risk healthcare facilities was not that far from identifying Port

Loko and Kambia as a high-risk area. So we were able to move the Ministry towards this thinking, towards really intensely focusing on a few facilities rather than doing everything everywhere.

Q: A couple questions to follow up. You mentioned that you were able to focus on interventions because there are fewer cases that have a bigger impact. What would an example of that be?

Bennett: An example would be like if we had discovered that—I think that was really the period of time where I became convinced that it wasn't necessarily contact with a dead body that was your risk factor, but it was caring for that person right before they died. That's when the person is vomiting the most, having the most diarrhea, probably bleeding. You know, that one day or maybe even two days just before death, and those are the days where you are the weakest so you require the most support and care from a family member, and if you're getting that care in the home, then I think the risk is the highest probably at that point in time. I think that and kind of the preparation, the burial, the traditional burial process may actually begin before death. So, it's not just that—the focus was always on did you go to your funeral as a risk factor question, but it may not actually have been that you attended the funeral that put you at risk, it was probably that you began participation in that preparation for death. Almost like last rites for Catholics, there are processes that occur before death. There's the caregiving but then there's also like family visitation, saying goodbye. That process occurs before death and also may be very risky and involves touching and caressing and being in very close contact with a

very sick and infectious person. I think that was where we really have a lot of good examples that that process is taking place and it may not be as black and white as did you attend a funeral.

Q: How did you make that realization?

Bennett: I think you just had more time to spend with each case and more time to spend with our contacts to really understand the story of that single Ebola patient. When you had too many, you're lucky if you got down things like name, age, gender, district of residence and a few things about their exposure and maybe some of their symptoms, but when you had more time to spend with each case, you can get a clearer picture on what really happened. I mean it's more the story that we want to know. It's not just documentation of the person who was infected but the story around that infection. I think it's the stories that are actually really important for understanding transmission and how we might prevent that. I do think that funerals contributed to transmission but I also think it's probably the more intimate things that happen around caring for a very sick person, their subsequent death, and those immediate few hours just after death. I think that's the experience that probably leads to infection, not simply did you attend a funeral.

Q: And that's something that might not show up in the data.

Bennett: No, because the question that you are asked is: did you attend a funeral of somebody with Ebola? I think what we would like to do is actually go back in time to

construct—we have these transmission chains where it's like little bubbles in different colors and each color represents a different generation in the outbreak. So, you have your first case and they infect a group of people that are your first generation, and they go and infect a group of people that are the second generation. So like a family tree, and we can connect people by the type of transmission or the mode of transmission that they had. Did they care for this person? Are they a work colleague of this person? But we don't want the relationships of people, we want like what activities did they do together that might have put them at risk, and I think that we would like to go back and try to understand that better. I think it wasn't until 2015 when the wide transmission, the hundreds of cases, thousands of contacts a day was behind us that we could really start to focus on some of that and get that level of detail about each case. So, one of the thoughts was to get as much information as we can about the 2015 cases to see if we could sort of sort out some of those issues. I think that's the kind of stuff we started learning. You know, quarantining people in homes, you're putting high-risk people together. If you're not good at getting them out when they develop symptoms early, they just infect everybody in the home because they are all in very close quarters. So, those kinds of things are the things you learn, I think, when you have time to spend learning that story around a patient. I think that's where the learning is for the cases in 2015, and that will continue for subsequent cases. Really trying to understand the story. And now that there's focus on transmission because of viral persistence in survivors, that story becomes difficult because you're dealing potentially with survivors that were infected a very long time ago. Their illness is a long time in their past, and we're trying to figure out how a virus moved from that person to a case that's occurring now with like a year in between. It becomes a

sensitive subject. You're talking about sexual contact in some cases, and sex is not easy to talk about in many cultures, especially if you have multiple sexual partners. So, it's like building a story around a case and their contacts is what we are trying to do now.

Q: Thank you for that. I'm forever trying to make sure I have the timeline more or less right [laughter]. What months did you say the Western Surge was and then when was the Northern Push?

Bennett: December/January was the Western Surge, and Operation Northern Push would have been June/July I think, just before—May/June/July, somewhere in there. I have to go back to be sure. I have a really hard time with time actually because for me, events are marked by the event and often not by time, and I have an example of that. So, in [March] there was an outbreak in a partner organization, which I will not name, and it resulted in the evacuation of like seventeen American citizens which, unfortunately, I had the pleasure of participating in. It's actually very difficult to move that many people who might have been exposed to Ebola out of West Africa. There were a lot of things that we had to do. But I was sitting in a meeting maybe in May or June of 2015 and the WHO was presenting on the evacuation, like the number of evacuations each month that occurred, and I'm looking at the curve and I was like, good grief, what happened in March of 2015? It took me like five minutes to be like, oh yeah, that was us, we evacuated seventeen American citizens out of the country all at the same time. [laughs] For me, I have a hard time sometimes with time because it all blurs together, and I can tell time in what I call Ebola Land by the passing of certain events rather than the passing

of time. Like, I remember it might have been June when—I think it was May when we went for like eight days with no cases, and I remember Oliver and I had this exchange of text messages like, "We could be out of here by the end of June," because we had both agreed, we had a pinky swear with each other that we would stay until the end of the outbreak, that we would both stay until the end of the outbreak, and this flurry of text messaging back and forth like "We could be out of here by the end of June, oh my gosh, oh my gosh!" Then, of course, a new case occurred and those hopes were dashed. [laughs] But time, for me, is a really difficult concept.

Q: I understand that.

Bennett: I have notebooks from my—I'm on notebook number six, and people keep asking me, did I keep a journal, and the answer is no because I didn't have any time to myself. I could have journaled, but then I wouldn't have slept. [laughs] So, there's that, and sleep was really important. But I have these notebooks and I'm often flipping back because I'm looking for a reference to something that I know is in one of the notebooks but I just don't know what time it is, and the notebooks are dated. So I'm often kind of like sorting through two or three notebooks because I know it's somewhere in there. Because I know about when because of other things that were happening, but I can't actually put my finger on dates until I see it written down in my notebook.

[break]

Q: Do you feel like—is it—[laughs] I'm so awkward with this still. [laughter] This is what I do and I'm still super awkward with it. Isn't that ridiculous?

Bennett: It's hard. It's hard to know—I find actually talking about the outbreak sometimes is difficult because it's—like, people don't always know what to ask and I don't know how to respond. You know? Some things are not easy to talk about, or some things are not comfortable to talk about. It's difficult to always know exactly how to proceed.

Q: What seems to be difficult to talk about?

Bennett: I think it's hard to talk to people who weren't there or don't have a lot of experience with the outbreak. I mean, it's just difficult to describe things like what it's like to see people dying in front of a hospital because there isn't enough room, or the hospital is afraid to take them in. I mean, that's a hard thing to describe, or being the shoulder for someone else to be able—there were a lot of very sort of emotional things that people encountered while they were deployed and you just need somebody to talk to and often that person was me. I don't know why. Maybe because I was just available and more accessible than some of the other leadership in the country.

Q: That's your best guess?

Bennett: Yeah. I think I'm easy to talk to too, and I think that doctor sort of thing comes out. People tell me stuff. I don't know why. Also, people have called me probably multiple times during their deployment to describe their stool to me because I was the team doctor, I guess. So if you had diarrhea, I'd need you to describe it to me and people got really comfortable telling me about uncomfortable things [laughs]. You know, some of those things I guess. But I think there are a lot of things that people saw or did—and to me, it's really hard to explain what it's like to have people tell you all those things that are bothering them too, because I mean what do you say to somebody who's struggling because they saw something that they weren't prepared for? We sent a lot of people out into the field that had no experience with anything like—none of us had any experience like this, but even anything to really reference, I think, is most difficult for a lot of people. Some things are just difficult to talk about. You know, I don't want to like terrify my parents about some of the things that I did or didn't do and decisions I had to make. It was hard for my mother, for example, when I told her I was going back to Sierra Leone because she worries about me, and she, I think, has a limited understanding of what I do. That's the first problem, limited understanding of what I do every day and what the risks are to that activity. I always said that if we ever had an infection on our team, it would be the infection control team that would have an infected person because we were sending people into hospitals and healthcare facilities to train healthcare workers, and they were a group of people that were certainly high risk for exposures. I have stories of people who went to healthcare facilities and found Ebola patients in those facilities. You just don't know what the exposures would be like. I probably would not tell my parents about those kinds of things [laughs]. So some things are difficult to talk about. I actually, on my

twenty-nine-day reverse TDY here in Atlanta, I did a Skype interview with my middle school alma mater and the first question they asked me was, how did the outbreak change you? How did my experience, the first six weeks I had at the beginning, change me? I thought for a seventh grader, that was a big question, and I just did not have a good response for it. I still am not entirely sure I know how the outbreak has changed me. I think that will take time to figure out. I think I've discovered—I feel like I'm an adrenaline junkie because I like the fast-paced sort of outbreak visit. I hate this like perseverating on data, or like waiting endlessly to make decisions. The thing about an outbreak setting is that you do make decisions based on very little information. So that I enjoyed, but some things are hard to talk about, yeah. You can't always paint the image as vividly as it is in your mind. So, I can see what it looks like to have people outside a hospital who are very sick and have nowhere else to go, but it's very hard to paint that picture for someone else.

Q: Can you try?

Bennett: Well—

Q: You don't have to. You're telling me how hard it is, I know.

Bennett: Yeah, it is really difficult. So you go to a hospital and you—I mean the largest tertiary-care hospital in the country, it's huge. I mean one misconception about Sierra Leone is that hospitals and healthcare facilities just closed. But they didn't close. They

tried to stay open but screening was difficult. Like really trying to figure out which patients had Ebola and which ones did not. You just didn't have a lot of space to isolate people so the holding units would be filled up and you just can't keep admitting patients if they think they have Ebola. So they ended up in the streets in front of the hospital. I remember at that time, after a lot of the discussions about kits for home protection and support, and I remember a lot of partners independently deciding to start giving people stuff to go home with, like, "We think you might have Ebola, we don't have any space, we don't know where to send you, here's a kit, best of luck." It was kind of a practical way I guess of handling the cases that were in front of the hospital. But they ended up erecting another tent so people could at least wait there and wait for a bed to open. It was, you know, difficult then. That was really when the pressure started to come for more partners to get involved in opening up Ebola isolation units whether they were at hospitals or whether they were ETUs. Then you have these conversations about what do you do with people when you don't have enough beds. Nobody wants to do homecare, but you have to do something. So, it was just very difficult. It was difficult to go to meetings where people were kind of like, no homecare. But then you go to the hospital and you have people who don't have anywhere to go. It's just difficult, like very difficult.

Q: Can you describe some of the people you worked most closely with or the people you have vivid memories or images of?

Bennett: So, I talked about Abu Jalloh, who is this passionate person. He was supported by another guy, John Fleming, from the International Federation of the Red Cross [and

Red Crescent Societies] who had this—when I picture him in my mind, he has this really white hair, but it's got this body to it so it's almost a little bit wild. He really was like Abu's mentor. So I have a lot of really good, sort of fond memories of him and his support for the burial pillar. I mean, Laura Miller obviously sticks out because I spent a lot of time working with her on infection control and other activities. I think Dr. Alie [H.] Wurie who is the pillar chair for the case management pillar, he's kind of like a—just a character. He's jovial and jolly and was clearly given more work than could be accomplished by any one individual. The one thing about the pillars is the Ministry of Health folks were assigned to be chairs of the pillar but then given no staff. And assigned these enormous tasks like open up ETUs. With what people? So he sticks out in my mind, and he's still the pillar chair so every time I go back, it's renewing my relationship with Dr. Wurie.

I'm trying to think of some good people. I mean there are definitely folks on the CDC team that like we will be one hundred years old and still very close. Like John Redd, Oliver Morgan, Sara Hersey. These are people that I feel, like—when I think of experiences during Ebola, they are inseparable from those individuals. They were all there too. I'm trying to think of—oh, Luca Rolla from EMERGENCY. We had these very difficult discussions about money. Everything boils down to money in the end, right. You either have money or you don't. Most things are not free. There's this system called hazard pay, and that was how a lot of Ebola responders, like Sierra Leoneans, got paid for their work on the response. Many healthcare workers actually in Sierra Leone are not on the Ministry of Health payroll so they are quote-unquote volunteers, and many of them

volunteered to work in the Ebola isolation units because they would get hazard pay. But sort of towards the end of the response there was little appetite to continue that hazard pay system because it was quite expensive. So we had endless meetings about how many healthcare workers are really needed and what roles do they play and Luca just like stepped up to the plate to really advocate on behalf of the safety of healthcare workers, and that sort of sticks out in my mind as a particularly important moment in terms of moving from the widespread transmission to the tail end of the response where people were like, oh, we'll just stop doing X, Y and Z, but it actually had a lot of really important impact on the ability to maintain the response. So, Luca was really heavily involved in those conversations. There's like hundreds of people I can think of. Some of them are memorable because they were characters and other people—they did good work, too, but they also had this like character—I'm sure people mostly remember me for my character as well, but there were a lot of people who did some really great work.

Q: Thank you. So I'm conscious of the fact that I've kept you in here for going on three hours I think—

Bennett: I could talk forever about it.

Q: And I appreciate that very, very much. There are a couple of things I'm still curious about. One is what you are doing now and what you envision yourself doing in the future, and the other is I just want to make sure that we record everything that you want and if there's anything else you want to say.

Bennett: So what was the first one?

Q: The first one—I just did what you're never supposed to do, which is ask two things.

Bennett: Give me like a compound question [laughs].

Q: Tell me about what you're doing now and what you're planning for the immediate future for the next few years to the degree that you know it.

Bennett: So I still work on CDC's Ebola response team, and I focus a little bit more now on bigger picture things, how do we take the capacity that was formed during the Ebola outbreak and sort of move it towards our Global Health Security Agenda in each of the three countries. A lot of it's focused on longer-term surveillance activities, maintaining the response capacity periodically when there are clusters of things, like making sure the response runs smoothly, providing that outbreak technical support. I'm also trying to carve out time to really help our team and the Ministry of Health and WHO teams document what happened to healthcare workers but then also to Sierra Leone. So writing a lot of papers and reviewing a lot of sciencey stuff and helping our EIS officers and some of our junior staff who are working on little papers to move those along and get those published. I'm heading back to Sierra Leone on Friday again to work on some of the longer-term or programmatic things. And then there are things still related to the response that have to be finished. There's no—still isn't a really clear understanding

about how we would manage a case of Ebola now that ETUs are largely closed, and the staffing structure in the country has changed and the pay system is different. There's a lot of things that have changed, like planning. There's a lot of planning activities and working on a lot of similar planning activities for how to manage survivors to make sure the risk for re-introduction is reduced. But moving forward, a lot of the longer-term surveillance stuff like setting up IDSR [Integrated Disease Surveillance and Response] and these other surveillance systems that we want, getting laboratory assistance strengthened. A lot of that is what the team is now focusing on and helping the country respond to outbreaks of other things. So Ebola, you know, you have one or two cases here and there but there's like thousands of people who have malaria that results in death. The maternal mortality is quite high in Sierra Leone it's probably the highest in the world, so reducing that. Trying to figure out why so many children under five are dying. The thing about Ebola is that it's a few cases but—now it's few cases, but it's a severe illness. We definitely don't want Ebola to be transmitted unchecked, but there are so many other things that are happening in Sierra Leone that are terrible public health tragedies and I think trying to get partners and ourselves refocused on those efforts is really where we are. Right now there's a lot of cases of measles in West Africa, and a lot of it has to do with a history of poor immunization rates. Then certainly almost no immunization activities happening during the Ebola response, so what do we do about that now? That's where we are now. I'll be going back next month to work on some of those things.

In my near future, I really want to take vacation. I'm very tired, very, very tired. I haven't really taken a lot of time since coming back. When I was in Sierra Leone—I was there for ten months that second time. I left in August of 2015 and I took a few days then. I took like a day at Thanksgiving, I took a few days at Christmas, but largely I have not really taken a proper vacation. So, that is my near future goal is to take vacation. [laughs]

Q: Where?

Bennett: Probably Europe. On my way back from Sierra Leone this last time, I stopped in Paris for a few days and I had forgotten that one of the things about myself that I really love is I love art. I love history and art and architecture, and there's a lot of history in Sierra Leone but there's not a lot of interesting architecture. There's some art, but it's hard to find, especially during the response. So it was nice to be in Paris where I could go to museums and eat good food and just be in an urban environment with sort of interesting historical—history and interesting architecture. I had a really good time. So I think I would like to—I would like to take a long vacation and relive my twenties maybe like backpacking around Europe or something. I don't know. I have more money now that I'm in my thirties, a little bit more independence, so I don't have to do it on the cheap like I would have done if I were twenty-one. I've been invited to—so the thing about Ebola is that in Sierra Leone I have friends now like everywhere in the world because people who came to work for WHO or the CDC team or worked for an NGO, they come from all over the place. Short-term contractors that just came in to help with the response and now they live everywhere. A good friend had invited me to Australia, so

maybe I'll go to Australia, I don't know. But the point being is that I will be taking time off without my Blackberry, and please only call me if it's a true emergency, instructions.

So that's my near-future goal, and then long term I have absolutely no idea. I mean, I enjoy the outbreak response area because it's—for whatever reasons I'm good at it and I like it. It's comfortable, but it is difficult on your personal life because I spend a lot of time traveling. I mean, I was in Sierra Leone for ten months in one stretch. I don't think I would recommend that to anybody. There were difficult things about being in Sierra Leone for ten months. There was a curfew at six o'clock and very few of the restaurants remained open, so you are pretty much stuck in the hotels. It's a hard way to live, not particularly healthy I guess. That's the thing about an outbreak response is it's not a very healthy lifestyle, but I'm good at it so maybe I'll do something like that or maybe I'll pursue a job that incorporates a little bit of that and maybe a little bit more epi, traditional epi. I don't know, we'll see. I feel like I can't figure that out until I take some time off. [laughter] My lifestyle's a lot healthier since being back in Atlanta, but I'm still so tired that I think it's just a burnout. I just need to get time off to really think about what I want to do next.

But the team is going to continue on, the Ebola response team, as a new Ebola-Affected Countries Office I guess. I think the goal is to really have a staff that's focused on these three countries in particular, to help them move forward with their Global Health Security Agenda planning since that's a big CDC priority. With other US government agencies, we're really invested in that to have a team to really focus on these three countries.

Because it's different in Guinea, Sierra Leone and Liberia than it is in other GHSA countries because country offices were set up to respond to the outbreak, and now they are trying to transition those offices into regular CDC offices with normal work hours and a fully functional staff. People who are not living in a hotel, for example. That transition period is going to require a little bit of additional support, so I think that's what our team will be focusing on next. Hopefully no more Ebola. I have my fingers crossed. I can't remember what other questions you had.

Q: The last question is just, is there anything else you'd like to talk about, about anything that you have talked about but specifically looking back on the Ebola experience?

Bennett: I don't think that I would—you know, I say it was difficult to be in Sierra Leone for ten months at a time. I don't think I would have done anything differently if I did it again. That time coming back to Atlanta for the twenty-nine days, it was really difficult to be here when you knew that the need was over there, and so that was really hard. I don't think I would make a different decision. I don't think it was a healthy decision but it was the right decision. I think I have said it already, but I have become friends with people that will be forever my friends because of this experience, and it's different when you hang out—it's just different with them than it is with other people. I don't know how to really put that into words but they just kind of understand where I've been for the last year and a half. Like they get it. They get why I disappeared from the world, I guess, for lack of a better set of words. I kind of worry that I'm going to be like eighty years old one day and people are going to hate the few of us who are friends with each other who are

constantly like, do you remember when this happened? But I'm hoping because we are going to stay friends that it will be replaced with new memories, and things are starting to happen to the group of us that are new things which is really nice like working on new projects together, trying to move different things forward that are happening in these countries because of the Ebola response but have nothing to do with Ebola. So I think that will be really exciting. We'll start making new memories together. I do hear from people. It's exciting for me to go back to Sierra Leone. That's the one thing I look forward to the most is going back and seeing people again because you just have this shared history with people that it's hard to describe to others. But you must hear people describe it all the time. [laughter]

Q: Yeah, but as you say, I wasn't there and it's hard for me to picture things and it's hard to know how it felt.

Bennett: There's a lot of people who—partners—all organizations, I think, are looking at themselves internally to see if they could have done something differently or better or what do they want to think about for the next, hopefully never, response. Although Zika you could say is maybe similar—different but similar in many ways. I think I often ended up having to have sit-down conversations with these folks because they'd be like, oh, you have to talk to Sarah Bennett. There's this big joke that I had that I've become a museum exhibit, I need a plaque. [laughs] Every organization would be like, we have this person in country who's here to do our "lessons learned." And that's this phase is this big lessons learned. Everybody's doing one, everybody wants to talk to us about, what does

CDC think about ex-partners', you know, response? So, it's often—one thing got generated into a CDC article or something and it had a photo of me, and it was the worst picture that could have ever been posted publicly of me. Of course my stepmother was like, "We think you look beautiful' and my mom's like, "Why is your hair so red?" Just like, ok. These are the kinds of things that are memorable still. [laughter] I don't know, there's memories that just keep coming back. Some of them are really funny now. Maybe not at the time, they weren't so funny. Other things—there are just so many things. It's just hard to—

Q: Well, I do invite you to do another one if you'd like to.

Bennett: Do you do them with multiple people ever or you just do single people?

Q: I could do one with multiple people. Mostly, we have the StoryCorps to do that, but there are times when you just want to remember together, and you want to have that open format to do so.

Bennett: Well, I'm thinking if you really want to put the outbreak together on a timeline for Sierra Leone, you probably need me and John Redd if you can get him, Oliver in the same room.

Q: I did one of these with John Redd and loved it.

Bennett: He's got a very different story. John came in in like June maybe to be the response lead, but it was the time when Magazine Wharf just exploded. He was like, "Sarah, can you do it? I'll just be down in the Western [Area]." I mean, it's way more fun to be out in the field than to be the response lead dealing with staffing issues and signing off on people's overtime. And I was like, "John Redd, you need to take over your responsibilities." [laughs] That, we can put on the timeline. The day Sarah lost it. [laughter]

Q: I would love to have you remembering that together.

Bennett: I wanted to strangle him. Stop playing in Western! I mean, there's little things that are really funny now. Like the day Sara and Oliver and John were all out in the field and we had a call with Tom Frieden, an update call. This was maybe July or close to when I was leaving in August, or maybe June, I don't know. Anyway, times are all really bad. Anyway, I'm on this call and they're like, oh, we'll call in if we can but we'll be in the field, not sure. But they are on the call but they don't say anything so I was like, "Oh hey, Tom Frieden, thanks for calling in, here's our data update, I know you got a data pack that said there are no cases, but actually there are seven new confirmed cases this morning." There was sort of like a pause and Tom Frieden was like, "Okay, we'll come to that." [laughs] I was like, yeah, I like being the bearer of bad news. I think my follow-up comment was like, "The data pack is basically irrelevant, so I'm just going to tell you about the seven new cases and what we know about them today." Yeah, that kind of sticks out in my mind. I remember being told months and months later that Oliver and

Sara [Hersey] were actually on the call and heard this whole exchange happening, and I was like, why did you not speak up? I remember Tom Frieden's signoff. He was like, "I know it's going to be a bad day for you guys," but he was like, "That's okay, you guys will get it under control, you'll have more information, this is just another bump." So, it was a nice response to a team that was suddenly in chaos because of more cases than expected. Those are the kinds of things you'll probably get out of the conversation. I do think the right people to get that—I mean, the early days of the response would be different people, but yeah—

Q: When you're saying Sara, which Sara?

Bennett: Hersey. There's so many of us. It's Sarah Leone. [laughter]

Q: Sarah Leone? That's pretty good.

Bennett: It's a good moniker. I think everybody in Sierra Leone thinks we are all named Sarah, you know, generally. There's a point in time actually on our team when all the team leads were named Sarah, and it was during Tom Frieden's second visit to the country and it was incredibly confusing, and the woman on our team who was managing the visit thought it was really funny that she put all the Sarahs in the same vehicle and then it just became very confusing. So, it was like trying to move the Sarahs. It became this joke, like the Sarahs will collect, and they will get in this vehicle, and they will

disembark, and then they will split up. It was like, which Sarah do you want to go in which vehicle? It was one of those operational problems.

Q: And I'm sure when you're low on sleep, etcetera—

Bennett: There's a point in time where I guess Frieden was looking for one of the Sarahs, and the group that was sort of managing the visit all scattered to find one of us. So we all ended up arriving in the lobby together at the same time and the one who was in charge of the visit was like, "No, no, no, no, no, it's Sarah Bennett that he's looking for." Everybody's like, not these two Sarahs? It was one of those—really? We should have just numbered one to three. [laughter]

[break]

Q: Well, this has been a real pleasure. Thank you, Sarah.

Bennett: Sure. If you need to know anything about anything else, let me know.

Q: Okay, I will probably take you up on that and you will regret saying so.

Bennett: Well, I'll be gone the next five weeks, so not in the next five weeks.

Q: Not on your vacation.

Bennett: Not on my vacation. I've got to swing that vacation to Spain or Portugal. Actually, I remember in January of 2015, like nearly the entire CDC team was collected in the lobby of the Radisson [Blu Mammy Yoko] Hotel and we were all for some reason discussing my vacation plans and it came down to a vote. Everybody was voting where I should go on vacation, and the final vote was Spain, that I should go to Spain. It got so far into the planning phase where one of my friends from a different organization was from Spain, and in the end—lots of reasons why I didn't end up taking vacation but she had just came back from a vacation in Spain and they had a case in Spain, and she had gotten basically forced out of vacation to help with the response in Spain because she had all this experience in Sierra Leone. So she was like, "Spain is lovely as long as there is no Ebola." So I might have to revisit my plans to go to Spain.

Q: Yeah, Barcelona.

Bennett: I'm kind of excited. The possibilities are endless is what is so exciting about it.

Q: That's true.

Bennett: That's high on my list this year is to take more time off, reconnect with friends and family. Try to live like a normal person.

Q: Well, like you said, this is something you're good at. So, if you can make it both something that you're good at and something that is healthy then that would be phenomenal.

Bennett: Yeah. Outbreak response in general is not—you don't often have outbreaks that go on for months and months. Usually when you have outbreaks like that, people cycle in and out, in and out, so you've got fresh legs. There's one thing to be said. There's a lot of criticism about CDC's response and the fact that we managed mostly with twenty-nine-day rotations, but I think there's something to be said for somebody who works flat-out for twenty-nine days. At the end of four weeks you are just beat, tired, grouchy, ready to go home, and that fifth week is really, really tough. So there is something to be said for fresh legs coming in every twenty-nine days. It ended up being great to have people coming in every twenty-nine days, go home, come back in three months for another twenty-nine days, because they do start to develop relationships, and even though you might be working in a different district, at least it's familiar. You require a little less time to get up and running. I think that's really a little bit longer than twenty-nine days but not forever because you do kind of burn out after a while. There's a moment in time where I must have seemed like I was like losing it. I remember Oliver was like, "You need to take some time off this weekend, chill out because if you lose it, I'm going to lose it."

Q: That's sweet actually.

Bennett: It was really nice. I think because he saw me pacing—I was on a phone call with someone I will not name, and I was getting increasingly frustrated and I was pacing, and I think he could see that I was getting agitated. I mean, it's true, the people you relied on are the people who were there all the time. I relied heavily on Oliver for my sanity, I relied heavily on John Redd for my sanity, because they understood what it was like to put in sixteen-hour days for like endlessly. You got to know people. They knew where your boiling point was. They know all kinds of weird things about you, and those are the people that you had to rely on to stay sane. So, it was good to have a few people there that were there over and over again or long term with me. Oliver and I decided to leave on the same day because for me, I don't know about his perspective, but for me, it would have been miserable to watch him leave. We had been there for ten months together, and the thought of not having him there would [have] just killed my sanity I think. Even if it were just for a few days. I was like, we've got to leave on the same plane, and so we did. We ended up watching a movie together on the plane. We were like, we'll watch *Birdman* or whatever that movie is called. That's not the first movie you watch when you leave an outbreak.

Q: No, I don't think so.

Bennett: I think the first movie you watch is something a little bit more action-oriented or funny. Like action or comedy, but not arts and depressing insanity, deterioration of a personal—yeah. So a poor choice. I think the sense of getting on an airplane and leaving,

for me, I was like, I get to see artsy films again. It was like, *Birdman*. It got a lot of awards. It got a lot of hype, but probably not the best choice on the airplane.

Q: No, I watched it at like an art house cinema in Brooklyn and that was perfect.

Bennett: Yeah, really an airplane out of Sierra Leone is not the place for that movie. So yeah, thank goodness for close friends during the response because you could see people burning out over time, and you go back now and people look more rested because a lot of people left for vacation or go on vacation, then come back to restart. It's nice to see because towards the end, you could definitely see where people were starting to—just that sense that people needed to move on.

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