

CDC Ebola Response Oral History Project

The Reminiscences of

Daniel W. Martin

David J. Sencer CDC Museum

Centers for Disease Control and Prevention

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Daniel W. Martin

Interviewed by Samuel Robson
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Interview 3 of 3

CDC Ebola Response Oral History Project

Q: This is Sam Robson, joined by Dan Martin. Today's date is June 29th, 2018, and we're finally back in the audio recording studio here at CDC's [United States Centers for Disease Control and Prevention] Roybal Campus in Atlanta, Georgia. This is our third interview as part of the CDC Ebola Response Oral History Project. Dan, there's been a lot of reorganization I think within the Center for Global Health since you were last here, so would you mind telling me where you currently are, updating us on your position in the organizational chart?

Martin: Sure, so thinking back to '16, I believe it was still the Ebola-Affected Countries Office that I was in because the progression, which you will now recall, was that we obviously had the response itself, which people were pulled from all over CDC, and then after my second response, I was hired by Barbara [J.] Marston's group, the International Task Force within the response, and that's part of our standard incident command system which breaks things into responses, and the International Task Force was one of multiple [task forces] within the overall incident command structure of the response. As the response wound down and as we approached the deactivation of the EOC, the Emergency Operations Center for Ebola, nearly all if not all of the permanent members of the International Task Force or ITF became part of what was then known as the Ebola-

Affected Countries Office or EACO, also led by Barb Marston. EACO was functionally answering directly to the Division of Global Health Protection, at the time directed by Jordan Tappero within the Center for Global Health. EACO lasted for approximately another year and something—we deactivated sometime in ‘16. I don’t remember the exact—I think it was June actually of ‘16 that the EOC deactivated. EACO lasted I guess it was through the end of ‘16 because at the end of ‘16, EACO was dissolved and its members mostly were farmed out into either the Country Support and Implementation Branch, CSIB, or the Epi [Epidemiology], Informatics, Surveillance, and Laboratories Branch, EISLB, or “Isil,” affectionately known sometimes, within the Division of Global Health Protection. EISL is largely responsible for the technical support to countries in those four areas—Epi, Informatics, Surveillance, and Laboratories. CSIB is responsible for the nuts and bolts, financial and personal management and other staffing, the grants, the reporting. A lot of the Global Health Security Agenda reporting came under CSIB. It’s much more of an operational branch. As I said, those who were part of EACO became mostly one of those two branches within the Division of Global Health Protection, and that’s where I still remain is in DGHP EISL. Recently, I have gone on to a COTA [Career Opportunity Training Agreement] training position to convert from my former series, public health advisor, into an epidemiologist series, which is more the direction that I want to do my ongoing work, but I remain within EISL to this day.

Q: Thank you very much. If you’re up for it, I’ll want to have a discussion maybe after we talk about Kambia, etcetera, about public health advisors and the future of that within the agency.

Martin: Oh, yeah, I have a few things to say about that.

Q: Yeah, that's a whole other subject.

Martin: I would also add just because we're going to want to put a placeholder on it, that the other thing which has elapsed since the time that we last were in this studio is that you and I have traveled together in Sierra Leone and had a whole lot of experience on that, so we may want to—even though that's not exactly response, we just may want to, for our own sake, put a little of that down on the tape, too.

Q: It was important for me and it was an honor traveling with you, honestly.

Martin: I have very fond memories of that trip.

Q: Yeah, me too. Okay, what I have written down, October of 2015, you become the technical advisor for Sierra Leone—

Martin: Correct.

Q: —in EACO. In January of 2016, you go back to Sierra Leone thinking that you're going to be doing some more USAID—or no—

Martin: GHSA.

Q: GHSA, excuse me, stuff. But instead, like almost the day that you get there, you're alerted that there are new cases—

Martin: Before actually.

Q: Before actually?

Martin: Yeah, the way the timeline unfolded on that, you're correct. The October of '15 trip was kind of a scoping trip for GHSA, for the Global Health Security Agenda, and I believe we've already talked a bit about GHSA—

Q: We have.

Martin: —we don't need to redefine that. In January of '16, we were planning on having a nationwide meeting that included most of the US interagency partner representatives, plus some other nongovernmental organizations and/or bilaterals from third countries. There were going to be a number of Brits there, some WHO [World Health Organization] folks were going to be there, and the purpose of that was to do the initial development of the draft GHSA plan for Sierra Leone. This was going to be a big working group conference. I was slated to fly on, if memory serves, a Thursday afternoon/Friday, and the meetings were going to start on I believe Sunday, so I was going to have basically a

day to sleep and then we were going to jump into these conferences in Freetown all week. No, I take that back. I was going to fly on Friday because it was Thursday that I got the notification that there were new cases in Sierra Leone, and that's a little funny by itself because I was at that point with the International Task Force working in the EOC, in the Emergency Operations Center here in Atlanta, and I was approached by Topher Finley—I don't know if you know Topher, short for Christopher. He is the USAID [United States Agency for International Development] OFDA, Office of Foreign Disaster Assistance, liaison to CDC, a role he still fills. He's also Neetu Abad's fiancé—I don't know if you know Neetu.

Q: I know who she is.

Martin: They met on the response.

Q: Ah. There's a couple of those.

Martin: Yeah, I know of a couple of people with romances that are getting married soon. But anyway, Topher Finley came up to me. We'd worked together enough that we were on friendly terms. I get to be on friendly terms with my colleagues, surprise, surprise. Topher says, "Hey, I hear that there's a new case in Sierra Leone, have you heard anything about it?" And the answer was no, I had heard nothing. He had heard it through the grapevine from Washington, and so I immediately texted Sara Hersey [CDC country director in Sierra Leone]—texted or emailed, I don't remember—contacted Sara Hersey

and said, “Hey, a rumor is starting to circulate of a new case in Sierra Leone, is there something I need to know about?” And Sara answered me almost instantly saying, “This is close-hold, please don’t share, but yes, we’ve got something and you’ll have news soon.”

Q: Now, I should have looked this up before. Is this after the WHO had made one of their declarations that Sierra Leone appeared to be Ebola-free?

Martin: Had we declared, or were we just about to?

Q: One of the two. You [the audience] can Google it, sorry.

Martin: I honestly don’t—my recollection is that the case after declaration only happened in Liberia. My recollection is that we were close to declarations in both Guinea and Sierra Leone before the last popups in both countries, and I could be wrong on this, it really is foggy in my mind at this point, but I think only in Liberia had there been a public declaration and then a flare-up.

Q: Okay, got you.

Martin: I believe that the previous cases would have been late October. So November, December, the beginning of January—we weren't to the forty-two days yet. We were close.¹

Q: Okay. I only ask to remember to set the tone that this was a time of great hope that maybe, again, this could be something—

Martin: The hope was there, whether the declaration would have been formally made or not is the part I don't remember. But the hope was absolutely there. Anyway, all I know at this point then is that there had been a case in Tonkolili, in the same district where I spent my first tour with Ebola, as you will recall. That's all I know at the point I get on the plane. As an aside, it was a bit—I don't know to what extent anybody in the higher reaches ever discussed this out, but it created a bit of an embarrassment for leadership that the rumor mill had gotten to Washington and to the Department of State before our own people had told our own people within the structure of CDC. I do not know to what extent that was ever discussed out, but I know there were some eyebrows raised over that.

Anyway, so at the time I got on the plane, I knew that although I was nominally going for GHSA, the probability was very high given my history with the country that I was going to be tapped for the response. I had a pretty good hunch that was going to happen before I ever got on the plane. Overnight, next day, all day flying into Freetown that night, taking the water taxi, the whole nine yards that we've talked about many times before. I turn on

¹ Note from D. Martin, September 2018: Sierra Leone was actually declared Ebola-free on November 7, 2015

my BlackBerry when I arrive in Sierra Leone, and Sara Hersey has sent me an email that says, “I’ve assigned you to be the epi lead in Kambia. You won’t be sitting in meetings in Freetown this week. You’re welcome.” [laughter] Because as I think I said at the end of my last interview, Sara knows me well and she knew that I’m happiest when my feet are dirty. While I can certainly do the national grip and grin, I can do the strategy meetings, being out there on the front lines is definitely far more my comfort zone, where I feel most fulfilled—

Q: All of the above.

Martin: Yeah, she knew what she was doing. So as it turned out, she had dispatched Tushar Singh, my partner in crime from Tonkolili ‘14, and by that point, FETP [Field Epidemiology Training Program] resident advisor in Sierra Leone, who was already in-country. She had dispatched Tushar to Tonkolili, she dispatched Regan Rickert-Hartman to Port Loko [District], and she had dispatched me to Kambia. The three of us were the epi leads that were going to handle the response in the various places. Now, the astute observer will wonder why I just mentioned Port Loko and Kambia when the case was in Tonkolili. That’s where—I noticed in my reading back over the transcript from the last interview, I said this about our previous situation in Port Loko with the Hospital Kaffu Bullom situation. It’s even more so of this last cluster. If someone had designed a case study to use for a tabletop emergency response exercise and put in it all the things that took place in the next two weeks as they unfolded in the response, any reasonable observer would say they’re a sadist because you would not have thrown that many

curveballs. You would not have thought to throw this many curveballs at the poor folks doing the exercise. This thing was an exercise in insanity from beginning to end.

The rough breakdown of what happened is that a woman who lived in the Port Loko area, down actually near Kaffu Bullom coincidentally, had—whether she already felt ill or not, we're not sure—had traveled to Kambia, the district to the north of Port Loko which borders Guinea, to visit her uncle who was a traditional healer of some renown in Kambia, which I understand actually the Kambia District is an area that is particularly known for traditional healers. A number of my friends said that pretty much all over Sierra Leone but particularly all over the northwest quarter of Sierra Leone, very much including Freetown itself, people who want to go to traditional healers and spiritual authorities within the traditional structure of the area will likely travel to Kambia because that's where the best healers, the best curse makers, the best mediums and things like that—they tend to be in Kambia. It's seen as somewhat of a traditional spiritual center. So this woman has traveled to see her uncle, who is a traditional healer in Kambia, particularly in an area of Kambia called Barmoi Luma, and we'll get more to Barmoi Luma in a moment. She was either, as I said, already feeling a little dodgy before she left, or more likely started to feel sick while in Barmoi Luma. Was treated by a traditional healer uncle, continued to feel worse, had already I believe been observed to at least have some episodes of vomiting, when she decided to return to her family home in Tonkolili. She got in a taxi in Barmoi Luma. As with most of the taxis that are going to be used by folks with limited means in Sierra Leone, this would have been a shared taxi. There would have been—well, I shouldn't say there would have been, there were either four or

five additional passengers. No, I believe four passengers plus the driver and herself, a total of six individuals would have occupied this taxi, which traveled first to Bombali [District] and then on to Tonkolili. I take that back. Traveled to Bombali, saw another traditional healer in Bombali, traveled to Tonkolili, saw both traditional healers and the health center personnel in Tonkolili, and then ultimately expired in Tonkolili. And either just before I got there or while I was there the first couple days, I don't remember which, her aunt who had cared for her also became ill. Ultimately, there were only two cases in this cluster. The aunt was the only other one who became sick and while the original patient in this case did die, the aunt recovered.

Q: Had the aunt traveled with her to Tonkolili?

Martin: No, received her when she got there. That's who she stayed with in Tonk [Tonkolili]. But cared for her while she was ill, and clearly that's how she was exposed. But the result that I just described means that we have four different districts within Sierra Leone where the woman was either presumed to have been infected or known to have been ill. We have, as far as potential contacts, family and/or friends with whom she—oh, I neglected to mention, she was a nursing student in Port Loko and actually lived at the nursing college, which was associated with one of the hospitals in the Kaffu Bullom area. So, traveled from—had exposed whoever, clearly got it from somebody in Port Loko. Traveled to Kambia, exposed the house of the traditional healer, a rather large household, plus all the people who come through because a traditional healer of renown is going to have a fair amount of traffic through the house. Exposed the people in the car

that she traveled with them to Bombali, exposed people at the health facility in Bombali and the traditional healer in Bombali, and then exposed the family in Tonkolili. If my memory serves, at the height, there were something over four or five hundred potential contacts named. As I said, four districts, four district health teams. That's why there were three of us CDC epidemiologists—well, four really because Michelle Sloan was also working with Regan in—no, no, I'm sorry, Michelle came with me. Who was working with Regan in Port Loko, I don't remember now. Anyway, I think there were, when all was said and done, between one and two dozen CDCers that participated in the response on this last, two-case cluster. If you include all of the personnel from all the other agencies, I couldn't even tell you how many it was. All the usual suspects were still involved—WHO, the British military, the World Vision burial teams, the Oxfam people that were helping with quarantine supplies, the World Food Programme people who were helping with quarantine supplies. Lots and lots of people were involved in this. If you actually were to try to figure out just the resources expended, and I don't know if anybody can really quantify this, just the resources expended on that last cluster, it definitely runs into the millions. No question about it. So yeah, that's the rough outline, and then we'll go to a few other bits and pieces of the story, but I'm going to pause in case you have any questions on what was said so far.

Q: I think my question right now is—thank you for the outline—when you hit the ground, how much of that did you know? How much of that background of, this is the story of the woman who started in—Freetown, is that correct?

Martin: No, started in Port Loko in Kaffu Bullom.

Q: Oh, started in Port Loko, okay.

Martin: Yeah, Freetown was not involved except for the administrative aspect.

Q: Port Loko to Kambia to Bombali to Tonkolili.

Martin: Correct.

Q: I assume you must have had pieces of it because they knew where to send you.

Martin: Right. We knew that the four districts were involved. We knew the rough outline of the transportation means to get there.

Q: How did you know all this?

Martin: Most of it came from interviewing of the aunt and a couple of the other people along the way. There were significant pieces that were missing, though. For example, I know that Regan down in Port Loko spent a lot of time trying to identify who the taxi driver was, even what taxi company had been involved in the transport from Port Loko to Kambia. That took a while. The identification for the transport from Kambia to Bombali also took a while. That happened after we were there and frankly was never fully nailed

down. Tushar would be able to tell you more about exactly how and when they uncovered the various bits of the Tonkolili/Bombali part, but I believe most of that unfolded as we were going along. I don't think we knew much more—at the time I hit the ground, we didn't know much more than that there had been a death in Tonk, and another case was by that point identified. There were contacts already quarantined in Tonk because that was the obvious one and, as I said, the rough outline of the travel. Otherwise, they wouldn't have dispatched us to these other places in the first place.

Q: So what's going on in Kambia when you get there? I know they must have had their own district health management team and—

Martin: They did.

Q: —other NGOs probably were out there.

Martin: Yes. Fewer than would have been the case in what I described in Port Loko. There were definitely fewer people around by then. The leadership of the District Health Management Team, if you'll recall when I talked about Port Loko, was a DfID [United Kingdom Department for International Development] commander in the British Military. By '16, the incident command lead is being handled by a Sierra Leonean. In fact, Wesen Conteh—[W-E-S- E-N] is his first name, C-O-N-T-E-H, Conteh, is his last name—Wesen, who was the incident commander, has since actually come to CDC and done the emergency operations fellowship that we bring people through from time to time. Spent I

believe two or three months here in early '17 I believe that was. So Wesen's the incident commander for the response in the Kambia District. The DHMT [District Health Management Team] in Kambia also has a couple of really good epidemiologists. Well, "[contact tracer] leads" they were called at the time. Very enthusiastic. One fellow by the name of Osman Barrie, O-S-M-A-N, B-A-R-R-I-E, and who was the second under Osman? I'm embarrassed to say I'm blanking on the name at the moment. I'll be able to find that for you later.²

Q: Andrew, wasn't there, was he?

Martin: Andrew Bangalie was there, but he was our office manager. Andrew's job was as the, basically, prime contact, make life work alright for the CDCers. Obviously, you remember Andrew well. We've talked to him. Andrew is one of these great cases of someone who took the limited opportunity he had, worked it for everything it was worth, excelled in whatever he was allowed to do, and by doing so was granted more opportunities to do more. Andrew is one of those public health success stories of CDC's capacity building in Sierra Leone, and that's something we probably want to circle back to because it's worth a little time in its own right. But yeah, Andrew was not in a public health role at that point. He was in a let's facilitate the CDC team getting what we need to do our job, a role which he performed admirably. But again, the other contact tracer and

² Note from D. Martin, September 2018: Osman Barrie is District Surveillance Officer-1 (DSO-1) in Kambia. He was out of town at the beginning of this response and another DSO-2, Sheku Samba Konneh, was acting in his stead.

investigator besides Barrie, I'm blanking. I can't come up with his name right now. I'll have it in an email. Circle back to me, I'll get you the name.

Q: What have they done thus far when you get there?

Martin: They have done their level best to identify whatever contacts they can get. They know that the area they need to focus is the Barmoi Luma area for the most part, although they're also trying to track down some contacts who passed through Barmoi Luma and went elsewhere. Which there's a lot of elsewhere to do, because Barmoi—the word is actually spelled B-A-R-M-O-I, but they say Barmoi—is the local I-forget-which language word for market. No, no, I'm sorry. Luma is the market. Barmoi is the location. But Luma, L-U-M-A, is just a market, and so Barmoi Luma, the Barmoi Market, is actually the name of the town where it happens also. It's a wide spot in the road that has developed because it's where everybody comes to trade. It's a little on the south side of a bridge that crosses a rather large river and rapids area called the Little Scarcies. I believe we went across it over there. Beautiful rocky area. But it is an area where people from most of the northern quarter to half of Sierra Leone—the northwest quarter plus the southern part of Guinea—all travel to this market because it is such a place of local commerce. On market day, Barmoi Luma is wall-to-wall people. I've got pictures of the area on a market day where every side street you look at for a good quarter mile down the road at least is just stall after stall and mat after mat of goods being offered for sale, crowded with people. When I say that this woman, having been with a healer in that area, probably had contact with a few people, that's an understatement.

This area has been identified, the traditional healer has been identified, but one of the things which you will recall from our previous discussions is that particularly those who would have the strongest adherence to traditional practices with regard to spiritual beliefs, including burial customs, including medical treatment and so on, and obviously someone who is a traditional healer is going to be deeply enmeshed in these practices—they're not going to want Western medicine, and they're absolutely not going to want a Western safe and dignified burial. Which for those who forget as they're reading this later is the full body bag, full PPE [personal protective equipment], directly in violation of the notions of washing the body, wrapping the body, family members giving a loving and honorable send-off to the deceased. The safe and dignified burial, which is a sterile practice done by strangers, is completely anathema to traditional practices. Not particularly surprisingly, a traditional healer and his family are not going to want to subject themselves to this sort of thing. Which is a long way of saying that the traditional healer by this point has gone into hiding. It is highly likely that a large portion of the community knows exactly where he is. He's probably being supported, fed, housed, hidden by these people, but because someone of this influence also is presumed to have both political and spiritual power, it's not the kind of person you're going to cross. So the community is actively involved—we know only by rumor and by testimony of our colleagues, but we believe this to be true—the community is actively involved in concealing this healer and his family from the Western authorities and from the public health authorities of Sierra Leone. The quest to locate this guy takes on almost mythic proportions, and in fact is an issue of considerable consternation throughout my entire

time in Kambia. Sometimes, it's done through attempts at sweetening the pot—you know, rewards. Sometimes, it's done through coercion. But ultimately, this individual was never found, never identified. Well, we knew his name, but he was never located, never found, and to this day, whether he lived or died, whatever happened to him, as far as I know, nobody in the authority systems knows. You may recall that I talked a while ago in a previous interview about the concept of active surveillance and active case finding, the notion being that as we refer to active surveillance within CDC, we're talking about looking for that disease, those symptoms which have not otherwise come to our attention, which have not been reported to us passively, which have not themselves sought treatment or whatever else. Active surveillance is the process of looking for the disease that has not presented itself to you. Active surveillance was a massive part of our effort here, looking for other people with symptoms, looking for other people who might have had contact or exposure. But there was also an enormous effort simply to locate known, identified, but absconded people. There was, at the height of the Kambia response, a list of over one hundred fifty—I'm thinking it was close to two hundred contacts that had yet to be located. Now, in fact, that sounds worse than it is because contacts in a situation like this where you're at the end of an outbreak and you're trying to make really sure that it remains the end, contacts are defined fairly loosely. In reality, the contact lists included the names of pretty much anybody who resided in or passed through a house where a disease was known to have taken place. It's probably more accurate to consider those persons of interest who we would have wanted to get a hold of, identify, verify their health status, in an abundance of caution, follow them for the twenty-one days to make sure they don't get sick, but they mostly probably would not

have required restriction of movement or quarantine as long as we were able to identify and locate them. But as merely names on a list that we could never fully resolve, this was a large sword hanging over everybody's head: how much might be out there that we're just not able to get our hands around. It was a point of some political friction over exactly what to call them. I actually led the charge in reclassifying some of them as people of interest rather than contacts, precisely because I felt that the way in which people were interpreting the news of nearly a couple hundred missing contacts was actually leading to an unjustified level of panic on the part of both some folks in the public but probably more on the part of CDC back home. Honestly, when Dr. [Thomas R.] Frieden learned that there was a list of that large of missing contacts, he got nearly apoplectic about it I'm told. I never had the direct interaction there, that was all with the people in Freetown. But I had conversations with John [T.] Redd and Sarah [D.] Bennett and Sara Hersey about this subject and strongly recommended—and they ultimately did agree to my recommendation—that we reclassify them on the basis of, to the best of our knowledge, the level of risk presented by each one. There were in fact people who were missing that we knew to have been caregivers or close family members. Those were people for whom their being missing was actually of considerable concern. There were others for whom the only association was that they were somehow listed as having something to do with the household, and that is not the same level of risk and should not be considered the same level of risk.

Q: Like what would be a person who just has some sort of association with the household?

Martin: The brother and spouse who live in a different household but are likely to have come through the house at one point or another. People who lived in other—remember, and you've seen this when we were there as well—remember, a number especially of the rural housing units are actually compounds of multiple dwellings that are all of an extended family or loose affiliations—they may be more loose than family—who are living in fairly close quarters but in distinct dwellings. They probably have a certain level of interaction, but it's not like they're closely packed together all the time. The household is considered that whole cluster of dwellings, and so there's people that are living in the next door or house over—really, the way you and I would think of it—their family members, the wives probably cooked over the same fire, the kids probably played together in the yard, but the level of contact with a person who was bedridden and ill was not likely to be very high. Anyway, what I'm getting at, and I'm a little verbose in getting there, but what I'm getting at is that I pushed pretty hard that we stratify to the best of our ability the risk level of the various associated people who had previously simply been on a long list of contacts. In order, in part, to ensure that we concentrate as much as we can on those who are the most likely to be at risk, but also quite frankly to lower the blood pressure of those who are reading the list.

Q: Do you recall how many people you were able to re-categorize out of that one hundred fifty, two hundred person list as persons of interest versus contacts?

Martin: Boy, if we had had this conversation a year ago, maybe. By now, two plus years on, I'm not sure.

Q: Half?

Martin: Probably at least half. I believe, and I may even be able to reconstruct this from some old emails, but I believe that in the re-characterization, I really got us to zero in on really twenty-five to thirty percent of the previous list.

Q: So we're talking like fifty people left or so.

Martin: Probably, which is still an awful lot of people to be missing. I don't want to sugarcoat in any way that the inability—and we'll get into the whys—the inability to track down more of the people who really should have been at least screened and educated was a very, very unfortunate element of this last period of the response. In some ways, I think it's safe to say that we got lucky that it was only the two cases because it could have been a great deal worse. To this day, it would not surprise me if we were to discover some day that the traditional healer and his wife may in fact have died in the bush of Ebola. We'll never know, most likely.

Q: When you say "in the bush," do you mean literally camping in a forest?

Martin: No, it's—yes, that did happen to some people, but given this person's influence, it's far more likely that they were simply concealed by somebody at some distance from the town. The fact that they would have literally expired alone and unseen in the wilderness given this person's influence is highly improbable.

Q: That makes sense. When you're doing this active case finding then and you have this list of—let's just say fifty, but X number of people, are you asking for these specific people? Are you active person finding, or is it really still going home to home and asking who has symptoms?

Martin: Some of both. A large part of it is dealing with those people who have not fled from the household in Barmoi Luma and a couple of other households who are in fact under quarantine. You may also recall that we talked in the Port Loko situation about trying to provide some additional food and supplies to make the home isolation process somewhat less egregious. As we never fully succeeded in Port Loko, we also never fully succeeded in Barmoi Luma. In fact, the house was segregated by some equivalent of police tape. I think it was actually a red cord that was tied around the area. There were police guards, there were people coming through from World Health Organization and from CDC and from everybody else under the sun on a routine basis. This is another case where people complained of feeling like fish in a bowl or animals in a zoo, and with some good reason. There were unfortunately some other efforts that took place that definitely exacerbated our problem. Probably one of the worst is that about a week and a half into this particular response, the Sierra Leone National Police, who are—it's a

militarized police force. It is different from the Sierra Leone defense force [note: Republic of Sierra Leone Armed Forces], which is the national army, but the police also are a uniformed service, many of whom are carrying AK47s or certain other English-derived, military-style rifles that I don't know the designation of. It is a relatively militarized police force, probably somewhat—it would have appeared to me somewhat less disciplined than the army, but certainly still with the opportunity and the means to exert force if they choose. The SLP—the Sierra Leone Police—determined that it was time that the people of Barmoi Luma be coerced to disclose the location of this traditional healer that they had been—everybody was sure—hiding. And so the police decided the way they were going to do that was they were going to close the market, close the luma, and without warning—the market was normally every Tuesday—without warning, the police descended on the market Tuesday morning with their guns on full display and sent everybody home and shut the place down and said, you're not having market again until you turn this guy over. Whereupon the people quite conveniently said, we're not having what the police say, they rioted. The youth got together and pulled on a full-on riot and wound up burning down the police station. I neglected to mention earlier that Barmoi Luma straddles the only road between Kambia and Port Loko and Freetown, which means our only exit, were we for any reason to need to leave Kambia, was blocked by rioting youth who were burning down a police station. The regional security officer—the RSO from the US Embassy—and the UN [United Nations] security both decreed that all of us international folks who were involved on the response were not to leave our hotels or the DHMT compound during this period, so we were restricted to a very tight area for security reasons during the period of the riot, which lasted about two days. We were in

routine contact with the Embassy. I thought for a while I was going to get a UN helicopter ride out of it, but that didn't happen. We were never in any real danger ourselves. Number one, Barmoi Luma was about thirteen miles from Kambia Town, where we were based. Number two, the rioters largely would not have had motorized means of transportation at their disposal; if they wanted to come, it would have been a challenge. And number three, as we learned when our Sierra Leonean informants talked to some of the youth leaders in Barmoi Luma—if my memory serves, the violence started Tuesday night, and they reached out and managed to get a hold of some people and talk to some people late Wednesday or Thursday—and the leaders of the whole business said hey, we would have let you guys through. You guys aren't the enemy, it's the police we were after. We know you international people are trying to help us, it's the police who came in with their guns and shut down their market who were the target of all our anger. And frankly, I believe them. I think that was probably true. Although we only knew that one in retrospect, the other—I mean again, the violence remained distant from us. That said, we were on lockdown for a couple days and it probably was exacerbated a little by the fact that the riots made ABC news. I don't know if they ever made like the nightly news broadcast, but I recall an article on ABCnews.com on this. I remember—I don't know, it was one of my colleague's family members had actually learned of that when they had heard about it from their family in the States. My wife didn't know about it until I sent her the email saying, you may hear this, don't worry, we really are okay. But yeah, the fact that during the Ebola response, people were rioting and burning buildings made US news. [laughs] It sounds more dramatic than it was for us, but we did wonder for a while whether it was going to erupt and get worse.

Q: Oh my goodness. And you said that was over the course of a couple days?

Martin: Yes, it was. It had two effects. Number one, it rattled cages of the people who were responsible for our security. It rattled them pretty severely. But number two, it reinforced in the minds of the people we were talking about before who were already reluctant to reveal the whereabouts of persons of interest, contacts, whatever, it reinforced in their minds the authorities were not to be trusted. And if anything, cooperation with the community only deteriorated. It did not get better in that period.

Q: Did you have contacts within the Sierra Leone National Police? You said that they descended upon the market like this without notifying any of you. Were there discussions between you guys, the international community, and the Sierra Leone National Police Force?

Martin: Not beforehand. There was a Sierra Leone Police representative who came to our daily DERC meetings. DERC again, District Ebola Response Center, we've talked about it before. But no, any discussion of strategy of that sort of coercion and its potential effect happened after the fact, not before the fact. Now, the NGOs [nongovernmental organizations] and WHO and CDC and the others who were participating in the DERC were unanimous in our opinion that that sort of coercion was going to backfire and not be helpful. But of course, that was after the fact. They had already gotten in the middle of it.

Q: What caused the police to change policy then?

Martin: I don't know exactly how the negotiations unfolded, that was not something I was privy to. But my sense is that a couple of the Sierra Leonean military and Ministry of Health [and Sanitation] personnel, along with the guy who was the district coordinator for the NERC, the National Ebola Response Center, which was itself a quasi-military authority, these people got together and negotiated with the youth leaders and some of the others and basically dialed back, deescalated the situation. That deescalation was entirely done by Sierra Leonean authorities, and we had only a distant view of it. What reprimands may have taken place behind the scenes, I'll never know. It wouldn't surprise me if there were some. But in general, as we've discussed before, governments in West Africa generally seem, from what I have seen of reports from Liberia and Guinea as well as my time in Sierra Leone, there's an element of coercion that's kind of assumed in the way business is done. So while this was probably an extreme example, I wouldn't say it was unprecedented. The idea that somebody decided that okay, it's time to bring the hammer down, isn't a real shock. The idea that they did it quite as abruptly and unsuccessfully as they did—yeah, it's probably a little.

Q: Now, you said that the community did, understandably, become a little less trusting of the international community, as other kinds of authorities—or maybe just the DERC or DHMT in their efforts to control Ebola. Did you see that personally? Did you see that distrust in any of your interpersonal interactions?

Martin: No, because at that level, we were really not doing much direct interaction with the community. We were primarily working with the case investigators and the district people who were themselves the real front face to the community. We did go out with them to homes, certainly, but most of the people who needed to be interacted with would have been people who either barely spoke English at all or were at least largely speaking in the local dialects. So the interaction was more third party in our cases.

Q: Can you describe more about that work of advising the people who were then going out and talking with the community?

Martin: Well, we would in fact go with them sometimes and observe their interactions and their discussions. We would participate in facilitated interviews. But a lot of what we were trying to do—for example, my colleague Michelle Sloan, who was working with me—she's another CDCer who was working with me in Kambia at that time—spent a lot of time working often with Andrew by the way, talking to the quarantined taxi driver, talking to some of the motorcycle riders and so on, trying to get a better handle on who might have ridden with them, who in fact was the driver because there was some question at times whether we had the right driver in the first place, whether he might have some links to or knowledge of other people who were exposed and so on. This was a person who was not part of the community, who was from outside but who was caught up in the net. When we were going to the houses, it was primarily checking on the health of the people who were still there because remember, they needed to be monitored for twenty-one days to make sure that they themselves did not become symptomatic. The case

investigators would always ask them, hey, do you have any news on these senior people, and the answer would always be no. But the primary efforts of trying to locate those people were done by private informants and the work of the DHMT Sierra Leonean investigators, who frankly did a lot of it after hours at dark and then reported to us the next day what they were learning. Our advice to them was largely in terms of okay—obviously, we weren't going to have any advice for them on how to win over people of their own culture who weren't cooperating. There's nothing we could do on that, but on okay, there's these other areas that we might also need to consider. Have we, for example, really run down the lead with the motorcycle riders and the taxi drivers? Yes, I know they talked to the driver, but has anybody gone back to the supervisors? I remember one day I went down with Andrew to see if we could get log books on the taxis that were checked in. As it turns out, we were not because the purported log books turned out to be woefully incomplete. Sometimes they logged people and sometimes they didn't. We did a lot of helping the response lead, Wesen, to think through how he was going to support the investigators, how he was going to support the quarantine people. And then probably one of the biggest things we did is facilitate more inter-district communication on what was happening on the response. I remember, for example, an exchange where Regan, who was down in Port Loko, asked me to get information on the kind of car that the driver would have driven that day because the taxi company, who we believed had facilitated the transfer from Port Loko to Kambia, denied ever having anything to do with it. But the driver, by this point, recalled the individual in question and pretty well acknowledged that he had driven the person. So Michelle and Andrew went down and talked to the driver, who not only told them what car he was driving, he happened to have

a picture of it on his phone, which he gave to Michelle, which Michelle shot back to me, which I shot down to Regan. I got a maniacal laugh text from Regan about an hour later. She had gone to the taxi company that was denying involvement and taken a picture of the very same car in their lot. [laughs] This isn't normal CDC epidemiology.

Q: Taking disease detectives very seriously.

Martin: Yeah, that was an amusing day. But yeah, things matched up and more conversations were had about who might need to be followed and so on as a result of that. They were nonstandard interactions between Michelle and me in Kambia, Regan in Port Loko, Tushar out in Tonkolili, just trying to help piece together the pieces of the puzzle.

Q: Do you remember a communication that you had with Tushar that would illustrate a similar thing, keeping up with each other, asking each other questions that might help your own investigations?

Martin: Not anymore. I know we did. I'd have to go back to my emails. I couldn't tell you any more at this moment. I would guess that the largest level of that would have been that he probably had some of the Tonkolili people—and you remember from our own visit to Tonkolili that we had a really strong trust relationship with the DHMT there. I know they were able to get more information from the contacts and the family members in Tonk than we ever were able to in Kambia. So I do know—and that was for two reasons. One, the trust relationship was stronger among the personnel. But two, the

Tonkolili DHMT, they ran a pretty tight ship in their communities. You remember the old chase-the-virus stuff that we talked about with Augustine [B. Kargbo]. When they insisted to their own community members that look, you better cough up this information, they got more response. To what extent that's strictly a cultural difference between a different ethnic group which is in those two locations, different political history of the two locations, or different structure of the relationship between the DHMT and the community in those three districts; that's not something I can parse out. I do know that one of my Sierra Leone friends who—well, you remember Ansumana Kamara, who worked in our office in Freetown. He worked with Cynthia [H.] Cassell on data management and with Regan on the epi. He did a lot of data analysis and compiling and stuff like that. Ansu is from Bombali, I think. I forget exactly where he's from, but somewhere in the central part of the country. He always talked smack about Kambia. [laughter] Had no respect for Kambians. He told me, and again, I've never been able to verify this, but he told me that the name Kambia is actually a bastardization of “cam bea,” which is Krio for basically “come be here.” And while that doesn't seem like anything much to our American English, the rough meaning of the phrase is you come and what you get is what you get and there's not a thing you can do about it. [laughs] Again, if Ansu's account is to be believed, and I have no reason to disbelieve it based on personal experience, other Sierra Leoneans consider Kambia to be a tough place to accomplish anything. A bunch of recalcitrant people, and certainly, we expats [expatriates] found it to be similarly true for many of them. Which is a long way of saying Kambia has a bit of a reputation of being a spot where if anything can go wrong, it will go wrong, and where the people have got very little respect for the authorities and

the authorities conversely very little for the people. So if there's a place where people are unlikely to cooperate with the dictum, that's about as strong a likelihood place for that to happen as any.

Q: Interesting. Did you see that in any of your interactions?

Martin: Again, mostly third-hand—secondhand—because we were dealing with the DHMT, but we were not claiming to be an authority ourselves. But yeah, the attitude among some of the DHMT people was, we know this is what we need to do, we know that this is desperately important, but getting these people to cooperate is next to impossible. That sort of attitude, almost a resignation to the fact that there's only so far we're going to get, was—and I hasten to add, this was not the people in the DHMT shirking their responsibility, trying to backpedal. These guys were working hard. These guys were very convinced of the importance of what we were doing. When I say resignation, I really do not mean that they were in any way lazy or slacking. But they knew quite well that there was only so far they would go. So yeah, I think there is an element of that that is simply part of the government-to-public relationship in Kambia District.

Q: I want to go back to something you said, if that's okay. You said that some of your time was spent talking with Mr. Wesen Conteh. Can you tell me more about him and about the kinds of things you were talking about?

Martin: Wesen's a relatively young fellow to be in a leadership position. I frankly expected someone who was older to be in charge. He wasn't the district health officer, he's not a doctor, but he was the one that the doctor had put in charge of the response. He was a person who took his role extremely seriously, and rather uncharacteristically of people I have seen lead African meetings—this is just an illustration of how he conducted himself—he was a guy who sticks to agendas. If he had five points he was going to cover in a meeting, he was going to cover those five points and he was going to cover them in the time allotted, and unless you had a very good reason to carry on the conversation longer than he felt it was necessary, he was going to shut it down and move on to the next point. I don't know that I've ever seen anyone else, especially—I mean he's probably in his mid-30s—I've seen him shut down people who were older than him and senior to him who were giving a more verbose answer to the question than he thought was necessary. Not in a harsh way, not in an authoritarian way, but in a “we've got to move on to the next thing, we've got the answer for that.” He is very much an all-business leader, and quite skilled at keeping a meeting on track. Quite skilled at juggling, okay, I've got my epis doing this work, I've got these guys handling the resources for quarantine, I've got to get this advice from the guys at CDC and WHO. He actually is very good at commanding the disparate resources, and the best illustration I have of that actually is not just a conversation, it's an incident that took place while we were in the middle of this whole response.

I'm going to back up and add, I've already alluded to Michelle Sloan being with us from CDC up in Kambia. I've not mentioned that Charles Alpren, who I believe you've also

interviewed, was there after the second or third day. Charles was actually the response lead at that time for this particular response. He was largely working with burial and survivor issues during the non-response part of the recovery, working for the CDC office in Freetown. Charles is an MD [doctor] from Australia who we had hired away from WHO actually, and who incidentally is now an EIS officer. But Charles had come to Kambia to help us early on in my first week there. Charles and I had only known each other by reputation before. We hadn't actually worked together. I think when he came to Kambia, he came partially because he couldn't understand why things were as disorganized as I was relating they were and he came to see if he could bring some order out of the chaos. Not to put too fine a point on it, I think he would admit this, too—to see where I was slipping, that we didn't have better organization than we did. It didn't take more than about twenty-four hours for him to realize that it was going to take both of us and it still was going to be chaos. [laughs] The process led to Charles and I becoming very good friends, but by the time this incident that I'm talking about happened, Charles, Michelle, and I were all three working in Kambia on the response.

We'd been through our normal day, which as these days unfolded, we'd have a morning briefing, we'd go about whatever our various duties were during the day, and then there would be an evening "let's catch up everything that we learned during the day and what we're going to have to do tomorrow." So there was a morning and an evening meeting of all the major incident players in the DHMT in Kambia. Wesen leads these meetings. Each team briefs what's going on. As the meeting is wrapping up, like five minutes before it's over, Wesen gets a phone call. He gets a look on his face that you don't want to see

somebody get, and as the meeting breaks up, he says, “Dan, Charles, WHO lead, DfID lead,” he named like six different people, “I need you to stay behind for a few minutes, please. Everybody else, you’re dismissed. Good night.” After the others had left the room, he said, “That call I just got was a man”—one of the basically water taxi kind of things which transport people from several of the port towns of Sierra Leone and Guinea back and forth, it’s an inter-border water transport—”just pulled into one of the villages on the Coast of Kambia, got off the boat, vomited blood and died in the street.” Needless to say, in the middle of an Ebola response, this is not good news. Wesen says, “I need some advice from you guys. Tell me what are the issues we need to be sure and do?” He says, “I know we’ve got to hold the boat. I’ve already told them to do that.” In fact, he grabbed the Sierra Leone Police person as one of the ones and said, “Get on the horn to your people and have that boat held offshore and nobody comes or goes.” He was already doing that before we even got to the meeting. He said, “I know we’ve got to hold the boat. We’ve got to get somebody out there and get a swab from the dead guy and a blood sample from the mother or aunt that was traveling with him, and we’ve got to get these things emergency tested. I know we’ve got to do that. What else do we have to do to get this thing done?” The gratifying thing to me is yeah, we gave him some advice, we reinforced some elements that needed to be done. We said one of the things he wanted to do was to call the lab and make sure they’re going to be standing by for the sample because if possible, we’d want to get it tested tonight. He said, “Oh yeah, that’s important. We’ll do that right away.” He called the lab. There were a couple of other elements of transport. He got one of his investigators to jump on a motorcycle and head out to collect the sample. Had the lab standing by. But the key thing on this is that

although he solicited advice from us, Wesen and Osman Barrie, his case investigator colleague [note: Barrie is District Surveillance Officer (DSO)-1 in Kambia], these two guys commanded that mobilization that night. We didn't tell them what to do, we answered their questions. They took charge. They commanded their people as necessary to respond. This meeting wrapped up at, I believe the meeting was six to seven, maybe it was five to six, but it was evening time. By ten thirty that night, the specimen had been collected and transported to the lab. The lab had run the specimen and we had gotten the result that it was, in fact, negative. So by eleven o'clock that night, the boat was released. Oh, in between times, I forget whether it was Wesen or Barrie that did this, but one of the two of them contacted—for want of a better term, I'll call the mayor, the local leader of the village, to say hey, we're holding these people on the boat but they're going to have to have food and water; please get them some supplies so that we can hold them on the boat while we're doing this. The boat was quarantined offshore so nobody could get on and off; the sample was collected; it was taken to a lab; the lab stayed open late; the lab ran the specimen; the results came back to us; and all of this was coordinated by Sierra Leoneans. Charles and I looked at each other and tears came to both of our eyes because we saw a level of mobilization of emergency response that we both know would not have happened in that country two years ago. And I say this not only because it was gratifying to see Wesen do such a good job—I love that fact and I told him so. It's one of the reasons why he was recommended for the emergency response fellowship and came here, and it was one of the reasons why Barrie was recommended for FETP and has since become an FETP grad. But we saw the fruits of CDC's capacity building labors in action in a way that you simply could not gainsay. If all of the money that we supplied to the

Sierra Leone government runs out, if all of the personnel that we deploy and that we still have in the CDC office are brought home, if everything else we have done in Sierra Leone collapses, that sense of, “this is an emergency, I need to identify the resources that need to be mobilized and get them moving to contain it before it becomes bigger,” wasn’t there four years ago when the epidemic started. If it was, it would not have blown up to twenty-eight thousand cases. It is there now, and although this particular case turned out not to be a case of Ebola, it was handled exactly how you would want a case of Ebola to be handled. And that was an extremely gratifying thing to see.

[break]

Q: So Dan, unless you had another route in mind forward from here, I was thinking that story was maybe a nice bridge to talk a little bit more about Mr. Osman Barrie. Would you mind just describing him a little bit? What’s he like?

Martin: Rather like Wesen, he is uncharacteristically—I say this in a positive and not a negative light—aggressive and businesslike. When Barrie wants to get something done—and although his name is Osman Barrie, he actually goes by Barrie and I’m not entirely sure—the Barrie is not a last name, so I think neither one is his last name, but I never went into the details of his family naming. He’s a bulldog about getting accomplished what he wants accomplished. I would put him along with Wesen and Augustine and a few others like that—that would be ones that you’ve met. These are guys who are very enthusiastic about the professional side of getting their job done right. These are guys

who care very deeply about the health and safety aspect of their jobs, who see it as a public health calling I think really, and they're very impatient with impediments to getting the disease control work done. Barrie is an extremely friendly guy, rapid smile, easy laugh. Not a very big guy. As I recall, not as short as Andrew, but as I recall, he's only like probably 5'4"-ish, but stocky. He would be a good rugby player probably I would imagine because he's pretty tough. Yeah, very no nonsense about pursuing an investigation, about leading his investigators to get out there and talk to people. Did not brook people who would stop for a cup of tea for too long when they were supposed to be doing an investigation job. And I understand from Tushar, who as you know was the prime teacher as well as resident advisor for the FETP program, but Barrie was also a star student among very good people in the FETP program as well. Really took to the analysis and investigation aspects well. So both intellectually very smart and personally very dedicated to—yes, he may already be good, but if he can learn something that will make him better, he'll enthusiastically dig in and do that. And that combination stood us very well in doing the investigations in Kambia. It's funny that everything I said earlier about the general—I'm grasping for the word, but just the general cultural vibe of the people of Kambia is this noncompliant, anti-authority independence. Not libertarian independence so much, but just you can't trust the authorities and so we're going to stay away from them kind of thing. And also just somewhat of a general non-cooperativeness. And then on top of that, you've got these two guys, Wesen and Barrie, who are professional, they are punctual, they work hard, they work long. They are neither one of them afraid to ask questions. They do not feel the need to present themselves as knowing more than they do. They're very open about asking for assistance when they need it, and then enthusiastic

about implementing the suggestions that they receive. So the combination—just a quintessential professional at the field level in the public health area of Kambia, and I don't think particularly connected. I don't know that he's got the opportunity to climb high in the structure since the structure is not largely a meritocracy. But the sort of guy that in a meritocracy I would expect to see in a senior position of leadership in five, ten, or fifteen years.

Q: How long were you in Kambia?

Martin: Only two weeks. Two weeks felt like a year but it was only two weeks. That sort of always banging your head against both community recalcitrance and some political leadership issues with other agencies that I will for sensitivity purpose not name but who should have been working together, and were better at claiming their own fiefdoms and authority than they were at working with us. It was a challenge for my political negotiation skills to work with certain individuals there, and that really made those two weeks seem really long.

Q: Is there anything that you think would be valuable to talk about, even de-identified?

Martin: Well, I've already alluded in other areas just to the negotiation between agencies. I think one of the things—and I believe I've said this before, too, I'm not sure. CDC is a known, respected, world authority in public health. World Health Organization is another known, respected authority in public health. World Health Organization is also an

international United Nations auspices organization, and is in fact the health lead in many situations. But because of some unfortunate elements of the bureaucratic structure of WHO, the people they dispatch to the field may not always be the ones you would want to have as technical authorities and leads in an area. But we've done a poor job of sussing out just what the terms of reference between our two agencies ought to be. Some of that I don't think you can every fully dictate because when you get in a situation as chaotic as a response, there's a certain element to which everybody's simply going to have to work out the relationships and structures on the ground that are going to work. You can say all you want about an incident management plan, it still comes down to the people who are managing the incident. But I think we could have done a better job of defining chains of command and terms of engagement between our agencies, and I think the fact that in both the districts that I went to which had WHO presence while I was there, the WHO lead and I had to basically negotiate and work out our own terms of engagement with each other. Part of that is just the basic reality of two human beings in a situation where some leadership needs to happen, but part of that I think is a failure on the part of our agencies to really agree with each other, how is this structure supposed to work. Or if they have in fact agreed, to convey that agreement appropriately to those who are dispatched to the field. And to what extent it's one and to what extent it's the other, I really and truly don't know because I've not had that senior leadership authority myself. One way or the other, I think—and this is not just us and WHO, it would have been helpful in just the general relationship between all the different UN agencies, the nongovernmental organizations. There was a nominal lead who was one or the other UN agencies; I want to say it was a guy from the UN Development Program (UNDP) when we were in Kambia, but I'm

trying to remember now. There was a nominal lead of the overall response that was a UN person. WHO was nominally the health lead. CDC was formally there in a consulting role to assist WHO, but what that meant and how the assets of the various agencies ought to be shared, worked out, commanded, led, whatever was very much something that in my observation had to be negotiated ad hoc in each place. As I think I described to you before, here in the US, we have the National Incident Management System and the National Response Plan, which lay out a very clear authority structure of how this stuff is supposed to be handled in a multiagency response. There isn't a single authority that can declare such a thing by fiefdom when it comes to an international response, but it would seem to me that it would behoove us as agencies to negotiate and agree something like a national incident management plan for such things rather than cobbling it together as it feels like we do. Now, that may be the kind of thing that's easy to describe in a studio in the basement of Building 19 when we're not in the middle of an emergency. It may be that because there is no real central authority, there's nobody to say okay, you guys work it out and get along. There is a sense to which you just play by what you're dealt when you get there. That'll always be the case. But I do think that if there were a lesson that I wish we would learn better as an international community, it would be to have some of those things a little more systematized than I think we had them.

Q: Sure, I think that puts it well and succinctly.

Martin: I don't know how succinct it was, I felt like I was running on, but anyway. Yeah, I know that WHO itself is in the process of trying to reorganize itself, and it only has so

much authority with which to do that because of the way it's chartered. There's a certain degree to which UN is by definition government by committee, and in a non-imperialist world, that's how it's going to be. But it definitely adds to some chaos in the midst of an urgent response. The last thing I'm absolutely not saying is I'm not saying that CDC should somehow seize the lead on things like that. We don't have the authority nor the wherewithal to do something like that. I do, for global health security reasons, believe we ought to have more of an international presence than we do. That's a much broader topic and is not just Ebola, but we go where we're invited. We go where we're asked to go because our mandate stops at the borders of the US, and that's as it should be and I'm not suggesting that it should change. But how World Health Organization utilizes us and others is definitely an area for ongoing negotiation I think.

Q: And the way this manifests on the ground would be what?

Martin: Well, you remember, I alluded to in the Port Loko story that when I got there, the epidemiology—health comms [communications] as well, but particularly the epidemiology staffs of the CDC and of WHO were working really almost as independent, non-overlapping teams, and it was a point that I exerted considerable effort on to bring them into a single team and to work cooperatively. In Kambia, there was a little more assumption of cooperation I think from the start at the line level of the teams, but at the leadership level and how to plan and report and delegate and so on, I had to work out that relationship once again with the field coordinator when I got to Kambia as well. I don't think the assumption that we are one team from different places is necessarily how people

start out, and ideally it should be. Realistically, I think that the academic and scientific epi expertise that actually made it to the field level, CDC probably had more highly-qualified individuals on the ground than WHO did. Which is not to say there weren't some excellent ones that I worked with in both locations from WHO; there were. But I think that the overall caliber of the epi resources deployed was probably a bit more variable with the WHO resources.

Q: Thank you, Dan. What else is left to say to describe or to remember about Kambia?

Martin: I would reinforce once again something that we've talked about in every conversation about each deployment I've been on, that when you're working with people in those sorts of stressful situations, some relations come out that are really strong, lasting, positive relations. I would say that the two CDCers with whom I worked the closest and the longest in Kambia, which was Charles Alpren and Michelle Sloan, became very good friends and remain people that I stay in touch with and intend to continue to stay in touch with. That camaraderie of a shared difficult experience, while by no means the same as the riskier and emotionally darker times of the earlier parts of the response, that was very valuable.

Q: Can you tell me more about Michelle?

Martin: Michelle is a relatively young epidemiologist who joined us. She had already worked previously in Freetown with John Redd, so this was not her first rodeo either. But

it was the first time she and I had worked together. Early thirties I think, probably. Trained as an economist, and a really good shoe-leather investigator kind of person. Michelle is a dogged investigator who is never afraid to ask the next question, who does a very good job of synthesizing data. I found her to be a really solid partner to go out into the field. Actually, the thing to add to that is that she is probably the one that Andrew helped the most in the field. You remember, I mentioned earlier in the conversation that when we got to Kambia, Andrew's job was basically to keep the office running for us, to keep us logistically handled and so on. Andrew came to me privately—he is not a person who makes a scene publicly. Andrew came to me privately one day in the process and said, “Hey, I speak these languages. I’ve been listening to you guys for months. You’ve been having difficulty getting information from some of these people,” I think it was actually with regard to the taxi situation. “Why don’t you let me accompany Michelle, be her interpreter, and help do some of this investigation?” And I thought that was—okay Dan, you dummy, why didn’t you think of that yourself? He’s a very enthusiastic and helpful person and he’s obviously very smart. Yes, of course, that’s an obvious thing. But it was Andrew’s initiative to say, “Hey, look, I don’t have to just do logistics, can I help do health,” that started it up. He and Michelle went out on several investigation trips in the days that followed, and he demonstrated—and Michelle told me multiple times—he demonstrated his value. In fact, it was Michelle who told me, “He’s not just being an interpreter, he’s asking the follow-up questions and pushing the issues to the next level, and he’s clearly thinking like an epidemiologist.” Once he had that opportunity, he took it and ran with it. And it was a combination of Andrew’s initiative and Michelle’s willingness not to—she wasn’t trying to defend her own reputation or show her own

authority or any of the things that some people who, “I’m the one from outside.” Her gentleness helped this to happen. That allowed Andrew to blossom, and ultimately, he too took the FETP training and came on staff with CDC. It’s a credit not only to Michelle’s epi skills for the investigation she was doing, but her personal skills, that she ran with this opportunity that allowed another Sierra Leonean national to blossom in his own profession.

Q: Sorry, I’d asked that summarizing question about Kambia and then wanted to know a bit more about Michelle. Was there anything else that you were—

Martin: Well again, Kambia, because of the political issues, both as far as the interagency stuff that I alluded to that I’m not going into a lot of detail on and because of the uncooperativeness of the community, was—even though again, we turned out not to be dealing with any actual Ebola disease in Kambia when we were there at all. The process of handling the response was some of the most emotionally stressful, just because I found myself banging heads with people who did not want to play as a team on several occasions. It’s actually the one time where I ran out of gas before I ran out of time. It manifested itself when a new group of CDC assignees had been pulled from several other locations to come help us with the contact investigation toward the end, and most of them were listening to the structure of how we needed to work with the Sierra Leonean locals, work with the WHO epidemiologists, break up the team sort of thing. But one of them came in hot to trot to go out and do an EIS-style investigation, and basically started going off script literally the moment that this individual hit the ground. After one collision on

this where basically this individual was trying to start their own investigational chain—basically wanted to grab a car and go out and start doing their own individual investigation. I called them into our little private office and pretty well ripped them a new one. Got more heated than I normally get in managing people, but it was a situation where I was telling this individual, “Look, I have spent this time building up”—this is going to sound familiar because you remember the epidemiologist story that I told in Port Loko. This was, “I’ve spent this time building a rapport, you are not going to tear it down. I know you want to do this, I know you came here, but we have a structure in place. That structure is not something of my own invention. That structure is not merely capricious. That structure is keeping individuals who might otherwise be at loggerheads working together. You are not going to destroy it.” I commented to Charles after I had the exchange with this individual, “You know, that wasn’t like me.” It’s very rare that I get in somebody’s face like I got in this person’s face. I don’t recall that I ever raised my voice or yelled, but I was pretty harsh. Charles said, “Dan, how you doing personally on this?” I said, “I’m okay, I’m okay. I had to straighten this out.” This would probably have been late morning. Early afternoon, I talked to Charles again. I said, “You know what? I was doing fine until you asked me how I was doing.” [laughs] “I just realized I’ve hit a wall. I’m exhausted.” Again, I haven’t really quite told you enough to tell you why I was so exhausted, and the reason is because there’s no way I can do so without creating insults to other people. But the interpersonal collisions that had happened during the previous two weeks were so nonstop, and so—you think you have it solved and you go back and you don’t and you have to go through the whole thing over again. I wish I could explain it better but I just can’t without creating a situation that does not need to be

published. But I had banged my head against the wall for so long that I was just out of gas, and I told Charles, “You know what? I hit the wall. I didn’t realize it but you did have to go and ask me, didn’t you?” He said, “You know what? You’re slated to go home in I think six days anyway.” I was only supposed to be in Kambia through the end of that week, and this is I think either Tuesday or Wednesday. He says, “Maybe you need to go back to Freetown a couple days earlier.” I don’t think I had to think about it three minutes. I realized he was right. I had gotten to the point—and my having it out with this individual was the last straw—I had gotten to the point where if I kept doing it much longer, an uncharacteristic anger was going to overtake my ability to handle the situation right. Bless Charles for thinking of it. He was wise to ask the question, and when I realized that my first answer was wrong and gave him the second answer, he was wise to call it on me. He said, “It’s time for you to decompress.” Yeah, he was right.

Q: So you go back to Freetown?

Martin: Debrief, handle a little bit of end-of-the-time GHSA stuff. Frankly, Sara gave me a little room to decompress those last couple days I was in Freetown before I went home, as I recall. At that point, what was left in the response was merely continuing the last seven of the twenty-one days’ quarantine for most people. The early quarantine people had already gotten out. The number of missing contacts was going down for no other reason than because at twenty-one days’ out, if they hadn’t shown up with disease—we’d still like to check with them—but they wouldn’t be under formal monitoring, even if we did find them. So the end of the process continued for another week or so beyond the

time that I left country, and I left on schedule. I didn't leave ahead of schedule. That was when I was planning to fly home anyway. But, of course, it was the full forty-two days before we actually declared the cluster over as usual. But the effort level was winding down. I think Regan was already going from Port Loko back to Freetown. It was the denouement anyway. But yeah, it was the shortest long time or the longest short time that I ever spent in Sierra Leone. [laughter]

Q: Good way of putting it.

Martin: Yeah.

Q: Okay, but that was not your last time in Sierra Leone.

Martin: No, it was not. In fact, that would have only been my fourth time. Tonk, Port Loko, GHSA October. Yeah, then this. That was only my fourth time, and by the time all was said and done, I think I've been there eleven times now because I continued working on the recovery in the GHSA and continuing to support the Sierra Leone office. And I may not be done yet. I'm not sure. A couple of the times I went were definitely non-response-related things. One was when I went with Kali-Ahset [Amen] to procure the museum artifacts—

Q: For our exhibit.

Martin: —and then the other was the time that I went to escort you around when you were doing the oral history stuff. And in both cases, the reason for those trips was that Sara wanted someone who had been involved in the response to basically facilitate the process, contextualize the questions that were asked and the answers that were being gotten, whatever. So it was not explicitly public health work at all, but as you know from our many conversations, I believe that having the opportunity to contribute to making sure that our history is memorialized as best as we can is I think something that's going to be an important legacy as well.

Q: You had an important part in shaping how I understood the broader context in which this happened. I'm really happy to have interviewed an interconnected node of people, of you and Andrew and Augustine and Barrie and others you worked with. Regan and Charles I had interviewed already, but I'm glad that I had them, too.

Martin: Oh yeah, they're both brilliant. And John Redd, of course.

Q: John Redd of course.

Martin: I don't know how much time you ever got to spend with Sara Hersey herself.

Q: One interview.

Martin: Okay, well, that's one more than none. But yeah, there's a cluster of us that all have very tight interconnections. I hope that we haven't skewed the history too much based on our living piece of it all, [laughter] because there were what—the entire response was over eleven hundred people who deployed I believe to the three countries?

Q: I think it was—

Martin: I mean who deployed internationally. My recollection—

Q: Internationally, it's over fourteen hundred.

Martin: Okay, that's bigger than I thought. And if you include the domestic, it gets close to four thousand. Thirty-seven or thirty-eight [hundred], something like that. But yeah, among those that you've collected history from, our club is a significant group I guess.

Q: I think it's nice to have voices speaking to each other, and I was never going to get a representative sample of these because I don't think that would have existed and generally doesn't in oral history.

Martin: If there's one thing I think might be worth putting as a coda on our interview time, just because I think it pulls some of the story together for me, it's thinking about what our legacy in—I presume the three countries, but I've worked mostly in Sierra Leone. As you know, I've just recently started to engage in Liberia, too. But in Sierra

Leone, what's our legacy to the Ebola response? One bit certainly is not we alone by any means, but we as the international team ended the worst Ebola outbreak in history.

Eleven times more cases than all the rest of human Ebola known in history. Almost twelve thousand deaths, twenty-eight-plus thousand cases known, and by many estimates, we may have only ever diagnosed a third of it. There's no question this was a huge, historic plague that could have killed way more than it did but which grabbed the world's attention. Part of our legacy is simply our contribution to shutting it down, and while CDC is not the first name on anybody's lips in that process, when you talk to people quietly about where the effort was done and the technical expertise came, CDC always figures very highly in people's minds as a vital component, rightly so I believe, to the ending of that epidemic. Not to say they wouldn't have ended it without us, but without CDC's contribution it would have gone a lot longer and it would have hurt a lot more people. As I've said before, I believe that Tushar and my work in Tonkolili very specifically shortened the course of the epidemic in Tonkolili District. That's an area I can personally point to.

But in the longer haul, what is our legacy besides simply ending the epidemic? Part of it certainly is the Global Health Security Agenda. Now, GHSA preexisted Ebola, but it got a shot in the arm from Ebola that it would not have gotten any other way. Global health security is a concept in people's minds post-Ebola in a way that it certainly was not before. I hope that's not merely a passing fad. I hope that will be a long-term commitment of the world's nations to recognize that the interruption of epidemics anywhere in the world is not merely doing good for poor people. It is not merely a

humanitarian alleviation of suffering kind of service, although it is absolutely that. It is also very much a self-interested thing in that we stop epidemics over there because epidemics over there can come here. And we demonstrated in Ebola, epidemics do come here. It did. Look at Dallas. So another element of our legacy I hope is—although we need to work much harder on this—is an understanding among the Western and the wealthy nations of the world that public health is in their own self-interest. It is not merely a humanitarian service thing. In the nations themselves—in Sierra Leone, in Liberia, and in Guinea—we have worked to build up the surveillance and response and laboratory diagnostic and workforce systems in those countries so that hopefully, they will be better able to respond to such things themselves, even before things get to the level that they might need to ask for international assistance in the future. Some of that, the laboratory and surveillance elements, in all honestly still hang by a thread. We have this nasty habit in the West of thinking that something we start should be sustainable by people other than us within two to five years, approximately. The idea being we should be able to kick it off and then pull back and it should keep going. When you talk about countries as poor as the countries of West Africa, the economic resources to keep things going aren't all there, and sustainability of effort in things like that probably is something we need to be talking in terms of generations, not years, at least from an economic and a resource standpoint. From a technical standpoint, we've certainly built relationships that now those people can say hey, we're running into something that's beyond our capacity, help, and they don't have to just yell help, help out into the void. They've got people that they know who know them that they can call. So there's an interconnectedness now that exists that didn't exist before. But at the final and most fundamental level, the most

sustainable thing we did is the story I told you about Osman and Wesen, which is that that mental process of here is a problem, here's what I need to do to stop it, I am not going to let that belong to somebody else, I am going to take charge, I am going to mobilize resources, and I am bloody well going to stop it—that process and the people that have been trained in that process and then given the personal confidence that yes, they do know this process and can do it—because sometimes the confidence to grab ahold is the most important part in a response like this. It doesn't matter what happens to our money, it doesn't matter what happens to the other bilateral relationships, it doesn't matter whether the internet connections continue to function or not, guys like Wesen and Barrie are never going to be the same again. Because of that, the systems they work in are never going to be the same either. I think that element of human capacity is probably the single most lasting thing that we as CDC have been able to leave behind and it's one that I'm very pleased to have had the chance to see.

Q: There's another question that I would ask of—I think I've asked it of a lot of my interviewees. It's always on my outline. It is, what lasting impact did responding to the Ebola epidemic have for you? I don't know whether to ask it of you, Dan, because this entire—these three interviews have been I think a testament to that. Does anything more need to be said? I don't know.

Martin: Well, obviously, the passion for global health was already there, has been there for the bulk of my life. The satisfaction that when the call went out, I was both able and willing to be one of the ones who responded is a personal satisfaction that I will have for

the rest of my life. The network of people with whom I had the privilege to serve and who every time I see them anywhere on campus, we're important enough to each other to check in on, that personal extended family is obviously something I take away that—I mean, you and I are part of that family. Professionally, success breeds success. The fact that you have been part of a successful response increases the likelihood that you will both be offered the opportunity to serve in the future and be able and willing to do so if offered, is I think something which remains—you know, I have a professional capacity which I think some of the innate skills may have always been there, even if I didn't know they were there, even if nobody else knew that they were there. Now, I'm one of those people they know they can call. And that's not just me personally, that's a whole cadre of people across CDC who—we know informally that whatever the lines of authority and chains of command with CDC may ever be officially, we know we can call on each other and we know what we're going to get when we do. And that is both personally very gratifying, but also I think a perhaps not fully recognized strength that this agency has developed as a result of the response. I think we as an agency as well as me as an individual—I think we as an agency are stronger for having gone through this process. And next disaster—and there will be a next disaster—we will respond better, quicker, and more effectively for having done what we did with Ebola I think. But for me personally, ultimately, I think there is a real satisfaction in having had the chance to materially contribute in a difficult situation, in a situation where a lot of people were running away and we ran to it. There's a personal pride in that that I'll never be ashamed of.

Q: I think that would be a perfect place to end the interview; however, do you have a little more time?

Martin: Yeah, I've got a little. Not long but a little.

Q: Okay. Let's talk about what's happening with these PHAs [public health advisors].

Martin: Yes.

Q: Dan, what's happening with PHAs at CDC?

Martin: The public health advisor, when I came into the program in 1989, was still what we now refer to as the old-school public health advisor, old-school PHA. People who started on the streets, in the back alleys, investigating sexually-transmitted disease. Some were also doing tuberculosis. It wasn't just STD, but STD was still the large part of it. We were what we called shoe-leather epidemiologists. Our job was to find disease. It was to stop disease. It was to talk to people about difficult topics they would rather not talk about and elicit information from them that could be used to public health benefit. I should say PHAs all started at that realm, and then gradually moved—as we had opportunities for promotion and moving to other things—we would move into various program management positions. But program management in those days was about strategy. It was about process. It was about public health science. It was about working with the medical and laboratory, technical and so on personnel to really effect public

health change. Public health advisors were known in those days as the people who would work together with—usually a second-in-command to—but work together with the science leads or the medical leads to actually get a program practically accomplished. We were also known for being the ones who could do some of what I did a lot of in the Ebola response: get into difficult political situations and negotiate a way forward. That interpersonal, interagency, relational element of getting the job done, even if somebody else had to take the credit, is something that PHAs were all about. Somewhere in the last two decades, and other people who know better than I tell me that it's a combination of the way that CDC was managed under Julie [L.] Gerberding and the way that programs changed with the advent of PEPFAR, the President's Emergency Plan for AIDS Relief, which suddenly brought levels of resource into public health funding that—money that just wasn't normally available anywhere else. Somewhere in the combination of managing the money and the reorganizations of the agency, public health advisors have become—well, the PHA has become either public health advisor or public health analyst—two different words that get thrown around in the 685 series, which is the federal job series—have largely become financial managers, personnel managers, administrators. The idea that public health advisors might actually understand or practice technical public health seems largely to have been forgotten by the agency. Not by everyone in it because I talked to lots of medical folks and scientific folks who've worked with old-school PHAs and they still know what we used to be. But in terms of actual career opportunities in CDC, it is difficult for a public health advisor anymore to get any opportunities to do work that is not either financial management, personnel management, grants and cooperative agreements—basically, paper pushing. To the extent

that as I think you know, I have recently initiated the process to leave the public health advisor series myself and convert to an epidemiologist because the opportunities for technical public health for PHAs simply aren't there anymore.

Q: Are public health advisors these days trained to do administrative work? Has the training itself changed?

Martin: You mean the new ones or those of us that are already there?

Q: Those of you who are already there, you were trained to do the epidemiology kind of work—

Martin: Because actually, the answer is both of these things. For those who are already in the public health advisor series, we're constantly being required to take additional trainings in financial management and contract management, in project officer work and in other things that have to do with this paper-pushing side of the discipline. Whether we want to do more of that kind of work or not, that's the areas where we're required to—our professional development is along those routes. For the new Public Health Associate Program, which is kind of like the training that we used to have, almost nowhere are they still doing actual disease investigation as we were doing at the time, the so-called DIS, disease intervention specialist work is rare if ever. The PHAP, the Public Health Associate Program trainees now are largely put in program management projects in state and local health departments. The degree to which they are able to do anything technical

varies wildly with the program and varies wildly with the supervisor. But those who are—and it's a very tiny fraction of them—who are then hired on to CDC are hired into the kind of admin [administrative] roles that I'm talking about. The opportunity to actually do disease investigation is pretty much denied to that group anymore. Except, as obviously happens, something like Ebola, some of us—and I was not the only old-school PHA that got this opportunity—some of us were identified and deployed as epidemiologists in the response. Those who were sent to the response as public health advisors were all doing personnel management, financial management, that kind of work. I'm not aware of anyone who had the public health advisor designation as they were deployed who got to do disease epi. But I do know of a few more besides myself who were deployed nominally as epidemiologists in the response. So there's a little bit of that that happens still in response situations, but really not except for that.

Q: What in your opinion does CDC lose here?

Martin: The Swiss-Army knife of public health practitioner that we used to be. The people who could handle both the politics and the technical at the same time. The people who—and it's not to say that none of the technical people do this because I think of people like John Redd and Lise Martel and Charles Alpren, and I've certainly worked with plenty of medical folks within CDC who have excellent management skills, but that extra level of get your hands dirty and get it done seems to be something that the old public health advisors excelled in and which I do believe is lost in the present structures. It was our ability to straddle both worlds, the management and the technical, the science

and the pragmatic, that was the uniqueness of public health advisors in the old day, that I do believe seems to have been lost.

Now, part of that I would hasten to add is not just a shift in the PHA series, it's also a shift in CDC's modus operandi. I believe this, again, is largely due to PEPFAR from what people have told me. Many, many times, I hear people, leaders in CDC say that it is the grant funding, it is the programmatic funding which—and I quote—”buys us a seat at the table” of whatever health strategy needs to be developed. What I fear they overlook is that we had a seat at the table long before we had that kind of money, and it was not a seat we bought, it was a seat we earned by being world-renowned experts in public health and epidemiology and disease control and laboratory science and all the other things that CDC has been good at for fifty years, sixty, seventy years. I think we have allowed the notion of buying ourselves a seat at the table to eclipse the perhaps benighted notion that as a senior authority, everybody at the table knows they need you. Case in point, nobody around the world calls Pierre Rollin from Viral Special Pathogens to come and join them in looking at an Ebola or hemorrhagic fever situation because when Pierre Rollin shows up, a grant is going to follow. They ask Pierre to come because Pierre is one of the foremost experts on the planet on Ebola virus, and that same process writ large over many diseases and many conditions and many years is always where CDC has done its best work, simply by being the best at what we do. And writing checks is not what we do well. Writing checks quite frankly is the job of USAID if it's an international project and HRSA [Health Resources and Services Administration] if it's a domestic project. For us to take that grant-making, aid-dispensing role, I believe, dilutes our most important

contribution as a scientific and technical lead in what we do. The shortened phrase I say is we have gone from being a doer to being a donor, and I do not think that's been a helpful change.

Q: Interesting. This is all fodder for more conversation, but we should probably end.

[laughs] I don't know how many hours we've sat in here, but whatever the number is, it's been a privilege to be in for all of them. Thank you so much, Dan, for everything. For coming in and baring your soul and sharing your stories. I am so grateful that we get to add this to the record.

Martin: It's been my honor, and as I've told you before off-tape, I will say on-tape, I appreciate your contribution to compiling and bringing this together in the first place. I'm glad somebody had the sense at CDC to hire you to do it.

END