SEQUENCES ON LIGHT AND DARK

My Experiences in Liberia with Ebola

Majid Sadigh, MD
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Introduction

Since Ebola Virus was first described in 1976, it has emerged and re-emerged in many African countries, most recently this year in the Democratic Republic of the Congo (DRC) in Bikoro. In 2014, the virus was responsible for two separate epidemics on the continent of Africa, one in the DRC and one in West Africa, involving Liberia, Guinea and Sierra Leone. This latter outbreak was the largest in history, with the first cases arising in heavily forested rural regions of Guinea in March 2014. The virus spread quickly to neighboring Liberia and Sierra Leone largely due to lack of infrastructure and limited surveillance mechanisms. Despite the efforts of local and international governmental and non-governmental organizations, over 28,000 cases were reported with over 11,000 deaths before the outbreak came to an end in June 2016 (source: CDC).

During the autumn of 2014, our home was full of the usual activity we have come to expect from Thanksgiving holiday. Close and extended family, good friends from near and afar, milled about the kitchen exchanging stories. The only difference that year was that my father was over 2000 miles away in Liberia, joining one of the first aid groups to set up Ebola Treatment Units and to provide medical care to patients infected with the virus. Because all items carried into the Hot Zone were burned in the incinerator, no record of clinical observations or personal reflections was possible real-time. Instead, over the course of several weeks, he shared his experiences via other platforms—telephone, email, photographs pixelated on his smartphone. Sometimes he left a voicemail, his voice choppy from a weakened WiFi connection, at times dispirited and soft, other times heightened, even exhilarated. This compilation of words and images aims to connect statistics with human faces, to strip away the layers of sensationalization to reveal the real texture and tenor of the epidemic in West Africa. This is my father’s telling of the story as he saw it, feet on the ground, shoulder to shoulder with the men and women who would not be afraid.

Katrin S Sadigh, MD
A girl waters flowers
November 11, 2014

A Girl Waters Flowers

In between the rain showers, I sometimes see a young girl walk out of her home across from my hotel to water a large plant growing out of a felled tree. She scoops the water gently out of a bowl into her hands, dropping the water onto the plant’s leaves with an indulgence as though she has all the time in the world. Even though this region lies at the outskirts of Monrovia, Liberia, a spot now known on the map for the Ebola epidemic, there is little to suggest the catastrophe claimed by American media. Of course the schools have closed, but that has permitted steady streams of boisterous children out of doors, the cheery sounds of play mingling with the quick rhythm of their drums as they amble up and down the otherwise largely deserted streets. There are large drums of water outside every building and inconspicuous signs issued by the public health department informing the community of dos and don’ts. Thus Ebola has become something known to these communities, rather than something to fear. So life continues in spite of close losses and quieter streets—people have moved forward with their tasks and relationships in spite of no longer being at liberty to touch one another.

My own day is full of these small observations of the world around me. Ten days have passed since I first arrived as one of the health care workers to staff the first American Ebola Treatment Unit (ETU) in Buchanan, Liberia. I work alongside members of the United States Armed Forces whose commitment to the lives of the Liberian people has instilled newfound respect for these young, brave Americans. Daily reports from the local media of the decrease in seroprevalence of Ebola in blood samples collected from nearby communities demonstrate how this epidemic is slowly becoming less sinister, more manageable, not just for those of us who work here but those who live here, those whose minds turn to the welfare of plants and whose bodies sway to the tune of a West African drumbeat.
The view from my window in Monrovia
Cold Training at the Monrovia National Police Academy
A practice run through the ETU

Spraying down with chlorine after doffing
November 13, 2014

The Landscape of Medicine

While clinical medicine, global health ventures, even life in Africa, are not new experiences for us, we find ourselves in an entirely new clinical landscape. With the backing of decades’ worth of medical knowledge founded by the efforts of scientists and health care workers internationally on the subject of Ebola, we are all still in training, trying to grasp the totality of our roles. For one, we are not only physicians and health care workers charged with the task of providing care to the sick, but we are public health officers who must preserve the health of the community. Protection of the community exists on multiple levels, be it the community at large or as smaller units. For example, a mother and her child in the treatment centers one who is infected and the other who is not, set limits on a tradition of healing that has always involved the human touch, now done infrequently, and through layers of fabricated plastics and vinyls. There have been too many emotionally charged clinical scenarios to name one alone.

Recent literature highlights the link between new cases of Ebola among health care workers to breaks in the protocol, an oversight in a single step of hygiene. We work in a chain, forming the rows of a beehive that ultimately make up a honeycombing pattern of connectivity. My survival is contingent upon my colleague beside me, on his/her attention to detail and maintenance of protocol every minute we prepare to both enter and exit a treatment unit. We all rely on one another in a way that extends beyond the clinical relationships that exist in the inpatient setting in the United States. While back at home, I invest in open communication with nursing staff and trust that the overnight resident will call in the event of uncertainty, my life does not rely on them, nor is it threatened by chance oversight. Thus it is with love and a fierce devotion that we make our ties and work alongside one another, meticulous, like a mother towards her child.

As I face a patient, flailing with the delirium and confusion of sickness, I cannot help but think what would happen if my protective layers accidentally puncture, if I am then contaminated beyond the ability of sanitizing myself—not because of what it would mean to me, but for all those others.
While this experience treads new ground, it also resonates of centuries’ old narratives as dark as ever took place in the history of medicine. As infected people are ostracized from their communities, placed in isolation, in the corners of buildings, out of the light, their faces don the suffering of the deformed leper, the hooded figure of the plague. The dreaded hiccup and bleeding eyes and gums that signal certain end in these Ebola patients have come to rival the black eschars, the inflamed contorting lymph nodes, the truncated limbs of bubonic plague and leprosy in their power to evoke dark, even mystical powers of evil. Suffocated by these misplaced associations, patients are cast away as if unclean and full of sin, to suffer in the seclusion of their punishment, banished by God as by humanity, only hoping for a semblance of compassion.

It is with compassion that many of us came to this land, along with a sense of purpose to use the science and the literature to guide our treatment of patients and to halt this disease. Yet no matter how rigorous our training or how much we cling to the data, fear, health and personal issues have escaped, overcoming some individuals in our group. With heavy hearts, they have packed their bags and returned to the sanctity of their homes, though they are likely still as stuck as those of us who remain, in the immediacy of what is transpiring.

Even as some leave the effort, others are joining. On Tuesday, November 11, five of us—two doctors, two hygienists, and a nurse supervisor—leave for Cuttington University in Bong County for training in an ETU, so that we can return and train others, to ultimately open and run an ETU in Buchannan, the third largest city in Liberia. We are filled with anticipation, to push forward with the pull of momentum.
En route from Monrovia to Bong County at an Ebola checkpoint

Ebola checkpoint on the way to Buchanan
My room in Cuttington University, complete with mosquito net and fan.

Cuttington University in Bong County.
Cuttington University in Bong County
A wooden tablet in an Ebola graveyard reads “Esther.” She was only 24 years old when Ebola claimed her life along with her husband and child. Three remaining children, all younger than ten, were forgiven by Ebola but expelled from their home by neighbors.

We had three more human losses overnight and two more since early morning. The more stable patients or those in the recovery phase sit outside, under the shade of tents, or lie silently in their beds.

A young woman in scrubs washes a three-year-old girl in front of the compound. Her gloved hands move assuredly, dipping the sponge first into the bucket of water and then to the girl’s bare skin. The girl had been sick for a long time and finally recovered, though she is all that remains of her family. The woman herself is a mere sixteen, delivered to the Ebola Treatment Unit with her mother and older sister a few weeks earlier. Somehow she has also survived where her family has not. Without a word, she has taken her place in the hot zone, tending to the weak and young. You can tell who the recent survivors are from the motionlessness of their faces, as though still cast away in the throes of sickness. In the background, smoke rises from incinerators filled daily with material from the hot zone.

An older woman and man sit in white plastic chairs around a small white table, convalescing.

Another constant presence here is Cecelia, who cleans the laundry. She lives in the nearby leprosy colony with her parents, both disabled by their disease.
An Ebola survivor bathes a young patient while another man recovers outside within the confines of the ETU.
The Bong ETU with the leprosy center nearby
Ebola Treatment Unit

Bong County

Two beds line the first room of the unit with confirmed cases. The first bed holds the blanketed dead body of a young woman, waiting to be carried away to the morgue. In the second bed rests a patient, motionless except for gasping breaths, in a state of coma, completely unaware of the nearby body and the fate awaiting him.

In the next room, a young woman with abounding energy, sits at the bedside of a child, and begins singing, swinging her arms in dance when she hears that her blood test for Ebola is finally negative and that she can return home. She has obtained the highly coveted role of unit survivor.

In another room, a young uninfected mother breastfeeds her infected toddler without gloves or other form of protection. Patients in the ETU cannot abide by all the detailed infectious control protocols mandated in the hot zone—when have they ever had exposure to this language of sanitation and isolation? Liberia is a country of people who touch and speak with hands, celebrate their relationships with others. How then can a child be banished from her mother, even under the threat of touch tinged with Ebola?

The young man whom I observed briefly in the triage area the previous afternoon is tucked tidily on a floor mattress in the corner of the room, his deep, fleeting breaths pushing his nostrils wide in a drama so distinct from his otherwise unresponsive mind.

Yesterday, a three-year-old girl was sitting outside, a smile faintly turning up the corners of her mouth. Her hair, braided in tiny knots, spoke of care and attention. A silver heart lay at the center of her black t-shirt.

Today she is not sitting outside. Instead she lies by her mother on a mattress on the floor. Her mother is in the act of dying, folding into herself like a baby, her back turned to her child, lost to her.

The girl sits so quietly. Her face is flushed with fever, the corners of her mouth and the tip of her nose a fiery red in the backdrop of her black shirt and the small, silver heart solitary at the center.

I want to cry loudly into my full PPE.

The mother dies first, and the daughter follows that same day.
A Woman Arrives from Her Village

The tops of trees form a canopy so deep only various shades of green are seen. In a clearing, where fewer mammoth trees rise to the sky, dozens of people collect around rusty motorbikes and cast away plastic bags. Until recently, this square had been filled with meticulously stacked towers of tomatoes and onions tended by women dressed in bright reds and oranges. Small buses and bikes had parked alongside, men broadcasting ticket prices and destinations. The smell of diesel mingled with that of fish fresh from the nearby river. It had never been a town of much wealth. The colorful metal roofs common to West Africa, a land of great rains, are absent here, replaced by mostly thatched roofs, with some homes open to the air. Poverty had also not borne richness of culture, though at least there was life here before the virus struck this community of 800 villagers. Ebola moved with an ease and lust as an animal at home in the dense forest. It had left the people bereft in its arbitrary custom of striking dead or allowing life. First came the open fear of what was doing the killing. And then, unheeded, came superstition, placing blame on objects while people continued to die. Today, under the heavy pour of rain, the villagers stand motionless and wordless, their eyes shifting with terror to the others, but still preferring company to isolation. In the thick mud that entrenches all surfaces, a girl walks unsteadily away from the village. It is late in the epidemic, and she has seen much of the fever, the bleeding, in scores of others—first her mother, then brother, then the neighbors. And now it is her turn to fall prey. She walks with her head cast down against the thrust of rain to find the pickup truck turned ambulance that will take her even further away to an Ebola Treatment Unit.

She walks for two hours along a footpath made by goats before finding the designated spot by the river. She waits there for hours. The ambulance finally arrives, but on the wrong side of the river. It is unable to gain access to her.
She finds a dugout boat, and pays a small fee to be rowed with other passengers, with their babies and market goods, across the river. On the other side, a team comprised of a driver, a nurse and another person who acts strictly as a chlorine sprayer, meet her. Without a single touch, they give her bottled water, morsels of food, and guide her to the back of the pickup truck. Plastic sheets serve as a makeshift rear door, secured tightly with brown string. She pauses before entering the back of the truck. She has the choice not to go—but in truth, what else can she do? She has been uprooted, in shock at the speed of change. Three weeks earlier, she had a place to call home. Now, her home, along with many people in her community, are lost. The ETU is the only place that will accept her. She enters the vehicle, and a plastic sheet comes down behind her. For five or six hours, her body rattles with each deep pit of the road, physically tormented in the confined, barely vented space of the ambulance, under the heat of the equatorial sun.

Hours later, gloved hands appear, casting aside the plastic sheet and pulling her spent body out of the vehicle. Under the burn of disease and sun, her lips tremble and her body shakes in front of towering human forms, like a sacrifice. Fear wells in the distance separating them—fear of the sexless, faceless strangers in white uniform, fear of what awaits hour by hour. But it is fear of contaminating others that has hounded her since fever first lit up her skin. She has tried to keep the virus to herself. But she knows she spreads it at will, to all who turned to her for comfort and shared despair, all who were too weak to ask to be bathed or fed. She was the cause of each child to fall, each brother and cousin to be consumed in a mad rush of days, one by one into quickly dug up graves. She left them all behind, but she still sees them as she peers at the goggled faces at the entrance of the ETU.

The strangers’ fear of the girl and the virus growing within her translates into layers of plastic, latex, and rubber. Despite these layers, kindness finds its way in soft pats on her shoulder, muffled sounds of encouragement, but remains largely unnoticed as both she and the aid workers stumble on the line between their humanity and the disease.
Medical Rounds in ETU

Seven or more health care workers (HCWs), including two workers whose sole responsibility is spraying 0.5% chlorine to maintain body “fluid” control, enter the hot zone together, operating as a single unit and often exiting as a group. Each team has a delegated leader who allocates clinical responsibilities. The leader also monitors the health and well-being of each member during rounds, and while working within the ETU, often decides when a rapid exit and doffing is necessary. Failure to appropriately assess or anticipate the status of staff can have potentially severe consequence, such as a fall in an Ebola contaminated environment.

Recently, one member of our team experienced dizziness after spending less than an hour in Personal Protective Equipment (PPE). On cue, we exited the ETU as a unit, and quickly directed her to doff, which is structured removal of PPE. Often personnel are the worst judges of their own vulnerability, and need an expedited ETU exit before an emergency exit is required. Body temperature with PPE easily reaches 100° F, and coupled with humidity of 100%, leads to heat exhaustion and subsequent poor judgment. HCWs working at night have to contend with insects flying around and within the PPE, as well as swarming behind their goggles.

As HCWs, we spend less than two hours in PPE, which equates to 100 minutes seeing patients and the last 20 minutes doffing. The tasks of physicians mirror that of other HCWs in the ETU. Collectively, we place urinary catheters or change linens of terminally sick patients. We draw blood and handle blood samples, urging patients to eat their “FuFu.” For all our training, the list of practical skills is modest: administration of fluids and medications, observation-based assessments in the absence of blood pressure cuffs, estimation of fluid input and output, respiratory status, state of dehydration, mental status. The larger task that we quietly perform is paying mind that our patients die with comfort and dignity from an otherwise devastating disease.
Contrary to expectation, the wards are not malodorous and full of human congestion. Instead both units for confirmed and suspected cases are clean and odorless with the exception of the penetrating smell of chlorine. Chlorine collects in small pools along the irregularities of the concrete floor.

The hot zone contains the patients with Ebola Virus Disease (EVD). It demands an unexpected emotional toll, far more than the physical or physiologic. We must brace ourselves for its unedited cuts from happy to heartbreaking without compromise to self-control or analytic observation. Occasionally, I fall, broken and paralyzed. I hurry to remind myself why I have come to Liberia, and this is what drives me back on my feet before I am trampled.

While keeping these limitations in mind, bedside rounds must be both fast and efficient. Goggles often become foggy, obscuring vision, and PPE allows for limited dexterity in actions such as placement of intravenous lines in Ebola patients. Such fumbling opposes the unalterable rule—that any needle puncture incident is one too many. The injection of Ebola infected blood is one of the most frightening infectious disease emergencies.

After performing duties in the ETU patient care area, systemic doffing must be undertaken. This procedure requires the removal of layers of protective outerwear and eye protection with all actions aimed at avoiding self-contamination. This requires strict adherence to the direction of a doffing manager in a deliberate, slow and steady manner. This step, if nothing else, is the one in which medical providers must be most proficient. No matter the heat, discomfort, or anxiety, speed is dangerous.

After doffing, the medical group has a joint debriefing session in a conference room located in the Low Risk Zone. Documentation of the patients’ clinical information is essential, but correct and complete information is difficult to collect. With only chlorine-soaked sheets of paper, and without access to medical records outside the hot zone, how can one recall those precious clinical details when it all becomes one vast, swarm of bodies, some wandering, some playing, others already lost, memories distorted within the hot and wet PPE.
EVERYDAY LIFE IN BUCHANAN
From my window, Buchanan
The enthusiastic greeting of boys in ***

Children on the streets of Buchanan
A girl sells fish in the center of Buchanan
December 9, 2014

Sequences on Light and Dark

In this place, every corner is saturated with difficult moments and every beam of light displays a scene difficult to witness.

I had expected patients in the ETU to moan and cry in pain. To my surprise, the congested wards are so quiet! In the Bong ETU, there is no morphine. And there is no bad smell either, as no bacterium or organism can live in such a high concentration of chlorine.

Yesterday in the ETU, I noticed for the first time the cry of a baby. I heard someone say that the baby needs formula, but then the cry disappeared into the zone of silence. Very few, if any, of the terminally acidotic patients are taking any sort of fluid or medication.

Many of the patients who are awake sit outside under the shade of tents or lie in their beds silently. One of the survivors, a young woman taking care of her sick but recovering child, upon seeing the medical team, starts singing and dancing around the bed of her child!

Since the beginning of this epidemic, we have dealt with more than 10,000 confirmed cases of Ebola with no sincere attempt to uncover the pathophysiology of this disease. No progress has been made in even the most basic of clinical questions. No alteration can be made in the natural history of this enigmatic disease without knowledge of its depth. An effective vaccine or treatment may ameliorate the fear of acquiring the disease, which stands as the major barrier to clinical observation and research. It is a sad fact that we are more equipped to use this virus as a weapon, a fatal biological agent, than to prevent and treat it.
A health care worker in ETU

Boot Yard; ETU

Road to the ETU
Both were young men, probably 20 or 22.

Both febrile to touch (no thermometer), tachycardic (maybe 120 or higher).

Both with good pulse pressure and fast capillary refill with no clinical evidence of heart failure.

We cannot measure blood pressure or pulse oximetry, and are without EKG capability.

Appear to be stated age, good skin turgor without tenting, no lesions, clean, in an adult diaper.

They have mild conjunctivitis (a common finding). No jaundice or pallor.

One with Cheyne Stokes and the other with Kussmaul respirations.

Both moving air freely, no audible breath sounds, or gross indication of congested lungs.

Significant abdominal breathing, without use of accessory muscles, with PMI visible, strong, rapid, and steady.

Their abdomens are soft without organomegaly.

Bladder of one is clearly distended to the umbilicus.

Comatose, unresponsive to verbal or tactile stimulation. Neither with spontaneous movement or tremor or asterixis.

No edema. No adenopathy. No sign of hemorrhage (eye, rectum, mouth, gingiva, or urine).

No manifestation of shock.
In one patient, I consider primary lactic acidosis, similar to what is seen in HIV or in mitochondria diseases, or similar to “base of brain” injury such as meningoencephalitis or hyponatremia. So many other etiologies come to mind for the second patient.

I am learning that many patients present and then die this way from EVD. Though it is clear that these men will not live long, I am assured that they are not in pain.

I wish we had access to more testing, documenting, observing to discover some of the secrets of this puzzling virus.

The patient with Kussmaul respiration died overnight. The other one with bladder distension and Cheyne stokes struggles even as Cheyne stokes gives way to Kussmaul. Without receiving any fluid, he made 1750 cc of urine in less than 8 hours.

We place a foley that shows urine of a color I have never seen before—dark, turbid, muddy without obvious blood. Based on some reports, at this stage of disease, urine contains billions of viruses in each cubic millimeter of urine, still much fewer than the trillions of virions in the same amount of blood. I am in full PPE with three layers of gloves, frequently washing my outer gloves with 0.5% chlorine solution.

The following day, the patient remains deeply comatose and febrile, not pale, not jaundiced with worsening conjunctivitis (in those who finally recover, conjunctivitis is the first to improve) and no hemorrhagic manifestations. There is nothing else new in the physical examination except sunken eyes and poor skin turgor. Despite obvious hypovolemia, he has a bounding pulse with impressive tachycardia.

I think about Diabetes Insipidus and urosepsis, though I have no clear explanation for the bizarre color of urine. Perhaps this is because the light inside the ETU is dim, my goggles are foggy and I am color-blind!

Patients presenting to the ETU can be grouped into three defined categories. The first includes those who are stable and improving or ready to be discharged, requiring less than a minute of time to assess, congratulate and encourage increased Oral Rehydration Solution (ORS) and nutrition. The second group includes those who are stable but symptomatic, requiring two to three full minutes to be advised to drink ORS and to eat, to inquire after and record signs, symptoms, and medications. The final group consists of unstable patients, those who are unresponsive, somnolent, drowsy, whose care is directed towards comfort and dignity.

And then there is the unexpected group—those who appear to be well into their recovery phase, without vomiting or diarrhea, physically active, engaging socially with others, on a regular diet, or simply waiting to be discharged, when a sudden death event or seizure rapidly kills them. The cause of this phenomenon is unknown, though a theory exists that an electrolyte imbalance, such as sodium or potassium (K+), leads to cardiac arrhythmias, as seen with potassium in Crush Syndrome. This unanswered question must be addressed in order to implement novel management strategies to prevent such deaths. Many “routine” laboratory resources and monitoring equipment are unavailable or impractical in rural Africa.
Day 7 through 10 is a critical time period in the human fight against the Ebola Virus, similar to the Ninth Night in Pneumococcal Pneumonia, as heavy drenching sweats signal recovery (recovery by crisis), versus progressive multiple organ failure and death.

The new patients from remote villages are younger, and have mild to moderate hemorrhagic manifestations. I have yet to see any patients thrashing around, or with severe pain or hiccups. ORS is the dominant rehydration solution method. We give every patient 20 milliequivalents (mEq) of K+ orally twice a day with anti-malarial and broad-spectrum antibiotics (ciprofloxacin and metronidazole or cefixime) on admission.

Patients who die from Ebola in the ETU do so peacefully, without pain and with at least a modicum of dignity, in a coma.

It is a lonely place. Patients enter with the clothes on their back, their lives left behind in a hurry. They cannot turn to comforting thoughts of those remaining behind without the deluge of horror in knowing that so many died—suddenly, graphically—because of them. In the occasional moments of lucidity, they view their sins splayed out like a skinned animal. They know they are contagious and sit apart in shame. Sorrow claws at their throats, forcing silence to descend on the large enclosed structures of the ETU as the fumes of chlorine rise.

A child sits at the edge of a cot, his back turned, bringing into view multiple, gaping abscesses. His mother, also infected, sits near him, her head held in his direction, her eyes spilling out in grief. His lips are close to breaking into a howl, but he looks to his mom and holds back. Like the other patients, he is too frightened to make a sound. The toxin of the Nairobi bug dissolves his skin and soft tissue, causing a secondary bacterial infection and an intense itch. Lancing the abscesses may save his life, but this is not protocol. A box near a specific antibiotic is checked off, and the medical team moves on. The boy will certainly die, and his mother will likely follow.

The sun streams onto the blue tarp of the walls and casts blue everywhere. The discordance in color delivers the physical structure to a dimension of unearthliness, a purgatory in which most are semi-comatose, others are on the cusp, deathly afraid, and those who survive are left to wander, unable to return to life.

A young man in his twenties, the sole patient to voice a complaint, unable to accept the unfairness. Catatonia in others, different in him. The patients are told to drink water but he wants cold water to drink. “Bring me cold water,” he repeats. But there is none to be had in the hot zone.
A woman lies on a simple bed, her head propped up on the wall on her folded arm. She watches a team of medical workers in PPE scan her along with the other contents of the room. A dead body lies on the mattress to her left. The living woman needs to be moved from the room before the dead body can be handled. The medical team enters the room, and leads the woman into a chair across from the entrance, where she can still see everything. First one person soaks the body with 0.5% chlorine. Another person places a white plastic bag with a large zipper, similar to a sleeping bag, on the floor next to the body. The bag is sprayed with chlorine. The body is then moved, along with the sheets and all its belongings, with one motion to the plastic bag on top of a makeshift stretcher. Nothing stays behind. Everything is sprayed again, and then the bag is zipped tight. The bag is sprayed again. Two people carry the body out to the morgue to be buried six feet deep. White plastic sheet over the metal. The exactness of the procedure leaves no room for consideration of the woman, still sitting in the chair, still watching. Back in full view, her body frozen in the chair, like a deer shot while grazing, a fury of words unleashed at the team in her native tongue, her eyes black with the images she should never have seen. The removed body had been a woman, her confidante over three days, in the last throes of death, an eyewitness. She wants to run into the forest to die. She wants to forget what she has just seen. Instead she waits to be examined by the doctor.

“It is our vocation to save life. 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
With the ETU team in Buchanan
Katrin S Sadigh, MD

Katrin S Sadigh, MD, obtained a BA from Wellesley College in English and Psychology prior to serving as a Peace Corps volunteer in a small village north of Mombasa, Kenya. During those twenty-seven months of service, she developed a strong interest in HIV care and education, global health and social equity. She returned to the United States to complete her post-baccalaureate pre-medical studies at the University of Vermont, where she also worked on clinical vaccine trials under the mentorship of Dr. Beth Kirkpatrick. She then completed medical education at Boston University School of Medicine, where she and colleagues created an elective in global health. She trained in Internal Medicine/HIV track at Yale New Haven Hospital, and traveled to rural South Africa to work in an HIV clinic as part of the Yale/Stanford Johnson & Johnson Global Health Scholars. Subsequently she completed her clinical fellowship in Infectious Disease at the Massachusetts General Hospital/Brigham & Women’s Hospital combined program, where she is now a research fellow. She will spend this next year as a Fogarty fellow at the Botswana Harvard Partnership in Gaborone under the mentorship of Scott Dryden-Peterson and Shahin Lockman investigating the dynamic interplay between cardiology and oncology in the setting of HIV.
Majid Sadigh, MD

Majid Sadigh, MD, earned his medical degree at Pahlavi University in Iran and emigrated with his family to the United States in 1984. He trained in Internal Medicine at St. Mary’s Hospital/Yale School of Medicine, and subsequently completed fellowship in Infectious Disease at the University of Chicago Pritzker School of Medicine. While on the faculty at Yale University School of Medicine, he launched global health education exchange programs in Russia and Uganda, which continue today. He joined the University of Vermont and Western Connecticut Health Network (WCHN) in 2012 as the Director of the Global Health Program. In 2016, he was honored as the inaugural Christopher J. Trefz Family Endowed Chair in Global Health at WCHN.

Dr. Majid Sadigh has established an international network of universities, hospitals, and clinics that support the education of medical and nursing students, residents, physicians, and other practicing health care professionals. Programs in the US are anchored at the University of Vermont and the WCHN system, and support the regular exchange of students, scholars and physicians with academic and healthcare institutions in Uganda, Zimbabwe, Russia, Vietnam and the Dominican Republic. In 2016, nearly 100 students, residents and faculty participated in global health programs established by Dr. Sadigh.

A tireless advocate for developing leaders in the field of global health, Dr. Majid Sadigh has created curricular materials, published extensively on infectious disease and global health, and served as a mentor to a generation of medical students, residents, physicians, and administrators around the world. He has been honored as a teacher and mentor, earning the Leonard Tow Humanism in Medicine award in 2007 while at Yale. From October 31, 2014, through December 13, 2015, as Chief Clinical Officer, Dr. Majid Sadigh worked alongside a larger team of locals and expatriates to respond to the Ebola crisis in Liberia. Their main objective was to plan, construct and operate the Buchanan ETU, one of the first three American-build ETUs in Liberia.
Inside back will be blank