EBOLA

TWO DOCTORS RESPOND TO THE 2014 EBOLA EPIDEMIC IN LIBERIA: A PERSONAL ACCOUNT
"It is our vocation to save lives. It involves risk, but when we serve with love, that is when the risk does not matter so much. When we believe our mission is to save lives, we have got to do our work."

— MATTHEW LUKWIYA, M.D.

Dr. Lukwiya was the supervisor of St. Mary's Hospital Lacor, near Gulu, Uganda. He ceaselessly cared for patients during the Ebola outbreak of 2000 until the virus took his own life in December that year.

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Ebola Virus Particles | Colorized transmission electron micrograph of Ebola virus particles (green) found both as extracellular particles and budding particles from chronically-infected African green monkey kidney cells (brown). Image captured and color-enhanced at the NIAID Integrated Research Facility in Ft. Detrick, Maryland.
In December 2013, a one-year-old boy in the village of Meliandou, Guinea died of an unknown illness. Several of his family members subsequently became ill and died of the same hemorrhagic fever. In late March 2014, the World Health Organization issued its first epidemic alert for what would soon be recognized as the first truly epidemic outbreak of Ebola since the virus was first identified in 1976. By spring 2014, Ebola was widespread in Guinea, Sierra Leone, and Liberia.

As masses frantically fled the area, many brave healthcare workers and other professionals rushed to West Africa to tend to the sick and help stem the spread of the virus. Among them were two physicians associated with the University of Vermont Larner College of Medicine (UVMLCOM) and Western Connecticut Health Network (WCHN): infectious disease specialist Dr. Majid Sadigh, Trefz Family Endowed Chair in Global Health at WCHN and Director of Global Health at UVMLCOM; and trauma surgeon Dr. Margaret Tandoh, M.D., Assistant Professor of Surgery at UVMLCOM and native of Liberia.

This is the story of these two individuals, told in a series of snapshots beginning with their initial awareness of the catastrophe, moving through their experiences working in an Ebola Treatment Unit, and ending with their eventual quarantine and readjustment to life in the United States.
A CALL FOR HELP
A LETTER TO THE WORLD FROM PRESIDENT ELLEN JOHNSON SIRLEAF

October 2014

Dear World:

In just over six months, Ebola has managed to bring my country to a standstill. We have lost over two thousand Liberians. Some are children struck down in the prime of their youth. Some were fathers, mothers, brothers, or best friends. Many were brave health workers that risked their lives to save others, or simply to offer victims comfort in their final moments. There is no coincidence Ebola has taken hold in three fragile states: Liberia, Sierra Leone, and Guinea, all battling to overcome the effects of interconnected wars. In Liberia, our civil war ended only eleven years ago. It destroyed our public infrastructure, crushed our economy, and lead to an exodus of educated professionals. A country that had some three thousand qualified doctors at the start of the war was dependent by its end on barely three dozen. In the last few years, Liberia was bouncing back to realize that there was a long way to go, but the future was looking bright. Now, Ebola threatens to erase that hard work. Our economy was set to be larger and stronger this year, offering more jobs to Liberians and raising living standards.

Ebola is not just a health crisis. Across West Africa, a generation of young people risk being lost to an economic catastrophe as harvests are missed, markets are shut, and borders are closed. The virus has been able to spread so rapidly because of the insufficient strength of the emergency, medical, and military services that remain under resourced, and under preparedness to confront such a challenge. This would have been the case whether the confrontation was with Ebola, another infectious disease, or a natural disaster. But one thing is clear: this is a fight in which the whole world has a stake. This disease respects no borders. The damage it is causing in West Africa, whether in public health, the economy, or within communities is already reverberating to other regions, and across the world.

The international reaction to this crisis was initially inconsistent and lacking in clear direction or urgency. Now, finally, the world has woken up. The community of nations has realized it cannot simply pull up the drawbridge and push this situation away. The fight requires a commitment from every nation that has the capacity to help. Whether that is with emergency funds, medical supplies, or clinical expertise. I have every faith in our resilience as Liberians and our capacity as global citizens to face down this disease, beat it, and rebuild. History has shown that when a people are at their darkest hour, humanity has an enviable ability to act with bravery, compassion, and selflessness for the benefit of those most in need.

From governments to international organizations, financial institutions to NGOs, politicians to ordinary people on the streets in any corner of the world, we all have a stake in the battle against Ebola. It is the duty of all of us as global citizens to send a message that we will not leave millions of West Africans to fend for themselves against an enemy that they do not know and against whom they have no defense. The time for talking or theorizing is over. Only concerted action will save my country, and our neighbors from experiencing another national tragedy. The words of Henrik Ibsen have never been truer: “A thousand words leave not the same deep impression as does a single deed.”

Yours sincerely,

Ellen Johnson Sirleaf

President of Liberia from 2006 - 2018

President Ellen Johnson Sirleaf’s letter was read on the BBC World Service Newshour program on October 19, 2014.
HEARING ABOUT THE EPIDEMIC
I have had a deep fascination with Ebola since its discovery in 1976. During my travels to Uganda, I went to Gulu at every opportunity to interview survivors at the site of the 2000 Ebola epidemic. I was fortunate enough to interview the nurse who was at the bedside of Matthew Lukwiya, the renowned Ugandan doctor who died alongside twelve other healthcare workers in Lachor Hospital. Supervisor of the St. Mary’s Hospital Lacor, Lukwiya was at the forefront of containing the epidemic not only in clinical treatment but also in spirit.

Weeks after confinement of a new epidemic that hit Bundibugyo in Northwest Uganda from 2007-2008, I found myself driving to the village to see the abandoned ETU and speak with survivors. I was drawn to their stories, moved by their resilience, and intrigued by the intersection between human and virus. As an infectious disease doctor, I was keenly interested in witnessing the virus in action and deciphering its clinical mystery.

The U.S. response to the epidemic had two phases: the tacit disengagement before it reached the United States, and the frenzied mayhem that ensued once it did. The dark clouds of hysteria descended in as the epidemic of fear overshadowed the epidemic of Ebola. All the knowledge about the biology and behavior of the virus, carefully collected over forty years, was disregarded. Sensationalism incapacitated scientific fact.
It was March 2014. I had just returned from visiting family in Liberia where life was continuing as usual. Liberians knew Ebola had hit West Africa, officially Guinea at the time, but we did not think it was going to touch us. There was not even the slightest element of concern.

“I hope you didn’t bring back Ebola,” said a fellow doctor upon my return to the United States, only partially in jest.

“There’s no Ebola in Liberia,” I replied with complete certitude. My conviction turned out unfounded. Just one week later, on March 28th, Ebola was officially announced in Liberia. Two cases had been confirmed in Lofa County in the North. From that point onward, I followed Ebola like the hourly news. Although Médecins Sans Frontières (Doctors Without Borders) issued daily announcements about the situation, nobody else was paying attention. The epidemic had not yet begun.

But I was cued into the rumblings. Stories seeped through phone lines like lead pipes into soil.

“Things are getting bad,” they hushed. One of my sisters shared news of her friend, a nurse, who had died of Ebola.

“People are dropping like flies.”

I flew some of my family members to Ghana in anticipation of a catastrophe.

The rumblings grew louder. The mother of one friend dropped dead in the street from high blood pressure, where she remained for three days because nobody would touch her corpse. The sister-in-law of another hemorrhaged and died while pregnant because nobody at the hospital would treat her. Her other sister-in-law died of the same neglect. And then my cousins told me that the town adjacent to the one in which I grew up was plagued by seventy deaths in one day. The body of a deceased imam had been washed, and the water given to men who brought it home to bless their families with Holy water.

It was a story in the New York Times that I first learned that Ebola is transmitted by touch. It is a virus whose attack is to rob us of human expression. Imagine being unable to comfort a stranger with a hand on the shoulder, to greet a friend with a loving embrace, to console an infant with soothing sways. What cruelty, especially for us Liberians who had just emerged from a years-long civil war only to be besieged by Ebola ten years later as we were trying to rebuild the country.

It was devastating.

The World Health Organization released weekly death reports, the numbers swelling like a rising tide. It was the perfect prescription for disaster: mismanagement of resources and mistrust of government palpitating within an unsteady infrastructure.

We were going to get wiped out. I knew it was going to get much worse before getting better. I braced myself for what was to come.
A letter was circulated among infectious disease specialists from the American Society of Infectious Disease, the Consortium of Universities for Global Health, and various non-governmental organizations including AmeriCares requesting us to volunteer to help confine the outbreak in Liberia.

I strongly believe that caring for people in need and teaching others to do so have long defined professional medical ethics. As healthcare workers, we have been licensed to serve. With this, the urge to become involved in confinement efforts felt completely natural. Overpowered by the spell of media frenzy, nobody understood the real risk of going to West Africa. The general public did not understand that those of us joining the confinement effort had not lost our senses. While the media portrayed us as stepping into dynamite, a simple calculation could determine that the risk of acquiring Ebola was remarkably low.

The administrators of my workplaces were immediately supportive of my decision, and my wife and family took little convincing. When they heard heartbreaking stories of the Liberian people, of mothers, fathers, and children dying on the street because of a shortage of healthcare workers and facilities, they were not only supportive of the idea but considered it a humanitarian obligation.

Before being deployed to Monrovia, members of the Center for Disease Control trained a group of us in Alabama where the atmosphere was thick with fear and frenzy. I cannot say that the attitude created by media and politicians did not get to me; it did. I had my doubts. The flight from New York City to Monrovia, particularly the long layover in Morocco, provided me with ample time to ruminate on my decision. As I boarded the plane for the last leg of my flight, I thought to myself:

If I go, am I going to return?

But then I saw a large group of young twenty-something Americans travelling alongside me. A couple of them were nurses with children.

“You have children! What are you doing here?” I asked a mother of three. “Aren’t you worried?”

“I have a good husband who is taking care of my kids,” she replied with ease.

Her words quelled all my doubts. I knew why I was going: to help ease suffering. It did not matter if I acquired Ebola. I was taking the risk with the conviction that I would want to be treated in the same beds with the patients I was caring for. I did not want to distinguish myself from them. My blood is neither thicker than that of Liberians, nor a different color. We were fighting this fight together. I wondered what my children would think if I didn’t return, and settled on the principle that it was the best inheritance I could give them; the greatest legacy a father could leave behind.

BECOMING INVOLVED

Majid Sadigh, M.D.

As I headed to the plane for the last leg of my flight, I thought to myself: If I go, am I going to return?
The news escalated by the day. An American doctor and nurse who became infected were flown to the United States in early August. Media coverage intensified when a Liberian man flew to Texas and was subsequently put on a three-week paid leave. That’s how ridiculous the paranoia was. The absurdity of the media reaction aside, Ebola making contact with U.S. soil may have been the best thing that happened to the epidemic. It was the impetus for attention.

It was at this point that I realized I needed to become involved. Knowing I would be unable to use most of my medical skills, I was willing to do anything that was needed. I began searching for organizations to go with, and contacted Dr. Sadigh when I heard he was going. With all the work I had to do in the United States, I would not have been able to join the effort without the generosity of my work partners who agreed to take over my responsibilities.

The process of becoming involved required many interviews and loads of paperwork with AmeriCares. I was in San Francisco for a surgery meeting when they contacted me about leaving the next day. I wasn’t ready at the time, but made arrangements to go later.

My family thought I was crazy, as did everybody else.

“You’re going to get Ebola!” I was warned.

“I’m more afraid of passing out in the heat than of getting Ebola,” was my repeated, mostly serious response.

I felt an overwhelming sense of indebtedness. I wanted to give back. I felt like I owed Liberia something. It was by way of a scholarship funded by a subsidiary of Firestone, based in Liberia, that I had come to the United States years ago. And Liberia was my home. I do not care how poor or wretched we were growing up. For me, Liberia will always be home.
ARRIVAL IN LIBERIA
I arrived in Liberia alongside two nurses on November 5th to join a group of expatriates who were already on the ground. After weeks of digesting the media’s portrayal of the epidemic, I was expecting complete calamity. I had prepared myself to see dead bodies cast aside in the street, people frantically running amok—a country tearing at its seams.

But everything looked exactly as it had the last time I was there: people going about their normal lives, unperturbed. Other than the placement of thermometers at grocery store entrances and hand-washing buckets outside shops and gathering places, there was no noticeable difference.

Where is Ebola? I wondered, scanning the streets, bewildered. Where are all the dead people?

Meanwhile the United States was plagued with panic. The media reaction was pure hysteria. People were not even thinking. Thomas Duncan, the first Ebola patient diagnosed in the United States, had lived with a family member for his entire trip to Dallas. If people were thinking even a little, they would have noticed that she never became infected, and that the two people he did transmit the virus to were nurses who had looked after him. But logic was overrun with lunacy. It was like a bomb containing millions of Ebola viruses had exploded all over the country.

How ridiculous and stupid can we be? was all I could think. But that’s the American way. Simply ridiculous in our response.

With this being my first involvement with work of this nature, I had volunteered with the naive assumption that everybody had been called to Liberia by a pure desire to help. But I quickly learned that traveling to disaster sites is the main vacation for many. I was disappointed by the realization that altruism was not the only motivation. However, I was impressed by the many young members of the U.S. military, some with no medical training, who were not only eager to help but served passionately and wholeheartedly.

As cab drivers shouted back and forth in search of passengers, and porters competed for tips in Monrovia’s airport, nobody seemed even remotely engaged with the epidemic. Life was full-blown and normal in the city.

The epidemic is in the United States, not in Liberia, I thought to myself.

We underwent vigorous training at the Police Academy in Monrovia, hosted by a passionate group of American servicemen, of whom 3,500 were spread around West Africa where they played a part in everything from constructing ETUs and training healthcare workers to mopping floors and burying the dead. They were an essential part of U.S. efforts toward confinement of the epidemic. I do not know what we would have done without them.

From the window of my room in our housing unit, I watched each morning as a teenage girl emerged with a flowerpot despite the rain that poured each night. Prancing around the flowers in their morning bask, she sprinkled water with the delicacy of fairydust, each drop ameliorating my anxiety.
THE HOT ZONE
With one-and-a-half to three percent of body weight lost during each hot zone shift, we would emerge completely exhausted. For two-hour increments we dreamt of a cold drink, an unmitigable craving, as hydrating before entering the hot zone meant needing to urinate mid-shift. The extent of exhaustion was so great that we could just barely muster the energy to reach for a water bottle afterwards.

The personal protective equipment (PPE) is extremely cumbersome. Because it is impossible to stay in its hot, humid confines for long, we had only mere minutes with each patient. Fog overtook our goggles, and eventually our view. At night, bugs stealthily made their way into the PPE while we put it on or took it off, processes that, combined, total twenty-two steps. These conditions were not only inconvenient but also severely compromised patient care. As a matter of fact, I believe we used protective layers so excessive and followed protocols so complex that the chance of contamination actually increased. The higher the complexity, the higher the chance of contamination. We needed a PPE akin to the Ebola virus in elegance and simplicity.

Given only one doctor for every fifty patients in the ETU, we had neither the ability to observe patients continuously nor access to emergency medical supplies. If we needed something, we had to shout into space and wait until someone brought the item to us through a complex, time-consuming process. Collection and documentation of data was challenging, particularly the transfer of data from inside the hot zone to outside. It was almost impossible to read the small text of medical forms through foggy goggles. With each checking of the appropriate box, we had to either vociferate the data or commit it to memory because once sprayed with chlorine, the papers went white as the ink wiped away.

This barrier to data collection was eventually resolved with the development of a chlorine-resistant tablet in which data could be entered and transferred electronically to the clean zone, as well as a system of cameras to which patient data could be spoken — but sadly, these technologies came too late.

Surprisingly, Nairobi flies presented an unanticipated challenge. Despite their common name, they are actually beetles with a pederin toxin that is used as an anti-cancer medication. They love decaying leaves, of which there is an abundance in Liberia due to the annual 200-400 inches of rain. Because pederin runs in the hemolymph of the Paederus, it easily contaminates the skin if smashed. Though unnoticeable at first, the skin and subcutaneous tissue dissolves a few days after exposure, leaving a dark mark after falling off. I joked that they were tattoos that serve as a right of passage.

Aside from these practical challenges, being in the hot zone was life-changing. Certain moments with patients will never leave me. A scene comes to mind of an extremely thin boy with subcutaneous abscesses moaning and crying in pain as his mother tended to him. Sitting at his bedside, I was moved by their resilience. They reminded me of what called me to medicine.
The air was so thick with humidity that even the simple act of walking felt like trudging underwater with weights. The temperature easily reaches ninety degrees in the dry season. I was already soaked with sweat by the time I had dressed in the PPE before each shift.

It was so uncomfortable that many workers stalled in the doffing line to avoid spending more time in the hot zone. Dehydration drove me to a water addiction satiated by no less than six liters a day. The physical restrictions were a real barrier to patient care. We were unable to treat anyone for more than a few minutes at a time, as it was simply not feasible to stay in the suit for more than an hour.

The high risk of transmission meant the list of treatments we were not permitted to give far surpassed the ones we were. Even the use of a simple foley, a catheter used to drain urine, was cause for debate in the ETU. Protocol mandates aside, resources were so limited that most treatments would have been impossible to administer anyway. Unable to give the care I was trained to provide as a critical care doctor, I felt helpless.

Compounded on this feeling was a sense of patients’ helplessness. I could almost see death on their faces. It was daunting, dealing with such an insufferable disease. Many patients were incredibly weak and tired, entirely unable to do anything for themselves. We could not do much for them either, but we did the best we could. Surprisingly, Ebola was not always the cause of death. Patients sometimes died from easily treatable conditions like dehydration.

One night, I helped hold down a young patient until she settled back into bed after deliriously wandering around the ETU with an intravenous catheter in her arm. I went home that night thinking she was fine, but when we began our shift the next night, she was dead.

Being face-to-face with Ebola was surreal. Although I was scared at the beginning, especially the first day, the intimidation subsided once I started seeing patients. I realized that I was providing care just as I would anywhere else, but within a particular set of restrictions. Although it was undoubtedly disillusioning to witness the suffering of so many, I found hope in those who were recovering.
OBSTACLES
One of the biggest obstacles to containing the epidemic was convincing nationals that Ebola was a real disease. “What do you guys think Ebola is?” I asked one of the security guards at the compound. “Well poisoning,” he told me matter-of-factly.

Uprooting deeply entrenched mistrust was a colossal task. Many believed Ebola was a government hoax to usurp money from the West, while to others it was a weapon engineered by the West to wipe out Liberians. The campaign’s greatest achievement was not in spreading awareness of Ebola transmission or treatment, but simply making known the fact of its existence.

The tagline “Ebola Is Real” spread all over the country. Even mobile phones announced the grave greeting “Remember, Ebola is real!” through a voiceover on opening. As the education campaign gained momentum, people began understanding the weight of the situation and making important changes in response. For instance, touch is important in Liberian culture. People like to hug and make physical contact while speaking. But elbow bumps slowly replaced handshakes, big gatherings came to a halt, parties were banned, curfews were enforced, and schools were closed.

However, making Ebola a believed reality was only the first barrier to overcome. The stigma associated with the disease was so profound that patients hid in their homes in dread of the shame of being sent to a treatment unit. Once officials were notified of a potential case, healthcare workers came to the house, quarantined the entire area, and burned everything inside. It was a terribly invasive procedure to which all passersby and neighbors were witness. And once at the ETU, nothing that went into the unit came out. People lost everything, even their cell phones. After release, many suffered isolation because everyone feared infection.

Homes shrouded not only the living infected with Ebola, but the dead already taken by it. Family members concealed the bodies of their loved ones in their homes to prevent them from being burned. They truly believed that the dead would suffer in pain. A core tenet of Liberian culture, this belief was a major cause of transmission of the disease, because dead bodies carry the highest number of viruses. A “safe burial” procedure was developed toward the end of the epidemic that involved burying bodies deep in the ground in faraway places to prevent them from being washed up in the rains.

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PATIENT STORIES
PATIENT STORIES: A YOUNG WIDOW

Her eyes were miles away, sewn to a distant point beyond the horizon as if she had already left this world. She was lying in a bed in the hot zone when I first saw her oval face. Though difficult to imagine what she looked like with hair, without it, her features were emboldened. The exact shape of her skull was visible, the delicate valleys of her temples swaying into her cheekbones and rounding into a perfectly poised chin. The weight of many years, heavy in her demeanor, contradicted the innocence of her age. The duties of a young teenage wife, the toil of hands in the dirt, the sweat of illness, and the numbness of death had curtailed her girlhood.

She was silent during her short time at the Ebola Treatment Unit. Only the occasional quiet, pained moan escaped her sealed lips. Questions were answered by a slight motion of her head. It was unknown whether physical pain or grief had lured her catatonic possession. It did not take long for the disease to take her body hostage, evacuate her insides and invade the vacuous space. There was little we could do for her.

Ebola had also claimed her young husband’s life. With cause of death unknown at the time, he had been transported from Monrovia back to his village for burial. Adhering to tradition, he had been placed on a platform of sticks and covered with a blanket of waxen banana leaves. Family members had gingerly washed his body and collected the water in a bucket placed underneath an opening in the leaves. His young widow had shaved her head, slept loyally by his side for three days and three nights, and washed her face with the bucket water so he could pass to the next world. In turn, he would help ensure her safe passage when the time came.

But this ritual meant to aid in her passage to the next world also prompted it. Her eyes were open for the entirety of her short time at the treatment unit, staring silently into the beyond. She died before her hair began sprouting again, her scalp still bare.

PATIENT STORIES: JOSEPHINE

I first saw her during our hot training, a three-month-old baby in her mother’s arms in the suspect building. This is where suspect patients waited until they were either confirmed and sent to the “confirmed building” or unconfirmed and released. Her thirty-year-old mother was clearly ill as she breastfed Josephine, whose wide smile and chubby cheeks indicated that she was healthy. Because of the suspect building’s close quarters, healthy patients were at risk of acquiring Ebola from those who were ill.

She shouldn’t be mingling in there, I thought.

Josephine’s mother tested positive, but Josephine herself negative. Although they were separated later that day, Ebola’s seventy-two-hour incubation period created justified concern. Separated from her mother, Josephine needed tending to. Although a few survivors who came in at night would look after her, there was nobody to care for her during the day. I felt an overwhelming compulsion to hold her and give her some sense of comfort in this strange building housing terribly sick patients, her mother now among them. What a strange world for a baby to be born into. I would hold her for hours at a time, overheated and suffocating in my PPE, hoping that some sense of human comfort would reach her through the barricade of the monstrous suit.

I was expecting her next test to come back positive, but when it too yielded a negative result, I did everything in my power to protect her. I made sure she stayed in the front while suspect patients were redirected through a different door. I kept her away from everybody and everything. Though my informal designation as her guardian provided comic relief, there was nothing humorous about it.

Fortunately, this story has a happy ending. Josephine was sent to Save the Children, an international nonprofit organization that works to protect children from harm, and her mother recovered. Because babies rarely survive the virus, Josephine’s happy ending was remarkable. I cherish the photo I have of us together. Each time I look at it, I remember the remarkable strength of this baby and her mother, and the vulnerable thread from which each of our lives precariously hovers.
CARING FOR PATIENTS AS A NON-MEDICAL DOCTOR
I struggled with the protocol and philosophy of caring for ourselves first, our friends, colleagues, and other healthcare workers next, and patients last. This hierarchy undermines the physician’s vow to prioritize the patient. Immense energy was invested in attaining certainty that our own well-being was not at stake. The speculative threat of acquiring the disease thereby prohibited patient care. Critical care was compromised for our own safety, and care for our full-body uniforms that severed touch and human connection.

Practically speaking, the ETUs were confinement rather than treatment centers, designed to prevent spread of the virus by isolating Ebola patients and placing multiple layers of protection between us and them. Without access to stethoscopes or lab work, we were limited to taking constrained histories. All treatment was merely palliative.

The affected countries established strong crisis teams and mobilized thousands of health workers, grave diggers, and student outreach groups to fight Ebola. They worked in dangerous conditions, often without pay or family support. Unlike many international workers, they were not given the option of medical evacuation to Western nations. In the likelihood of illness, I could have sought treatment in the United States — a luxury not allotted to them.

I use the term “luxury” because Ebola patients in the West received unlimited drugs and resources. One patient in Germany was assigned eighty-eight healthcare workers, twenty-six doctors each with four-hour shifts, fifty-seven nurses each with three-hour shifts, and five support workers. He was in the unit for four days followed by the Intensive Care Unit for sixteen. Recovery took twenty-four days and cost over one million euros, but he survived. In our ETU, we could not even draw blood for testing. We had to treat empirically.
CARING FOR PATIENTS AS A NON-MEDICAL DOCTOR

Accustomed to giving immediate care as a critical care trauma surgeon, it was unspeakably painful not only to set aside my identity as a physician but also to feel in complete violation of the responsibilities that come with it. I felt like a bystander watching passively as patients suffered. Within these confines, I did everything in my power within the restrictions we had.

Given the circumstances, I had to discover new skills. I quickly became a human resources person, which was a role I had never filled previously. I learned to deal with different types of people and to be firm. As a Liberian, I was able to communicate with nationals and help interpret between Liberian and American English speakers. My presence helped form a sense of camaraderie in our group. I enjoyed conducting the interviews involved in the hiring of over one-hundred fifty nationals to work at the ETU. I also took over the food duties. I went to Liberia as a doctor, and returned as a human resources specialist, translator, and chef.

I was committed to helping in any way that I could. The heart of medicine is being at the service of those in need. Even though I was unable to provide in the ways in which I wanted, I was happy to make any contribution, however small — be it sweeping floors, preparing meals, or encouraging patients who had a chance at recovery.

I went to Liberia as a doctor, and returned as a human resources specialist, translator, and chef.

Margaret Tandoh, M.D.
CONFINEMENT
We were given the choice between Belgium, Morocco, and Turkey for where we could stay without confinement. The organization would cover my expenses in these countries, but not in the United States. Fortunately, my insurance company would.

I decided to come home because in the case of illness, I wanted firstly to be in a medically-equipped facility close to my family and secondly in a facility in which scientists could study my body for research, which would have been possible at institutions such as the National Institute of Health or Emory University that had both the interest and the resources.

I was unsure what the procedure was when I arrived in John F. Kennedy Airport because it was constantly in flux. There were three immigration officers waiting immediately outside the door of the plane with a list of passengers coming from West Africa. They asked everybody to show their passports, and cohorted those of us on the list under the guise of expediting the process. They hoarded all of us into one room, interrogated us, and had us fill out lots of forms. It was embarrassing. When I tried to paraphrase the statements of a passenger with poor English to an immigration officer who was barraging him, I was reprimanded. “Sir! This is not going to help him or me.”

The officers were so unwelcoming. It was a dejecting way to return home. One week prior the “Ebola Fighters” had been recognized by Time as the heroes of the year, and yet on home soil an immigration officer was yelling at me for trying to help.

We were then sent to another room where we were met by two members of the Center for Disease Control who were fortunately both friendly and welcoming. One of them was a young man who shook my hand and even gave me a hug. I was given a cell phone and told that I did not need self-sequestration or quarantine because the last time I was in full PPE in the ETU was twenty-three days before my arrival to the United States. I could go home if I kept my cell phone on and reported my health status and temperature to the public health authorities twice daily for twenty-one days.

Going through customs was much simpler than I had anticipated. “Do you have money?” asked the Customs Officer.

“No, but I have a credit card.” I replied.

“Welcome to Brussels,” he said, his expression flat with neutrality.

Even the owner of the Airbnb did not care in the least. Her complete indifference made me feel silly for warning her that I had been in Liberia. The contrast between Europe’s reaction and that of the United States was stunning.

Thus, my “quarantine” was a tour of Europe. With our Medical Director as my travel companion, I went to Paris, Amsterdam, and Brugge. We were in Paris the day before the bombing. We were lucky that we didn’t come a day earlier, otherwise we would have been stuck in Paris. The downside was that the Louvre was closed. My favorite was Brugge, where Godiva was the Walmart of chocolate.
RETURNING HOME
Transitioning back to work was, for lack of a better term, ordinary. The process was entirely familiar to me, as navigating a resource-rich country after being in a resource-limited one is integral to my job. I am always traveling back and forth. Though many colleagues were relieved to be back in the U.S. and no longer at risk of acquiring Ebola, those were not my sentiments. If anything, I had wanted to stay in Liberia.

I felt that everyone deemed me a hero and treated me with unnecessary admiration. There were excessive interviews and other superfluous commotions. Many truly believed that I had taken extraordinary action. They were incredulous that my family had been so supportive, that I had truly wanted to go, and that I felt no pride for doing so.

Poverty in Liberia is bleak, more so than many other places in which I have worked. My main preoccupations were with what should be done next to prevent another possibly more destructive epidemic in the future; how to help resource-rich countries establish strong infrastructure in epidemiology and public health; what was needed to recognize infectious diseases in early phases in order to confine them. I brainstormed feverishly and reached out to whoever I could to put such a plan in place. After months of trying without avail, I gave up.

The United Nations offered me a position that would have extended the length of my work in West Africa, giving me the opportunity to work for a mission very close to my heart. I would have taken it under different circumstances, but I had a job, a family, and other obligations. It was not the time for me to accept such an offer.

I saw so many amazing souls in the ETUs who sung and danced and took care of patients all at the same time. It was we “Ebola Fighters” who became paralyzed. It amazed me when I landed in the United States and realized this was actually me, coming from the epicenter of Ebola to a place where Ebola doesn’t exist. That was reality. Life continued.
WHAT WAS BROUGHT HOME
This trip was my best university. Working with the Ministry of Health of Liberia, the International Organization of Migration, the Center for Disease Control, and the Department of Defense was a remarkable learning experience, as was my involvement with the multidisciplinary training of nationals and internationals for future outbreaks. Community outreach taught me how to better communicate health issues to laypersons. I also learned about my deficiencies in public health and anthropology, two areas that are tremendously important to healthcare delivery. I learned valuable skills needed to confine a virus as deadly as Ebola.

Moreover, I learned that the confinement of Ebola in Liberia was successful because the community, disappointed by international assistance, joined forces and committed to confining the virus themselves. Many put their lives at risk, and many even died. It was their incredible resilience that put an end to the epidemic. Small teams spread all around the country educating communities about hygiene and health precautions such as washing hands and maintaining physical boundaries. These were crucial educational points, especially given how integral touch is to Liberian culture. Many began elbowing each other instead of shaking hands.

We did not play a noteworthy role in confinement. By the time we finally opened our ETUs, the epidemic had been largely confined. It was Liberians themselves who got the job done.
LOOKING FORWARD
The major questions for the future are: how can the response in Liberia be sustained? How can a strong public health infrastructure in Liberia be established to prevent future outbreaks? How can ETUs, now dismantled and abandoned, be converted into community health centers or training units? And more importantly, what happens to orphaned children? How can we work toward family reunification?

Currently the problem is vaccination trials. Paralyzing bureaucracy prevented them from being conducted in Sierra Leone and Guinea when the infection rate was high, and scarcity of patients prevents them from being conducted now. Mother Nature has already claimed the fate of Ebola victims in Guinea. Human intervention is no longer possible.

Perhaps Liberia’s story can be similar to that of Rwanda’s. After the genocide, a new Rwanda rose with a transparent government, solid infrastructure, and good healthcare system. Hopefully Western countries will remain involved with West Africa to help facilitate these developments.

Each American-built ETU had two-hundred employees, only twenty-five of whom were expatriates, and roughly twelve from the U.S. The remaining were all Liberian. When the epidemic was gone, the entire system was dismantled and the treatment units evacuated overnight. Nobody knows where those trained healthcare workers are now. This lack of cohesiveness is a tragic loss because these individuals have vital skills and knowledge in hygiene, infection prevention, and community health that are deeply needed throughout the country, especially now that international funds have been withdrawn. Furthermore, they could be the eyes and ears of future epidemics. But instead of being joined together as a force of change in the health sphere, they have returned to their homes either without work or with work of a completely different nature.

These workers are like trained soldiers without any organizational center or vision. A system of connecting these nationals and the expatriates who served in confinement must be developed in preparation of another epidemic.

We act during the storm, but abandon our posts when the storm is over, rather than transforming our insights into wisdom. Valuable experience dissipates.

Everyone goes home. Everyone forgets.
Currently, the public health infrastructure in Liberia is unable to immediately detect new cases. I believe the government should invest in training those who worked with Ebola as community health workers. A nursing or medical degree is not necessary to help the community. Instead, community health workers need to be trained in their own communities and with the resources that are available to them. Despite the ongoing presence of Partners in Health and other nongovernmental organizations, grassroots training is vital because expatriates and other international players are only going to stay involved for so long.

The corruption embedded in the Liberian government only exacerbates the situation. Some officials wanted us to pay them for the opportunity to provide care. Sadly, the leaders do not care about the people. They are only concerned with their own benefit. The attitude is, if I do this for you, what will you do for me? Everyone is out for their own good, even those who are supposed to be at the service of the public. Nobody is advocating for the public. Eighty-five percent of Liberians do not know where their next meal is going to come from.

Misconception about the outbreak persists. Some still believe that the West intentionally placed Ebola in Liberia to wipe out the population, or that the Liberian government created it as a scam to get money from the West. People came and stole things even as our ETU was being built because they were all temporary shelters. Some Liberians are almost disappointed that Ebola has been confined because they were making a great living working in the treatment units.

It is important to remember that not all Ebola survivors recovered unscathed. Many struggle with medical problems such as vision loss and arthritic joint pain. Others feel entitled to care from the government. While some nongovernmental organizations are helping survivors rebuild their lives, the need for community health workers in the field continues. Organizations like Last Mile Health and Partners in Health, entrenched in rural Liberia, are working to strengthen communities to help themselves instead of relying on help to come to them from elsewhere. But it takes time to build those relationships.

I hope the country has learned something, and that we can push for services to strengthen our healthcare system and prevent something like this in the future. While I unequivocally hope this was the last Ebola outbreak in West Africa, it could happen again. We did not learn the first time around.

Although people are more educated about the virus now, our memory spans are remarkably short. Between vaccinations and quarantines, everybody might forget about the outbreak as quickly as victims were wiped out. We may all retrace our steps back to square one, as unprepared as ever.

Margaret Tandoh, M.D.
On March 26, 2016 the World Health Organization declared the Ebola outbreak in West Africa “no longer an emergency.” By that time, 3,145 people had died from the disease in Liberia. All told, there were 17,145 reported Ebola cases throughout the West African nations of Liberia, Sierra Leone, Guinea, Senegal, and Mali, with a total of 6,070 reported deaths.

Ebola remains a serious threat. It re-emerged in the Democratic Republic of Congo (DRC) in May of 2017, with four reported deaths, and again in the summer of 2018.

Work to develop an Ebola vaccine continues around the world. Developed by the Canadian National Microbiology Laboratory and the foremost vaccine proven to be effective, VSV-ZEBOV was first administered in the DRC in 2018.
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