CDC Ebola Response Oral History Project

The Reminiscences of

James A. Zingeser

David J. Sencer CDC Museum

Centers for Disease Control and Prevention

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James A. Zingeser

Interviewed by Samuel Robson
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Interview 2 of 2

CDC Ebola Response Oral History Project

Q: This is Sam Robson with Dr. Jim Zingeser. Today's date is September 21, 2017 and we're back in the audio recording studio at CDC's Roybal Campus in Atlanta, Georgia. I'm in my second interview here with Jim as part of our CDC Ebola Response Oral History Project for the David J. Sencer CDC Museum. Thank you, Jim, for coming back. It's really a great pleasure to have you and especially on your birthday. Happy Birthday.

Zingeser: Thank you.

Q: I think we got through a pretty detailed, pretty great description of your first deployment to Guinea in our first interview, and the thing that was lingering on my mind was, I wonder if you could describe some of those young epidemiologists who you were overseeing while you were there. What they were like, any specific memories that you have of them that stand out in particular, KP [Kpandja Djawe], Mateusz [M. Plucinski] were a couple of them. I'm sure there were more.

Zingeser: Right. Those two are good ones to talk about. They were all notable. The nice thing was, you see EIS [Epidemic Intelligence Service] officers or recent EIS officers who are really willing to go out and do whatever it takes. They really are, and that's the

wonderful thing about CDCers—especially when you get this young cadre of people. But at the same time, they might want to cut corners (for example). And two areas of particular concern for the supervisor are security, obviously, and the other one is relations with partner organizations. We always have to be cautious about that. I think we talked about security already.

Q: We did.

Zingeser: Madam Sia saved the life of two of my EIS officers. She was just amazing, and it shows how important it is to have these great people in the field from those communities. There's nothing that compares. Just as a side note to put it into perspective: the same thing happened to us during the HIV/AIDS [human immunodeficiency virus/acquired immune deficiency syndrome] epidemic. In the beginning of that, I was working in public health (just starting in public health when that epidemic was starting to get rolling) and we in public health learned very quickly we did not know how to speak to the communities at highest risk, and about risk behaviors. You had to learn a whole new language, and physicians had to become comfortable talking about sexual practices, IV [intravenous] drug use, and all sorts of things like that. It's the same thing when you're out in a community in Guinea—in the Forest Region. You have to have people who are sensitive to what you can ask about, how you can ask those questions. What are the key words? Madam Sia was really a prime example of somebody who was our bridge to the community, and she was just sharp. She knew when to tell the drivers (she not only

knew, but she had the self-confidence to tell the drivers): "You—turn, face this way, keep the motors running. We may be seeing you a lot sooner than expected."

KP and Mateusz were great, and for completely different reasons, because they come out of different backgrounds. Mateusz is very much a quantitative epidemiologist and KP, if I'm not mistaken, is an anthropologist, or he comes out of social science—we'll check that one later to make sure [note: he got a bachelor's in biology, then master's and PhD in epidemiology]. But that gives them a whole different background on how they're doing this. Mateusz was finishing up his time in malaria, where he still is, and he was working on data sets in Africa, but really not a crisis sort of hemorrhagic fever situation. (NB: malaria is very serious.) KP, being African and being a francophone African gave him a lot of credibility. He understood, in speaking to people in French—not in Kissi or any of the local languages—but his communication skills and his personality are really outstanding. He just really put people at ease. I love working with social scientists because of the way that they examine communities. Their observational skills are fantastic. I think we who come out of professional training (I'm a veterinarian)—physicians, veterinarians, dentists—we're always struggling to learn how to listen carefully. People who go into social sciences and get their PhDs in social science, they're usually very good at observing things and listening and know how to ask questions, and trying to stop Ebola especially in those early days, especially in the Forest Region, those skills were very important. That's what I think.

Now, there was one more, and this is another example that's completely different. We had another EIS officer who was trained as an emergency room physician, and I'll have to check her name because I'll get it wrong, but it will be easy to check [note: Mary J. Choi]. It's interesting because I didn't meet her face-to-face. She actually came and was deployed out to the Forest Region at the time that I was being flown back to Conakry to take the response lead position, [but] we were talking on the phone all the time. She said to me, "Look, I'm assigned by WHO [World Health Organization] to work in this village in this area, which is right in the line of villages that are becoming infected," and, she said, "the health center there is a shambles, they don't even have shelves." And she [then] said, "I'm trained in emergency medicine." I believe she was—in the Navy?

Q: Was it Mary Choi?

Zingeser: Yes, it was Mary Choi. She was [United States] Navy, right?

Q: Mm-hmm. [note: US Army]

Zingeser: Okay, so Mary was trained, and she just said, "These are my skills. I would like to rebuild this health center." I said to her—I'm not the sort of CDC supervisor who says your job is to [only] collect data, your job is to do this. No. I said to her, "Mary—(1) This is motivational. (2) We're clearly going to help the people a lot more [by building a functional health center], which is extremely important, and if it's done well, if it's done

right, I think we'll build confidence in the community. No one reports a disease to a nurse or a physician in a health center that doesn't have drugs. There's no point in it."
For her to refurbish this health center and get it back up and running means that people are going to come in when they have a fever. This was great, and Mary was awesome. Those are three (in that first deployment) really outstanding EIS officers.

Q: In our first session, you also talked about the need, as you learned from—tell me if I'm mispronouncing his name—Rick [Richard] Vogt?

Zingeser: Yes, yes.

Q: —to keep the politics out of the way of the epidemiologists in the field, on the ground. How did that take form for you on this deployment? What were you shielding these EIS officers from when they were out there?

Zingeser: This is the other part of what I had said. I said that security is a big concern. The other part of that is relations with—

Q: Relationships with partners.

Zingeser: And the two major partners in this case were the Ministry of Health [and Public Hygiene] and WHO. CDC-WHO relations are always complicated, and it's well known that different agencies really dropped the ball in the beginning of the Ebola epidemic.

Because of that, there were tensions going upstream in these organizations. I was not privy to the phone calls, for example, that were going on between Geneva, AFRO (the African Regional Office) and the World Health representative—the WR in Conakry. But I did know that there was a lot of tension between the WR and the person who was brought out to run the WHO response. When I was in meetings in Conakry, I was following what was going on there. In that sense, a big thing for me was to either apologize if one of our field people did something wrong and make sure that it was cleared up, e.g., "It's not his/her fault. Everything is cool, I'll talk to them." A lot of times, that's what these people want to hear. They don't want to hear an excuse. All they want to hear is, "Mr. Representative, I'm sorry it happened, I'm taking care of it," period. And then I may get on the phone and say to Mary, "Mary, you're doing a great job, don't worry about it, this is really important what you're doing. But don't tell people that you are fixing up the health center because WHO didn't." [laughter] You know, something like that. Mary is very discrete, and she came out of a military background, she would never say anything like that. But we did have deployers who would look at something and say—I mean, I had to hold myself back looking at the way they were managing data in the beginning of the epidemic. It drove me crazy—because I wanted a database. I wanted something that was easy to clean and easy to get data out of. And everything was going into these [Microsoft] Excel spreadsheets, where basically someone would sort and then count up how many cases there were, write that down on a piece of paper, then sort again and count up how many non-cases—or whatever, and then write that on a piece of paper. It was laborious, and every time you do something like that, you increase your chances of making little mistakes that can be important. CDC did a great job of putting

together a database in Conakry, but it wasn't being used in the field (at least at that time). Those are things where I had to keep my mouth shut and just say, look, these guys are comfortable with Excel, they're just going to do it. And this guy's been tasked with being the head of data collection. (I think at one point I did go in and put together something and really work with this guy, and about two days later they went back to their old system.) I've had that happen many times. Either I'm not very good at making my case, or (I think) people just love spreadsheets. They just love spreadsheets and that's it.

Q: Do you remember what the replacement would've been? Was that the Epi Info system?

Zingeser: Yes. This was put together by people who are in Viral Special Pathogens [Branch], so they know this stuff. The big thing about Epi Info is the check program that keeps you from entering something that doesn't make sense, or even standardizing village names. If you can put them into a separate database, checking for repeated entries, all those things are difficult to do in spreadsheets. That's just technical stuff, just because I get geeky.

Q: No, that's really important stuff, too. One story that I've heard a lot repeated is that Epi Info was designed for small outbreaks.

Zingeser: It was.

Q: So when it got really out of hand in West Africa, it didn't match up to what was needed in some respects.

Zingeser: You're absolutely right. That is exactly what happened. Remember, I was there when it was small, and then I came back again at the very end. [Note: My] two deployments in the middle were actually done for FAO [Food and Agriculture Organization of the United Nations], so I wasn't on the CDC teams [which] by that time, were big operations that were done in hotels. They would take rooms in the hotel, conference rooms, and turn them into EOCs [emergency operations centers], which is quite different from that first deployment.

I'm a big fan of Epi Info and the people at CDC who were putting that together, and they were working hard to put it in French and make sure that all the terminology was made appropriate for that outbreak. But like I said, people love Excel. And when I went back [to Guinea] for my final deployment, the same person was running the data management [for WHO]. The fact that I did not criticize him or make a big deal about [spreadsheets] meant that we remained close friends. So when I went back to Guinea at the end, all of the doors were open for me to walk in and say, "I need to give a report to Tom [Thomas R.] Frieden tomorrow. Can I get those numbers today?" [although] we're officially not going to release them for two days (because it has to be cleared by the WR or whatever). And they would just say, "Here Jim, these are the numbers for CDC."

Q: Can you tell me who that person was? [laughter]

Zingeser: It's [Dr.] Boubacar Diallo.

Q: Oh yeah, okay, well-known figure in the response.

Zingeser: He was a well-known figure in the response. But I didn't want to imply any criticism of Boubacar because he went out on a STOP [Stop Transmission of Polio] team. He was in Guinea for a polio mission. He's Malian, but he was coming from Canada where he had established his new home. Basically, I think he probably didn't see his family for two years. He came out and he did the job, and I give him all the credit. He kept a sense of humor, and like I said, when I went back out, I think he was as happy to see me as I was happy to see him. That was it. These people really did their best.

Q: When did you leave Guinea for that first deployment?

Zingeser: That's where I'll have to look that all up. If you want, it's easy to do it. That deployment was complicated and interesting because in order to do that—I was at FAO. I was called by Stuart [T.] Nichol, who asked me if I would go out for CDC. I went to my boss, Juan Lubroth, who I think I described. He's an American, he's a veterinarian, he got his PhD in epidemiology at Yale [University]. He really understands public health and veterinary epidemiology. He said, "Yeah, we'll give you back, but what we have to do is—" (I don't know if it was CDC who worked this out or FAO, but) FAO loaned me to WHO, so I was there as a WHO deployer under the UN [United Nations] system because

I was traveling on the laissez-passer for the UN, and then, once I got in-country, they handed me over to CDC, which handed me back (literally—CDC handed me back to WHO because we were supporting WHO). And then, when I became the response lead in Conakry, I was reporting to Stuart back in Atlanta. That's how we did that. Let me see if I can pull up those dates, but we can keep talking.

Q: Was it always clear to you that CDC saw its office coming in to support WHO? That WHO was the one in control on the ground?

Zingeser: It's always a complicated relationship between—WHO sees us—Let me go back a step: When I started in IHPO, [the CDC] International Health Program Office—in those days—I think it was fair to say that WHO and Médecins Sans Frontières saw CDC as being the technical services branch for their organizations. The sharpest epidemiologists, when it came to shoe leather epidemiology in outbreak investigations, [was CDC]. We were the best. [However] I think one of the successes of the EIS program and the FETP [Field Epidemiology Training Program] program—which brought in a lot of Europeans [into EIS] and then expanded to Thai and Canadians [FETPs] (including a lot of veterinarians) into our way of doing epidemiology, so we reached a point where those organizations said, "Hey, we've got CDC epidemiologists who already work for us." "I went through EIS," that's what somebody might say to you. "I know everything you know." So at that point, it sort of switches to CDC just providing bodies—"We've got a bunch of good epidemiologists who will oversee your epidemiologists who we want

you to send out." It just depends. Once again, it's all about building relationships with people and building trust.

Another thing that I really truly believe is that if you convince somebody that you're going to make their job easier or you're going to make their life easier, they will let you do a lot. If you say to them, "I'm going to go out, I'm going to do an investigation, you're going to get the report you need to give to your boss. I'm not asking you for things." If they look at you and say, "Oh, this person is trying to collect samples to do a study that CDC wants to do, and they're just going to publish it and then hightail it out of here," – that's poison. But if you say to them, "I know that you have a monthly report you have to do and I'll provide you with all the key numbers, and they're going to be the right numbers," that's great.

Q: Do you remember a specific time when that worked for you?

Zingeser: I think it worked all the time. I think maybe with Boubacar Diallo for example on little things that needed to get cleared up. If I said to him, "Hey, Mateusz is a really sharp quantitative epidemiologist. I want him to take a look at this and go over it with you," you could see that it changed relationships. People were really good. Or I think people like Mary and KP going out and really doing a good job of contact tracing in the field, or just being the faces for education—I mean, somebody like KP is so personable, when he goes out and talks to communities, it really has an impact. Their lives were made significantly better—the people who we were working for.

I think we mentioned this in the first one [interview]—I would say, "You're not working seven days a week. Sunday is coming up, [and] I don't want to see your face for at least half the day. You're out of here. Or the whole day—whatever you need. Sleep in." I think the electricity was off at our hotel all during the day. It was only on early in the morning and at night. But still, they could sit and read a book or write letters, do whatever they wanted to do. We would always get permission—I just needed to say to the medical director—I had a good relationship with him, and I could just walk in and say, "KP is off for today, so can we schedule around that?" There was never a problem. I think if you get confrontational with somebody about "I'm doing this because I'm the boss and I'm demanding it," you really lose.

[Referring to an earlier question:] So the dates on my trip: I was out from the 20th of April until the 23rd of May. That includes travel, and that's my time.

Q: Do you remember around the end of May, 23rd of May, when you came back, did you go directly back to Italy or did you go to—

Zingeser: Yeah. What I did was—the way the flights went—The airlines at that point in time were canceling flights, so I think it was either—(several local airlines canceled all flights) the two main ones going down—(I think, for Sierra Leone, British Airways canceled their flights) it was still Brussels Airlines and Air France going down. And the first one was Conakry, and at one point, Air France canceled flights. And they [Brussels

Airlines] said, "No, we will [still] fly in." Because the real complaint was supplies and personnel to stop the epidemic can't get in if you stop flying your planes down there. But there was a point at which crews were panicking and the crews were saying that they would not man the planes—the personnel on an airplane that was going down to one of these areas. I think one of the tricks they did was they changed their routes so that the last place they would go was what they considered the highest risk place, and then they would fly to—I think they would change crews in a different place like Morocco, or something, or Dakar, and then the different crew would fly back to Paris. But it got complicated.

I went from Rome, to usually Brussels or Paris, and then down and back again on all of these flights. Brussels Airlines was great. They stayed up during the whole thing, but you always worry. I don't know what other people have reported, but for me (I don't think this really happened so much on the first deployment, but I went out four times, I came back four times from the Ebola zone) I think every time, starting about three days before I came back, if I had a rumble in my stomach, if I felt like I had some gas in my intestines, anything—I was sure I wasn't going to get Ebola, however, I did not want to have a fever or a history of diarrhea or anything when I was going to the airport. I just wanted to get past the health check. So that's when I would start waking up in the middle of the night like, what? [laughter] Am I starting to have a fever? That was all psychological. By the end of it, I was amused at myself—at those fears—and it was just a fear of not being able to get on the plane.

Q: Sure. Logistics not working out and having to be held back.

Zingeser: On the first run, just before I left Conakry, we had an outbreak in Télimélé, I think it was. Télimélé was just northwest of Conakry, and that was our signal. It was at a funeral that this happened, and there was maybe a funeral of a well-known traditional healer or religious figure and the three sisters who were there all went in different directions and all got sick, and we knew that: This is not over at all. I was already scheduled to leave. I had a replacement coming in. Had we known then what we know now, I would've just stayed. But it was actually well organized.

Q: Who replaced you? Do you remember?

Zingeser: No, I do not.

Q: Did you have any overlap with them?

Zingeser: No. It may have been Pierre [Rollin] coming back because of that, but we had just sent home our laboratory people, we had just sent home communications people.

Q: But Télimélé was, when you look back, kind of an event that let you know this wasn't over.

Zingeser: Right. It was when we knew. It had originally been the Forest Region, and then we said, okay, people are getting in taxi cabs and they're going from the Forest Region to

Conakry to try to get better healthcare. Then we found out these taxi cabs were going a lot of different places where people were leaving Conakry and going outward to different places. In the end analysis, a lot of places in between did not have the outbreaks, so there were parts of Guinea that really had very few cases, if any at all. I'm sure it was the difference in hygiene and difference in religious practices. There's a social scientist who I had already worked with on rabies in Sierra Leone named Paul Richards, and he wrote this—did I mention that?

Q: Yeah, yeah.

Zingeser: Paul Richards wrote this great book about the outbreak, but he talked about the fact that you first have the Ebola epidemic, then you have the Ebola panic. You deal with Ebola disease, then you have Ebola panic disease. And it's true. Somehow, Ebola really has a powerful impact on people emotionally.

Q: Can you tell me about the transition of coming back from that deployment to Guinea? What were you up to when you got back to Italy?

Zingeser: In Italy, I had so many projects going, and it was mainly (at that time) avian influenza—which is a big problem. The idea of One Health is that we're in one ecosystem, period. Diseases—it's not only rabies and anthrax where you have to have this bridge between human health and animal health, but it's also things like influenza which start in birds or pigs or other animals and then reach the human population.

Viruses are mixing in these vessels that we call "people" and that we call "animals." A lot of my work at that time was making sure that if there was a significant event, or even a hint of one—that CDC knew about it. So, if we were getting data at FAO about what was happening at a national level (just like WHO, FAO has regional and in-country offices, and just like WHO, we frequently would find out about events before an official report was made) [and this] gives the epidemiologists at CDC a leg up. And it worked both ways—because my colleagues in Atlanta would contact me and say, "We have reports of this in Egypt, what do you know about it? Does FAO know about that?" And frequently, at FAO, they didn't. So I was sharing data back and forth. I'm really proud to say that in the six years I was at FAO, we never found a leak of any confidential data that was sent back, or at least nothing that was traced back to us. I think people were extremely discrete, and I was dealing with the GDD [Global Disease Detection] people at CDC, and my colleagues at FAO were awesome, too. So that worked really well. That's the sort of project I was working on.

However, as the Ebola epidemic spread, we said FAO has got to get involved with this because FAO is the Food and Agriculture Organization of the United Nations and, in that regard, we have people who deal with essentially human disease by trying to prevent it in the animal population. That's all the food safety and all the food security. You need to have enough food and you have to have enough safe food. We deal with human health in that respect, but we also deal with all the zoonotic diseases because we're working with veterinarian epidemiologists in the field. Ebola came up, and because there was a spillover event, I was in communication with Stuart Nichol. Stuart very wisely said to me

(I took the email that he wrote to me and cut off his name and certain identifiers on it, and I printed it in sixteen-point font or something like that and put it up on the wall in my office) he said, "After the spillover event has occurred and human-to-human transmission has been established, this is purely a human-to-human event and the chances of there being another spillover event [are nil]. You waste your resources looking for it."

Q: Last time, you—

Zingeser: So I started saying to people—I talked about that? I started saying, "People, the monkey is dead," right?

Q: Right, right, the monkey is dead, stop looking for the monkey. Stop looking for the bat.

Zingeser: That was my job at FAO as a CDC epidemiologist—to convince certain people who were saying, "We've got to get out into the Forest Region and start drawing blood on all these different animals so that we can find out what the source of the epidemic was." I was arguing for using resources differently, and this is a case where I actually burned some bridges. But Juan Lubroth stuck by me. He saw the wisdom of this, and I think part of it was our very good relationship with Pierre and Stuart and others who came to Rome for Rift Valley Fever meetings (another hemorrhagic fever). There was a lot of trust there. I prevailed with Juan's support, that we would not send people off into the forest to look for animals.

But what we did have is this. FAO works with agriculture and food producers. That means we work with rural populations, and those rural populations are frequently ignored by public health. They're marginalized, they're very poor, they're subsistence farmers. However, ministries of agriculture, and frequently with FAO's support, are going out there giving them seed, fertilizer and other [agricultural inputs].

Q: It's the agricultural extension workers?

Zingeser: It is. They have ag extension workers in all of these countries, and what we decided to do was to mobilize them. There were concerns about food security because roads were blocked, and food and the inputs that are used for producing food were not either getting to the farm—or the produce was not getting from the farm to the markets, and a lot of markets were closed. So we had farmers—it's a very big cascade: If you don't get seeds and fertilizer, you're not going to have a crop next year. If you don't have a crop next year, you don't have money for healthcare. You don't have money to buy the seed and fertilizer for the next year. Farmers in the Third World or developing countries work very much like they do everywhere else—you borrow a lot in order to get your crop into the ground, and to the market. And then, when you get your money from the market, you pay back those loans. And then you spend the rest of the money to try to build your house or send your kids to school. An event like Ebola really disrupts that because transportation is disrupted, markets are closed, people in villages are getting sick. As FAO, we identified [in] these things an important role that we could play, that tended to

be ignored or neglected. Or it's not that they were ignored—these other organizations were not conscious of the importance of these things. If somebody in public health says we have to block off the roads and we have to stop all transportation along these main routes because Ebola is coming from—in Sierra Leone, it would've been Kailahun—back toward the capital, so we have to block off the road. Well, that's the same road that all the food goes to the capital on. And the biggest fear that our people had in the farming communities was that they were going to flunk one of these infrared body temperature tests, and get stuck in a waiting area full of people with Ebola. Nobody wanted that. I think people were much more afraid that they would have a little bit of malaria or influenza and they would get stuck in a waiting center that had people who were really ill. There were real fears on the part of the farmers. So we put together a program that's fully funded by FAO, and we gave money to each one of the affected countries, highly affected countries, and then worked with our country offices to work with both the ministry of health and the ministry of agriculture to give assistance. In Liberia, the person who's running that really was a firm believer in cash transfers, and said, "We're going to give money to the farmers and let the farmers decide how to use that money." In Sierra Leone, where I was doing most of my work, we got permission from the Ministry of Agriculture, [Forestry and Food Security] to retrain ag extension officers to be health educators.

Q: Can you tell me about your thoughts about those two approaches?

Zingeser: I'm not big on [cash transfers]. I still need to see—this is where I would turn to social scientists and say, "Show me the evidence"—that the cash transfers work. Cash transfers, I think, work well when they're given to women because women tend to use the money for the family rather than use the money for other things (I think). But we've also learned that when you give money to women, the husband can frequently just take the money and say, "That's for me." So it works differently. I've seen different data, but it's not my field. I don't mind that, but I wanted them to also be training these ag extension officers or other agricultural officers who had good connections.

Everybody who works in the capital, or almost everybody who works in the capital, came from a village at some point. You always have that village you came from, and you always have contacts. And especially if you've gone out and gotten an education and you're now working for the government in some nice job, or you're working for FAO and you have a nice job, when you go back to your village—and frequently those are people who are listened to and who are seen as successful and wise people. My idea was to mobilize those people to get back to their villages in the middle of the epidemic. First of all, show that they're not afraid to travel, they're not afraid of seeing people in the village, and talk to them. I think a lot of what went into Paul Richards' book was about how those communities actually took on the challenge—on their own. So a few influential people could be trained in some basic epidemiology and public health, and they really implemented it in their own village. If they couldn't get PPE [personal protective equipment], they learned how to use trash bags to protect themselves, and they learned how to transport people who were ill by making teams of people who would

carry. They would make a stretcher and carry people across flooded rivers. It was a big deal, and this was done in areas where they were completely marginalized, really where the response had not reached them yet.

Q: So you're spending your time mostly in Freetown, then, when you were back in Sierra Leone doing this?

Zingeser: Each time I was there—these were one-month deployments. I went in and I would do the typical meetings with the FAO representatives—the equivalent of the WR. The FAO representative has a very close relationship with several people in the cabinet, mainly the minister of agriculture, but frequently there will be the ministry of agriculture, the minister of livestock and minister of natural resources. It's a different structure in different countries. We would meet with the key people, find out what their level of interest was. We would always go in and say we have one hundred thousand dollars to spend on this, or we have five hundred thousand dollars to spend on this, we can quite possibly leverage this to do something. It comes back to convincing somebody that you're going to make their job easier. When I was there in Sierra Leone, I was invited to attend meetings that the president presided over where he brought together everyone and said, "Where do we stand? What are the latest numbers? How is the medical response going? How is the epidemiologic response going?" We knew that the minister of agriculture had to—it would look very, very good for him to be able to stand up and say, "This is what we're doing." One of the key things I always talked about when we met with the minister was we're going to document these things, and by documenting them,

they are going to go into your hands. It's not a report that I'm going to write, it's not a report FAO is going to write. We are going to write this with your people with our counterparts, and they go directly to you, they don't go to the press, and you can report them to the president.

I tend to have very high expectations for things, so I never meet my own expectations. But I think a lot of us here at CDC function the same way. I think we did something, and I always wish that we could've done a little bit more, but it was something. Each one of these trips, after we did the introductory meetings in the capital, I always went "upline." In Sierra Leone, they call it "upline," which is going up to—wherever. I had gone all the way to Kailahun, which is where the epidemic started in Sierra Leone, and then to Kenema and then to Bo and along that line. Then the other access road I would take would take me out to Port—

Q: Port Loko?

Zingeser: Port Loko, thank you.

Q: North of Freetown?

Zingeser: Right. On that access. I was out there for—essentially, I got hijacked on that one. I was sent out by FAO at the request of the ministry of agriculture, and it was a

political meeting. I was out there where people were talking, all the politicians were going out and talking about—

[interruption]

Q: So what you found was a political meeting in Port Loko?

Zingeser: Yes. I went all the way around the Port Loko area, and we would have these meetings with all the politicians speaking to the community. It was this large group and it seemed like, alright, this is the right thing to do because we gave all the essential messages, and we have big posters, and we had signs everywhere. In those days it was "Ebola exists," "Ebola is Real," that was the message, which I'm not sure if that was really the message we should've been giving, but that was the national plan, so alright, we'll do that. My job was to just stand up there and say, "Hi, I represent FAO and we're working with rural populations. Ebola is real, and you have to do these things—Please go back to your communities and insist on this—There will be ambulances going up and down the roads. There will be Ebola centers for treatment." And, (1) The ambulances: We found out when we really started talking to people that the ambulances would show up late. Really late. Days after they were called. And frequently would come in far too late for helping people. The second thing was they really had not built up [response capacity]. The British military had not come in yet. It was when they came in and started running all the logistics that things really got built up and established well, and were functional.

The other thing was that while we were out there, people were saying, "There's no Ebola here," "There's no Ebola there." Right after my trip to Port Loko, everything exploded, so I don't think people were reporting. People live in a world of wishful thinking a lot of times. I think they just say, "No, no, no, this is just malaria." But for whatever reason, I felt like I lost a week on my trip around Port Loko. I really thought we were going to be heading off the epidemic, and it wasn't. But that's also typical—not an unusual experience in that sort of an outbreak.

Q: When you were out in these communities, and out in Kailahun and Port Loko, were you interfacing a lot with these agricultural extension workers, these local people?

Zingeser: At that point in time—actually, it depended on whom I was traveling with. When I went out to Kailahun, it was specifically a trip to do that. We would actually meet with them, and we were checking because UNICEF [United Nations Children's Fund] was the lead organization on training people in health education, and basically when you're doing health education, you're also reporting back on suspect cases. When we went out on that trip, it was great because we had already established points of contact along the way that we would go to these key places, and there are key FAO officers or FAO counterparts who are the ag extension officers for an area. Or their supervisors, they would bring together all the ag extension officers in their area, and we got to talk to them. That part worked well.

The trip to Port Loko was different. The trip to Port Loko was—I was under the wing of a very influential politician who was from Port Loko himself, who had done a lot with FAO. He just said, "This is a great opportunity. FAO needs to help us out," so we did that. On that trip, I met with CDC people. They had just put a CDC person in Port Loko, and it was a really tough job because this guy was out there all alone and he was trying to collect data for the Ministry of Health person who I'm not sure—that story was not clear to me, but I know it was really tough to send somebody out alone.

Q: Was this Jeff [Jeffrey D.] Ratto by any chance?

Zingeser: It may have been. I think so. He was out there in the very beginning, right?

Q: I think he was out there very early, yeah.

Zingeser: That sounds right. I think that's who it was, and it was really a heroic effort when you're out there in a hotel room by yourself with electricity that comes and goes, and you work in the hotel room because the office that they give you doesn't have consistent electricity. If I remember correctly, CDC was paying to buy fuel for the generator at the hotel so that the generator would run and Jeff could do his epidemiology. CDC was really good about that sort of thing. But it wasn't until the program really ratcheted up in Sierra Leone that they had resources in Port Loko and places like that. When I went back later on my second trip to Sierra Leone, the British military were in there and you saw ambulances. You saw the treatment center. It was a big difference, and

I think the experience in Liberia was similar in that once the military really had logistics in place—I think the key term at that point in time was "functional beds." A functional bed had to be a bed that was clean and had the resources for caring for the patient and had the human resources for caring for a patient. We have to wait and see what the final wrap-up is on this, but I believe that once they got those established, they more or less said, "We don't need this bed [anymore]." Once they had enough functional beds, the epidemic subsided rapidly. People will report disease if they know they're going to be taken care of. It doesn't make any sense to report a disease when you see people going into the hospital and never coming out again, and the hospital is set up in such a way that you're blocked out. MSF [Médecins Sans Frontières] got really good at allowing people to stand on one side of a piece of tape, and they could talk to their loved ones on the other side of the piece of tape. But it was still very strange, the way the PPE blocked off [recognition]. Somebody had this brilliant idea of putting photographs of people [on their PPE], and that was such a genius idea, I think. So simple. I love elegant solutions. And as we learned, the response of the community was better. People are rational, and they're rational in their own universe, and there is no point in following the instructions of the public health community when you're not seeing any impact. It's difficult.

Q: As far as evaluation goes, you said you think you guys did some good work but it's hard to say. Are there metrics you can use to evaluate how you did with the agricultural extension workers going out, or anything like that? How do you know?

Zingeser: That one became really, really tough because what happened was you can never have a control group. What you had to do is you had to look at what was happening before and after. Or you had to look at what was happening in the areas that you got to, and then the areas that you hadn't gotten to yet. The problem with that is that you're basically throwing everything including the kitchen sink at this disease. And as we're doing our agricultural extension officers, a lot of other things were going on at the same time. That was good and bad. When I went on the access upline to Kailahun, this was really good because we went from the district office and met the district agricultural officer, then we went and met the person who was running the FAO farmers—what they had was a Farmers' Field Office, and this was a little educational sanctuary, just a small building. That's where they would distribute all of the inputs for agriculture. But it's also where they would gather farmers for meetings and talk to them about, "There's a new disease that's hitting your cocoa and this is what's happening." We would have meetings there with people and found out a lot. For example, we found out that one, the roads being blocked were really hurting the farmers in both directions. One was that they couldn't get their product to the market, and the markets were frequently closed. The other way was that the inputs were not getting to them because the truck drivers were being blocked from driving.

The other thing that was happening that we found out was that World Food Programme—which is really wonderful about reaching the last village, they're really great about getting their food out to people—they were bringing in imported rice. Originally, the plan at WFP was that they would purchase local rice and then distribute local rice so that the

farmers would have money in their pockets and so that people would have food. This sounded like a great plan. [But] I think pressure to move quickly was too great, and the country director decided to start importing rice. India, the United States, China, and Vietnam, these are countries that can sell enormous amounts of rice really cheaply. The farmers were finding out that the markets were now flooded with bags of rice that said "World Food Programme" on them, and people were selling that. Not only was the rice spilling over into the market, but there was no demand for the local rice. This was a real problem.

The other problem that we found out when we went out there was that everyone was being told that you cannot kill or eat any bush meat. Bush meat was suddenly a big problem. Now, bush meat is so complex, we won't get into all the ins and outs of dealing with bush meat, but bush meat are wild animals that people eat that are not domestic animals. There are animals like cutting grass [*Thryonomys swinderianus*] or some of these (the "grass cutters" or "cutting grass," depending on which country you're in) it's just a big rodent, but it's good meat. These rodents eat a lot of cocoa and they eat a lot of rice, and those are the big cash crops for our farmers. So they were being told you can't go near these animals that you used to not only kill them to keep them from raiding your crops, but you also take some good protein home.

Now, this is the other thing, if you look at the agricultural season. The ag season goes: that the time of real hunger is just before the crop comes in, because you try to keep enough of your own rice, you try to keep enough of your own vegetables and whatever

you can save until you reach the next harvest. Depending on how well you planned, the food supply is really running low just before harvest, and that's the time, just before harvest, when these slightly immature crops are the best target for cutting grass and other pests. These animals—bats also come in and eat a lot of cocoa. They'll fly in at night, land on the cocoa and eat that, they really like that. The animals that were really raiding this, they come in at the time when people have the least amount of food, so people count on being able to kill those animals to have some good, quality protein. So they're getting mixed messages.

I went back [to Freetown], and at that time, Tom [Thomas G.] Ksiazek was the CDC lead. Tom is just brilliant, and he knows everything about hemorrhagic fever outbreaks. He was personally at most of the big outbreaks. Tom is a real straightforward veterinarian. He understands the agricultural side, he understands the public health side. I cornered Tom at the hotel and said, "We need to have a beer." That's always an important thing. I said, "This is the situation. I just came back from Kailahun, this is what we're running into. Is there any wiggle room on us being able to say you can eat these rodents? You can kill these rodents? The first question is, can you say you can go out and kill them? Can you still set your traps? The second question is, if you do kill them, can you eat them?" And Tom said, "If you do a study and look for the virus in those animals, there's a really good chance you'll find it. But you won't know if they're transmitting the disease." You will just know that somehow" [they were exposed to the virus]. So if you did a serologic survey for them (because this is how it would normally be—it would normally be serology), and so you would say, "Yeah, they were exposed to Ebola," but

you don't know if they're capable of transmitting the disease to anybody. And those studies are very, very difficult to interpret the results of—a study like that. And because of that, people in public health always stick to the line of you shouldn't touch bush meat. Now, to say you shouldn't eat apes, you shouldn't kill apes or if you do, you should not be skinning them or whatever—you shouldn't be exposed to blood. That's clear. Some of the antelope we know get this, some of the bats we know. So really, don't get exposed to that. But these other animals, we had no idea how to deal with that, and we could not think of a way that we could set a policy that would be acceptable to us as public health scientists and to the government as people who are responsible for the welfare of their people. We were stuck. That's what I learned when we were going up and talking to farmers. They were very concerned because they were going hungry. They were seeing their market—they were saying, okay, I'm not going to be able to have a crop this year, that means I'm not going to have any money to get started next year and the market is flooded with foreign rice. So we came back with a lot of good information, got it back to the Ministry, but all of these are fraught with really complicated decisions that I'm not sure anyone was willing to—as far as I know—no one was willing to say, for example, "You can eat these animals." It was interesting.

Q: To some degree, did regional prejudices play a role in that? I know that, for example, when I've talked with Pierre Rollin about Guinea, that people in Conakry looked down on people in the Forest Region, and something like eating bush meat would be a way to "other" people over there, say, oh, those other weird, less advanced people are eating

bush meat, it's easiest just to say don't eat it. Did you see that dynamic going on at all in Sierra Leone?

Zingeser: Yes, that's it. It is the same sort of thing. It's the city people versus country people, which is one of the reasons why I think the agricultural extension officers, we were really interested in working with them because they were country people. They are country people who had gone off and gotten an education. They could come back without talking down to our target population. Yes, that's very true. You're from Ames, Iowa, you still see people talking about farmers.

Q: You do, yeah.

Zingeser: It's changed in America, but even if you look at something like *The Beverly Hillbillies* or something like that, these TV shows really—the reason they were so popular is because they actually reflected a mindset that people had. Oh, those hillbillies from the South, they strike oil, look how they're going to act. (*Green Acres* is my favorite of that sort of thing, about country folk are simple and dumb but there's this folk wisdom that's there.) I was very, very fortunate to meet Paul Richards, who had spent decades in Sierra Leone and had in fact been doing anthropological studies in rural areas, the Mende areas of Sierra Leone, all through the civil war, which was eleven years of really hellacious community fighting. He had an understanding, and I worked with people who were very close with him. He put me in touch with a network of agricultural anthropologists, and that was great.

Q: Ultimately, did messaging change around the bush meat?

Zingeser: Not as far as I know. We could never fashion a statement that would be clear. I think really what happened was people looked the other way and said, you've got to eat, you've got to sell your cocoa. The people who are selling the cocoa are the ones who are still killing the animals that are eating their crops. You have to do what you have to do. If this were to happen, please do not exposure yourself to blood. That was not my role, but I think that was the message that was going out, but it was—the discussion you and I are having right now is very similar to the discussion that I would have with an agricultural extension office, the supervisor, where he would say, "What am I going to tell my ag extension officers to tell the farmers?" I would have to say, "Well, we cannot tell them that it's okay to eat bush meat. We cannot tell them that it's okay to get exposed to blood or any body fluids from these animals. However, we've got to find a way to keep people eating, and we've got to find a way to keep the cocoa crop in the market. How are we going to do that?" And we would talk around it and say, we have no evidence that says this is dangerous, but we have no evidence that says it isn't. It would be very, very interesting to go out and ask—it would have to be some very, very good interviewers who could get honest answers from people because if you had a regional officer who just cracked the whip and said—and a lot of our public health people did. They went out and said to the local governor or whatever, you absolutely cannot let people touch bush meat, wild animals are bad, wildlife is dangerous. This is a real city-folk way of thinking. "Wild animals are dangerous, you shouldn't be exposed to them." In an area where that

happened, you could find people who were policing that and say, “We are going out at night and if we find your traps, if we find traps for cutting grass or find the nets that you use for trapping bats, we are going to fine you.” I know that sort of thing happened, but I don’t have any good data on it.

Q: How about as far as the rice? Do you know if anything was able to change with that to support people who were agricultural workers and suddenly their crop had no value?

Zingeser: Yes, that one did, and that was good. That was due to FAO working together with World Food Programme. The first thing was that once we were able to document that rice was being put into the local markets and people were selling it—because realize, you have a market system exactly like we have in the United States. You have farmers, farmers take the product to a middle person who sells it in the market. Some of the farmers sell their own stuff, but a lot of them go to the market and they give their rice to somebody who sells it for them. That middle person who is in the market at the market towns—and those markets would move around, so you had market day on Monday in one big town, then on Wednesday, market day was in another big town. Those people who were selling produce, they had to be convinced that somebody who was selling them bags that said “World Food Programme” on them was illegal. WFP started to police that, and as far as I know, the country director really pushed for purchasing local rice, which was really important. And FAO on their part was making sure that the agriculture—that even with all of the troubles of moving up and down these main roads in Sierra Leone, that they could still get the inputs, which would be fertilizer and seeds, to the farmers. They

did not want—I mean, a one-year or two-year gap in being able to bring food to harvest and get it to market—that will kill a farmer's business. We were in another area going up, this was just before Kailahun, and the people who were trading in cocoa were doing a booming business. They were doing very, very well.

The other thing we were able to do was this. There was another UN organization that funds rural farmers' banks, and these are small banks that are in communities like you would've seen I'm sure in the thirties and forties in Iowa. Little community banks that loan money to farmers, and then the collateral is the anticipation that they'll have a crop and they'll be able to pay the money back. They stopped loaning to farmers, and they were only loaning to school teachers, I believe, because school teachers had a guaranteed salary even if schools were closed, and a few other people in the community. This was disastrous for the farmers because the farmers were saying, we just need enough money to get another crop. There were changes made at that level, too. These are really interesting, complex social problems, all because of an infectious disease, and we see this all the time that infectious diseases can really drive history.

Q: It's fascinating.

Zingeser: It is. It's great that you're doing these oral histories on this.

Q: It's great that we have people like you who can talk about it because so many of my interviews revolve around stop the epidemic, stop the epidemic particularly, and some of

the wider issues of how the epidemic has effects on people's livelihoods gets lost. So I very much appreciate hearing.

Zingeser: It's really profound. For me, once again, CDC was so good to me. I still think about it as if I'm still working here, but CDC was so good to me. I got to do such interesting things, and working in agriculture—coming from Michigan State, which is an agriculture school, a bunch of farm kids. Half my veterinary school class were farmers' kids. And then doing public health for a long time, I was able to go back to FAO and start working with basically farm kids again, and I loved it, and we would talk about things that I completely—when you hear about it, you say, of course that's how it works. Of course a farmer is hungriest just before the new crop comes in, and of course they don't have money to purchase all the seed they need or the fertilizer they need; they borrow so they can get through the next season. Once you start thinking about it, all these other things fall into place. What if? What if the truck driver who carries your fresh produce to the market gets sick? Or what if they're afraid to come to your village because they know that along that road, the people who are testing for fever will grab you if you're one degree over [the normal temperature range]. They're going to make you sit in this little area where there are people with diarrhea and vomiting, and you're a truck driver who feels very healthy and feels well, and you just happen to have a slight fever? You don't want to get stuck in this little room with those people waiting for a nurse to come and check on you. So it cascades and has a huge impact, both on the amount of food—and the quality.

Q: Moving on to Guinea, if that's okay. When you were the response lead at the end there, was that then in 2015?

Zingeser: It was. What I did was I went from—I just basically said, look, I'll give you from Thanksgiving until New Year's, for various reasons. I was in the EOC here in Atlanta working on the team under Barb [Barbara J.] Marston.

Q: Oh, you were. How long were you doing that?

Zingeser: For about three months. It would've been September, October, November. I was in the EOC, and I was handling various tasks, and a lot of it was this human-animal interface. I think there was a "human-animal interface" desk, so I could answer questions. But because I was preparing to go back to Guinea, it was not a problem. What happened [to delay my departure] was this: while I was at FAO, I had surrendered my official passport and was given a diplomatic passport. The diplomatic passport then had to be surrendered because I returned [to America]. I would've gone out immediately if I could've just kept my diplomatic passport and gone out. But what had happened was that my official passport had expired some years before. My diplomatic passport had to be surrendered upon return to the United States because I was no longer assigned to Italy. Therefore, we had to get my official passport—a new official passport—for me, before I could travel. They wouldn't let me travel on my personal passport, and that was what kept me in Atlanta. During that time, what I did was I worked on tasks that were really about Guinea, and I was involved with watching everything that was going on in Guinea,

so I knew I could hit the ground running. Then it was actually right after Thanksgiving. My feeling was, these guys are working hard, I'll go out and relieve a couple of people at Thanksgiving, I'll work through the holidays—I had six years in Italy. And I did a lot of work, but still there were people out there who had been working—you know what I mean?

Q: Yeah, but it's a sweet impulse.

Zingeser: They had been in Guinea for months. So I thought I would relieve Lise [Martel], who was out there. It didn't work out [for Thanksgiving]. I was out there for Christmas and New Year's. So I left the last week of November, and then I was there for three months.

Q: What do you remember from that trip out there? What was the contrast like from the first trip? What happened?

Zingeser: First of all, the size of the response was enormous—the number of CDCers who were in-country. I don't know the exact number, but we had a lot of people and the epidemic was really clearly winding down. We had layers—originally, we had a single person doing each task. One person was doing surveillance—we had three EIS officers on the Forest Region, and I was the only person in Conakry. Now, in Conakry, we had data analysts, we had laboratory people, we had all of these things. But in another way, it worked the same. I identified who was on my team, and most of these people were

already doing something. But when either they were not really performing or they were not doing what they wanted to do or they were new people coming in, I worked in exactly the same way. What is it that you do? What do you do well? What can you contribute? And it became interesting. We had this great young anthropologist come in. Have you interviewed Emilio Dirlikov?

Q: No, I haven't heard the name yet, actually.

Zingeser: It's E-M-I-L-I-O, D-I-R-L-I-K-O-V.

Q: Okay, Emilio Dirlikov.

Zingeser: Emilio is here in Atlanta now. His CDC address is klt9@cdc.gov, and that's his picture. Emilio has had an extremely interesting career. He'll tell you about it. But he was an EIS officer and an anthropologist, and I like working with anthropologists. I said, "Okay, what can we do? What can we work on that we'd be using your skills?" And he is a very, very hard worker. The good thing was that the number of cases were so few that we were really looking for those last cases. What we focused on was just being prepared. We had a lot of people from Public Health [Agency of] Canada who were great, and they were manning the EOC that was in the main Ministry of Health building, the Ebola response building. We worked very closely with Dr. Sakoba [Keita] who was the lead for the entire epidemic. Just an amazing person. Differences for me on the second time were that I had a big team under me. We were just trying to make sure we were prepared when

the inevitable last couple of cases came in, and we were waiting because we had seen it in Sierra Leone, we'd seen it in Liberia. We were looking for the communities we thought were still either resistant, or the communities that we just didn't think were reporting if they did have a case, and we focused on that. One of the more satisfying moments was when we did have a positive—we had a scare of a positive blood [sample] in the hospital in Conakry, and we got the report immediately. Everything was transmitted coming from our person who was actually in the laboratory in the hospital, so Lise got her report at the same time as Dr. Sakoba, so she immediately called Sakoba to say, "We've got a suspect case." Sakoba said, "I just heard it myself." The redundancy is really good to know that the system is working. Then what we did was [check] all of our people who were supposed to report to various places—they were supposed to take certain actions. They all did, and the write-up on that showed that all of the training we were doing [paid off]. And we used these false, or these suspect, cases really as a test to see if our training was working. We went into that mode, and it was good, and we had good responders. I think boredom was becoming a problem. We had people out looking for cases and finding none. We had to deal with that. I think that motivating the people who were in—a lot of people from DRC, French speakers from other CDC companion programs, the people who'd done the FETPs, they came in and they needed to be recognized and they needed to be motivated. Lise is wonderful at that, by the way. She really has a talent for talking to people, motivating people and letting them know that they're appreciated. And Denise Johnson was out there for a long time. I was working under Lise. I had Denise, it was very easy, it was an ideal team and we just wanted to make sure that if anything should happen, if anything should go awry, that we knew about it first. We did not want Dr.

Frieden to find out about this from WHO. We knew that we would have another case. It actually happened right after I left after my three-month tour, but the system—(I was told by people who were there at the time, they said) everything we had been training for worked. It was good. You look back on it and you say, that's a huge outlay of resources to try to find that last case, but we did it. Those people will never forget the training and the experience that they had out there doing that, so when something else happens, I think it will pay off many times more than the cost of doing something like that.

Q: Can I ask, I think we're getting to the point where I'd like to move to reviewing your experience as a whole in the Ebola epidemic, and thinking about what it meant for you—what does it mean looking back now at that time in the epidemic? What did it mean professionally for you? Personally?

Zingeser: I'm one of those people who likes doing work like that. I like urgent situations, I like having to focus very clearly on one thing and set aside a lot of the extraneous stuff. I like working with people who are out there doing hard work, doing difficult things. In the early part, especially when people were really frightened of this disease, that was difficult. All these people I mentioned along the line, the CDCers, Dr. Sakoba or the people at FAO, they were really extraordinary, they really were. There are a lot of people whose interactions with other people are a real drain of energy. As a manager, what you do is you sit that person in an office just like this one we're in, a soundproof office, [laughter] let them plug in their earphones and write a report or whatever. But I get a lot of energy from interacting with people, and even if it's just a silly joke or whatever, it

keeps me going. I can run on your energy at the end of the day when I'm just worn out. If I'm working with a small team of people who we keep each other going, and those sorts of experiences throughout the Ebola time—my time working with CDCers really energized me. I would really come back. There were always a lot of new things that I learned and that keeps me going. That part was good. I'd have to say that the toughest time for me during the epidemic was when I was at FAO in Sierra Leone, and a good part of that time I had no support staff, nothing, and I was in the library of the FAO building because that's where the internet was, trying to write up a plan or figure out how to deal with the bush meat problem, and that's where my energy would just—I mean, those were long days. Looking back on it, that time of working in teams at CDC was great. Personal problems that come up to you as a manager are really exhausting. They really drained me. That's not my strong point. For example, when I was in the last three months in Guinea, I had Lise and I had Denise, who were really outstanding at dealing with that. We worked as teams. I think they appreciated what I contributed too, and it was good.

Q: Is there anything that we haven't talked about that you'd like to get on the record or any final reflections you'd like to share?

Zingeser: I want to tell a terrible thing that Stuart Nichol did. [laughter] I had just been moved from the Forest Region back to Conakry. [At that time], twice a week, we'd have a telephone conversation with Stuart. Stuart got on there, and he was really good at leading these discussions. He'd say, "Okay, now we want to talk to this person—now we want to talk to this person." I had just moved from the Forest Region back to the capital,

and Stuart said, “Now we’d like to hear from the recently departed Jim Zingeser about”—and I had to tell him that calling people “recently departed,” especially in the middle of an epidemic like that, is a very dangerous thing. That was one of my favorite moments when he said that. [laughter] No, that was it. There’s nothing that we missed. I really appreciate getting this down on tape.

Q: I hope that it is something you can look back on years from now and remember what it felt like then.

Zingeser: I really think it’s cool that you’re doing this.

Q: I think it’s cool that you took the time to come and be part of it. So thank you so much.

END