Captain Julie Erb-Alvarez

Behind The Mask

May 2, 2022

Higingbotham: Good afternoon. Today is May 2, 2022. My name is Haley Higingbotham, and I am a Pathways intern with the Office of NIH History and Stetten Museum. This afternoon I have the pleasure of interviewing Captain Julie Erb-Alvarez. Captain Erb-Alvarez is a captain in the United States Public Health Service (USPHS) Commissioned Corps, and at the NIH, she is the director of Patient Engagement and Recruitment for Intramural Research at the National Heart, Lung, and Blood Institute (NHLBI). Thank you so much for joining me today.

Erb-Alvarez: Thank you for having me.

Higingbotham: To get us started, could you tell us a bit about your scientific background and what brought you to the NIH?

Erb-Alvarez: Thank you again. I'm an epidemiologist by training, experience, and education. I have a master's degree in public health with an emphasis in epidemiology. Previous to NIH, I served for about ten years as the epidemiologist for the Oklahoma City Area Office of the Indian Health Service. I'm from Oklahoma originally. Born and raised. Prior to that I served for a few years as the epidemiologist—really doing tropical medicine—for the Republic of Palau Ministry of Health in Palau, which is in Micronesia, out in the middle of the Pacific Ocean. I also worked for about five years in Health Services at my tribe, the Cherokee Nation. I'm a member of the Cherokee Nation and was their cancer programs director. I did a lot of grant writing and managing of programs directly out of school. My scientific expertise is really a generalist view of epidemiology, but I've also got a few years' experience with tropical medicine. I came to NIH after serving with Rear Admiral Richard Childs in Liberia, who believed my experience in research and public health would be an asset to the NHLBI.

Higingbotham: We want to talk about some of the COVID-19 things. You were part of the team with the Public Health Service that assisted with the Diamond Princess cruise ship. Could you tell me a bit about that deployment?

Erb-Alvarez: Sure. Back in January of 2020, as an epidemiologist, I was following pretty closely the coronavirus outbreak over in Wuhan, China. I got a call back in early February—it was the Saturday before the Monday holiday in February—from the director of Commission Corps Headquarters. She said that she needed me to go over to Tokyo, Japan to help co-lead efforts for that. They were trying to repatriate the American citizens that were on that ship. The team of responders were actually working to disembark the American passengers and repatriate them back into the United States, all the while trying to understand and assist with control of the coronavirus outbreak that was taking place on board. Our mission morphed into something a little bit different because once we got over there and the Americans were off the ship, there were a number of them hospitalized. Thirteen of the American citizens off the ship were critically ill with COVID and in about 25 different hospitals around Yokohama and Tokyo, and this led to our team working to locate and case manage these patients. We worked with the Tokyo healthcare teams, as well as the Japanese Ministry of Health and Welfare. We worked to develop a compassionate use protocol for the antiviral drug remdesivir, which at the time wasn't even

under an emergency use authorization. There were a number of critically ill patients that qualified and received remdesivir under our protocol. It was the first time remdesivir had been given in Japan for coronavirus.

Higingbotham: That is actually part of one of the questions. I read that you had used the compassionate use drug protocol for remdesivir. Could you expand a bit on how that process to get it approved worked, and why you chose to use remdesivir?

Erb-Alvarez: I was there to co-lead the team with Admiral Childs—Dr. Richard Childs, our NHLBI clinical director. It was really his brainchild. Together we co-led "Team Remdesivir." After a lot of reading and based on what we were learning about COVID in real time, Dr. Childs believed that remdesivir had the most promise for treating this new virus, with the hope that the antiviral could slow down the viral replication long enough that the immune system could kick in and beat it. As it happened, Robert Walker, M.D., the deputy director of clinical studies from BARDA [Biomedical Advanced Research and Development Authority] was in Tokyo at same time to establish an international clinical trial for remdesivir in COVID patients. The timing was perfect, and it allowed us to get that [protocol] established. As far as the compassionate use piece of it, essentially when you're giving a drug for compassionate use it just means that it's a drug of last resort. There are no other treatments available, so this could be the best chance a patient has at fighting the illness.

Higingbotham: That makes sense. You talked a bit about also working with Dr. Childs. How were the people who were deployed to Japan chosen? You also mentioned your background as epidemiologist. I'm sure that helped with this.

Erb-Alvarez: Actually, I really believe that might have played a minor part in it. I think it was fortunate that I do have that background, and that I had been following the outbreak very closely. That familiarity with the situation, the outbreak, and the virus—I was very fortunate that I was already up to speed. But I also think they looked to Dr. Childs for that leadership, and it happens that he and I already worked together day to day and had deployed internationally to Liberia together. I understand his working style and leadership, and he knows that I'm a get-it-done kind of person. Essentially, I think it was him saying that he needed an executive officer and that he would like me to co-lead. I was in the know on all that we could know at that point in the outbreak, including what was happening epidemiologically over in Wuhan. Essentially it came down to an opportunity. He and I worked together and had that established relationship.

As far as the other folks that were in Japan, there were about 24 or 25 officers that deployed in advance of Admiral Childs and me. They were chosen for their expertise in environmental health, nursing, social work, and other different advanced skill sets, so they could work with the American citizens and support the mission that way. But once we got to Japan, we spun off into a smaller team of seven officers, which included myself and Dr. Childs. He and I went through the in-country roster of officers and selected five based on the understanding of what we were moving into with the mission. Aside from Dr. Childs and I, there were three nurses and two social workers on our team. We assessed who could manage cases, who could assist with data and intel, and who could go to the embassy; it was an environment where political savviness was essential. As you can imagine, working with both the Japanese Ministry of Health and Welfare, the U.S. Embassy, which is Department of State, as well as other partners such as ASPR [Assistant Secretary for Preparedness and Response] and CDC [Centers for Disease Control and Prevention], was demanding of careful diplomacy. We also maintained close communications with the

patients and their families to ensure that everybody knew what was happening. It was at times a very delicate dance.

Higingbotham: Yes, definitely, especially since you were in a different country, I'm sure. You've mentioned some of what you and your team did while you were in Japan, but could you expand on any issues or anything that happened during that time while you were working on this?

Erb-Alvarez: It felt like we worked 24 hours a day because we were 13 hours ahead of the United States. Most of the work with the healthcare teams in Japan was done during the day, but the majority of the work with patient families, and the contacts stateside, was dealt with on U.S. time. You can imagine, it's sort of around the clock operations. You slept with your phone under your pillow. It was exhausting. It felt more exhausting than our Ebola deployment to Africa. It was condensed time too—we were there for a little over three weeks. There were a couple of times that Admiral Childs visited patients, but the team mainly worked out of a "command room" where we tracked and received records and talked to physicians. We have some beautiful pictures of Dr. Childs meeting with family and physicians. That was remarkable. We had a very warm welcome and a good relationship with those we worked with in Japan, including the Japanese Ministry of Health and Welfare. I can say that with certainty. Every single physician that we worked with was very responsive, and it was fulfilling work.

Higingbotham: You mentioned you were the executive officer for this team. Can you talk about your role and what that entailed a little bit more?

Erb-Alvarez: I worked to ensure that we had all the patient records in order and captured historically, the logistics of meeting space were complete, and the wheels stayed greased for the team working. I was the eyes and ears of our commanding officer, Dr. Childs, supporting and coordinating meetings, communications, any anything else that may have been needed. He's not one to sleep much anyway—it was all-hands-on-deck, and you have to be there and ready to go at any given time.

Higingbotham: Definitely. I can see that since you were in a different country. Were there any language barriers your team experienced?

Erb-Alvarez: Yeah, actually significantly. We had a lot of language barriers because most of the physicians and healthcare teams that we worked with to case manage patients spoke only Japanese. In order to obtain medical records and correspondence with clinicians, the requests and responses were done using facsimile. Those faxes—the fax cover sheet, the request letter, everything request-wise and clinically—had to be translated to and from Japanese. We received most medical records in Japanese. The U.S. Embassy provided our team with a translator. The process of getting a translator took some time to set up, so in the meantime since time was of the essence, Dr. Childs recruited the help of one of his former post doctoral fellows, Takehito Igarashi, M.D., Ph.D., who lives in Tokyo. We worked with three or four different translators throughout the course of the mission while in we were in country. That was a great experience because they were all local, and we were able to impart who the USPHS is. Our mission was not only representative of the USPHS, but us [NIH] as an agency. But, yes, there were significant language barriers. Dr. Childs had regular calls with Japanese physicians communicating clinical information through a translator. It took twice as long for review of records because of the language barriers. It was actually more interesting than frustrating for me to witness. It was exciting because I realized that we were in the middle of an impending international crisis. I remember refreshing my computer or my phone on the Johns Hopkins data COVID dashboard all the time, and we were seeing the case numbers climb in real time. I think it was more exciting than anything at the time.

Higingbotham: Beyond any language barriers, what was it like to work with a healthcare system and healthcare professionals from a different country? Were there any differences or similarities you saw?

Erb-Alvarez: The Japanese healthcare system is so amazing. They run a tight ship, and they are thorough and incredibly thoughtful about the care they provide. ECMO [extracorporeal membranous oxygenation] is typically end of the line critical care. All of our American patients on ECMO in Japan survived. Data from these early cases helped define ECMO use for severe COVID-19. It was exciting and awe-inspiring to get an understanding of how the Japanese specialists treated this new disease in an acute and critical sense.

Higingbotham: Since you were in Japan when everything shut down, could you talk about a few memories of what it was like being in Japan with it shut down and nothing was going on?

Erb-Alvarez: People had come off the cruise ship, and there was no way to know who'd been exposed. Cases started rising a little bit in Japan and they started to shut everything down. We went from a beautiful breakfast buffet with a macaroon bar to everything being individually wrapped at the buffet and mask mandates. Everything changed midstream while we were there. I have pictures of me standing in downtown Tokyo. Downtown Tokyo is kind of like New York City, just a hub of social activity, it's typically packed. [But] it was like a zombie apocalypse hit it. There was nobody around. I have a picture of me in downtown Tokyo with no people anywhere. It was really like the Twilight Zone.

Higingbotham: I can imagine. I've seen pictures of Tokyo, and it's always so crowded.

Erb-Alvarez: It was weird.

Higingbotham: I bet. Besides your deployment to Japan for the Diamond Princess cruise, have you been deployed as a PHS officer during the pandemic any other time?

Erb-Alvarez: Only administratively for support. I haven't had any other field deployment. I was deployed for a couple of months when we first got back. We actually had a "Team 2 Remdesivir" deployment. We stayed here. We continued the mission to follow-up the critically ill patients from the Diamond Princess—some of them were still in Japan. Captain Josef Rivero, at NHLBI, was on "Team 2 Remdesivir." He was able to talk to the cruise company and got them to agree to pay for the repatriation via medical flight for one of the patients back to the United States. I was also deployed for a few months to the USPHS Commission Corps Headquarters Command Center. It was coordinating care or response for people, either patients that we're working with or deployment mission field personnel that are downrange. On another PHS deployment, I was served as lead administrator for the NIH COVID-19 vaccine clinic. That was very fulfilling and exciting work. We were giving the very first COVID-19 vaccines. I was doing that from December 2020 through May of 2021, so a good five or six months. I consider that field work even though it was local. I was in PPE including an N95 every day, usually six days a week, so that was exhausting.

Higingbotham: How many patients did you see to give vaccines at the vaccine center?

Erb-Alvarez: I can tell you exactly. We had a really amazing experience. Give me a second.

Higingbotham: While you're looking that up, were people generally excited to get this vaccine at NIH?

Erb-Alvarez: Most people were so excited to be there. They'd ask if I could take a picture. What was also exciting was we had the folks that were the developers of the mRNA COVID vaccine from the Vaccine Research Center and from NIAID [National Institute of Allergy and Infectious Diseases]. They were coming in for the vaccine, and we were able to vaccinate them. Of course, Dr. Anthony Fauci, Dr. Francis Collins, and the HHS Secretary were all coming through, but we also had the bench scientists, the virus sequencers, etc.

To answer your question about how many people we saw in the vaccine clinic, I personally checked in 8,389 patients from December through May. We gave over 28,300 vaccines. This was to our NIH family, our colleagues. That was the beautiful thing—we were helping our own. It was an exciting time, but it was a scary time because most people still weren't vaccinated. I personally had four friends around November and December 2020 that died that were around my age. Everybody seemed to know at least one person, a friend of a friend, or family. It felt like in our own little corner of the world, we were saving the world one person at a time. That's the way it felt.

Higingbotham: You were talking about your NIH work and you were involved with several trials and studies also involving COVID-19 treatments. Could you briefly discuss those especially after the fostamatinib study with Dr. Jeffrey Stritch and Dr. Childs and the COVID acute recovering convalescence study with Dr. Anthony Suffredini?

Erb-Alvarez: Ah, yeah. In between all those different deployments I performed my regular duties as the NHLBI Chief of Patient Engagement and Recruitment to support these COVID studies. In particular, both the studies you named were very, very exciting studies to support. For the fostamatinib trial, we had to hit hard and with innovative approaches to outreach to people that were acutely and critically ill. Finding patients for that study fast, so we could finish and move to the next phase, was really critical and intense.

Higingbotham: What were some of the strategies that you used?

Erb-Alvarez: For the first time ever, we did a couple of radio ads—in Spanish and English—and we outreached to as many underserved communities as we could, because we wanted to have diversity in clinical trials. Diversity is always a priority. It was interesting because a large number, maybe 40% or 50%, of our patients were Hispanic. I'd like to think my Spanish radio ad worked. We made Spanish and English postcards about the study. I actually have a couple of those—I saved them. I shared many in public community areas around the NIH. We had these studies on social media, public listservs, newsletters, anywhere we could market it. We made these studies a priority. I track patient enrollment milestones; we usually look at it on a month-by-month basis, but we were looking at it almost daily and tracking the projections to make sure that we were on track with accruing patients. We did meet our goals on time.

As for Dr. Suffredini's study, which is still going, it's really an exciting study because he's imaging the organs and following people who have had COVID to better understand the disease process and how it affects us. I didn't have to help them much with recruitment—they had a lot of patients that were—and still are—coming in. I helped with getting their recruitment materials together, and then with implementing the recruitment messaging.

Higingbotham: You've mentioned how you're doing this in between your deployments. It sounds like it'd be really hard to balance. How have you been able to balance these things?

Erb-Alvarez: It's funny. Working from home has been a real blessing. Not just the work-life balance between personal and professional, but also for those of us that have to do a little bit of everything. Some of the deployment-related things I've done have been able to stay virtual, and so I'm able to really do what I need to do as needed, and field things because I'm sort of in one location. As long as you are highly organized—which I try very, very hard to be, and I'm pretty good at it—it's easier to do, but it is not easy. I've dropped some balls, but luckily in my role, as long as I prep people in advance and tell them what I'm doing, how things are going right now, and where [in the process] their study is, the investigators and research teams have been very understanding about it. At the same time, for a lot of our studies, during the shut down and all of these deployments that I was doing—bringing a lot of patients to NIH was on hold. There's not a lot of folks were traveling, so the timing worked out well.

Higingbotham: I'm glad to hear that. You have mentioned working with the vaccination center and the studies. Beyond that have you been involved in any other COVID-19 initiatives, studies, or volunteer activities?

Erb-Alvarez: As an epidemiologist, I've taken it on personally to be informed and to be a communicator of scientific and accurate information. I've made it my own project to be informed, to be up to date and on top of the science in a day-to-day, almost hour-to-hour, role as best I can. I have actually served as a source of information for friends or family that have contacted me through texts or phone calls. I have given a couple of volunteer presentations to people who have contacted me. I'll give you an example—one of my daughter's friends from Oklahoma City. Her mom is a nurse and manager of long-term care facilities. In Oklahoma, there's not a lot of love for the vaccine from many people. When they started mandating the vaccine in the workplace, she said she needed help educating her people—people were starting to quit. She needed somebody to talk about the vaccine and somebody they could relate to. I did give a couple of presentations—me being from Oklahoma but also working here at NIH on the front lines of the vaccine and therapeutic research and development helped. My mom likes to say, "Oh, she works with Dr. Fauci." I told my mom I rode the elevator with Dr. Fauci one day, so she believes that. To that, I say: [holds up Anthony Fauci figurine]. But all joking aside, when you come with the best intentions, the most up-to-date research, and an ear to listen to their concerns without preaching, that has been my key goal during this whole time—personally and professionally. I have wanted to be a conduit for overcoming misinformation. The only way to do that is to really understand and listen to others' concerns. That's been my main goal. I've done a number of presentations, but I feel like it's been my life's work for the last two years.

Higingbotham: Definitely makes sense. Beyond you being a professional working at the NIH and in the Public Health Service, you're also a person, so outside of work and professional opportunities, what personal challenges and opportunities has COVID presented you?

Erb-Alvarez: Gosh. My daughter was halfway through middle school when everything hit. I came back from Japan, and the next day the pandemic was declared by WHO [World Health Organization]. The next Monday my daughter's school was shut down, and then they moved pretty quickly to virtual. I remember her saying—she was 13 at the time, maybe 12—"Mommy, what are we gonna do? Can I have friends come over? This is so boring." To tell your young daughter, "No, you can't take a chance—this is a disease that can kill"—it was heartbreaking to have her see that realization finally hit her. Then she was going to school from home for 18 months—for a year and a half of her young student life. Like so

many others, she really struggled with that and struggled to keep up grades and really learn. I just told you what my schedule and mission and work was like in that time, so I'm managing to try to be mom and supporter of her through all of these things. A lot of true love and admiration goes to my husband for being able to also do this. He's on the front line in the plumbing industry and never got to shelter in place [more than] a couple of weeks. It was just a really scary time.

For us personally as a family—I married my scuba dive guide from Cozumel, and we are a scuba diving family—we literally canceled six dive trips during the pandemic. One after another after another after another. We missed a trip to the Bahamas over this past Christmas when Omicron hit. We did our rapid COVID test the Sunday before Christmas Eve. We were supposed to leave on Christmas Eve and go diving with the great hammerheads in Bimini. My husband and daughter were positive—asymptomatically until that night—and we had to cancel our trip. It was just cancellation after cancellation after cancellation. The travel industry was not forgiving. That's "hashtag #firstworldprobems." Seriously. There's bigger fish to fry out there, but it affected us because that is our sanctuary—that time we get away with each other and just the ability to travel freely to Oklahoma to see my parents and to see his in Cozumel. That was tough, it hampered all of that. I'd say the most heartbreaking was my daughter and her education, but she came through it. We were able to have somebody for her to talk to every week. We're very blessed in that regard and so she's thrived through it. She's now a student in her first year in high school. She said, "Mom, I'm tired of living through historic times." I said, "I don't blame you." The whole thing with the war in Russia and COVID—it's like I don't need any more historical events in my life. I'm right there with her.

Higingbotham: I definitely sympathize. I have one final question. What is one memory you have that really exemplifies your experience during the pandemic?

Erb-Alvarez: I'll never forget flying on a packed airplane to Tokyo before the pandemic was declared—and coming back. Within the time we were there, things just changed. We had just gotten fit-tested for N95's. I remember I made the decision to go ahead and wear the N95 mask on the plane. It's uncomfortable—it's a 13-hour flight. Then I remember the flight home from Tokyo as the numbers are climbing, and I'm looking at the data and at one point was even afraid we would be stuck in Japan because they were canceling flights. I remember wondering on the packed flight out of Tokyo to [Washington] DC about how many of the people had connected in Japan out of Wuhan or out of someplace in China where they were really, really affected at the time. It was a packed flight on a huge airplane and that was a really, really scary 13 or 14 hours. In that same situation, when we landed, it was all I could do take in what was happening. Landing in the United States and being processed by TSA, they weren't even wearing a mask and didn't even ask if you had a fever or if you had been to China. There was no screening. It felt like everything turned upside down after that. I remember that probably more than anything.

Higingbotham: Thank you so much for speaking with us today. Your experience was very interesting. Do you have any last things you want to add?

Erb-Alvarez: I just want to say that I'm so fortunate to have had these experiences. Each experience that I've been able to have has been an opportunity that's built on the previous ones. There's a lot of people that have a master's [degree] in public health, but not a lot of people have been able to experience the things that I have. I think it's because I'm adventuresome and I seek those opportunities, but I've taken every opportunity that has come my way. I've really worked hard to learn so that I can take forward the experiences I have and continue to contribute as science moves forward and as the world steps forward

throughout whatever is going to happen next. I just want to thank NIH for allowing me the opportunities that I've had the last five years as well. It's really a pleasure to be able to give my story and to have it documented. There are going to be a lot of other "exciting" public health events happening, and I'm hoping that we can learn from my experiences and the experiences of others. It's not, of course, just me—it's the world.

Higingbotham: Thank you so much for sharing your story and speaking with us.