

“My nurses are dead, and I don’t know if I am already infected.”

He was a globally renowned expert in tropical diseases, and the hero who ran Sierra Leone’s worst Ebola ward. So why, when he finally fell ill, was he denied the extraordinary treatments that could have saved him?

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Dr. Sheik Humarr Khan, the head of the Kenema Government Hospital’s Ebola ward, didn’t want his head nurse moved into the main isolation unit. Ward A consisted of eight small rooms lining a dingy corridor of exposed wiring, peeling paint, and grimy cement floors. It was narrow and stiflingly hot, crowded with as many as 30 patients. Nurses squeezed between the beds, injecting antibiotics, emptying buckets of diarrhea, and hosing down vomit with chlorine. Some of the sick were delirious; others catatonic, with a stony-eyed stare that usually signaled that death was imminent. All of them were hooked up to intravenous fluid bags; in a state of disorientation, some would rip the needles out of their arms, spraying their blood in all directions.

So Khan had bent the rules and moved the Ebola-stricken nurse to a private room in the observation wing, normally set aside for those awaiting their diagnostic test results. It was more comfortable and dignified — befitting the nurse’s status, Khan thought, as the most beloved figure at the hospital. Khan and Mbalu Fonnies had been each other’s family for much of the past decade. He called her “mom.” She thought of him as her son, and she took maternal pride in his accomplishments. A round-faced man who had been born poor in a village near Freetown, Khan had become a hero in Kenema, a backwater town of 130,000. As the head of the Lassa fever ward, he had treated more cases of hemorrhagic fever than anyone else in the world, helping thousands of patients recover their health. He attended conferences from New Orleans to Nigeria, published studies in major medical journals, and was soon headed to Harvard on sabbatical to work at the cutting edge of tropical disease research — mapping the virus genome. But now Khan was facing the greatest challenge of his life.

“We’re working hard to help you,” he said to Fonnies, his voice muffled behind a face mask. Like the attending nurses, Khan was clad in full protective gear — DuPont Tyvek hooded suit, two pairs of surgical gloves, Wellington boots, and an apron. “You have to hang in there.” An attending nurse complained that the IV fluids weren’t flowing into Fonnies’s veins fast enough, so Khan retrieved a higher pole from which to hang the bag. He showed his chief nurse a get-well card sent by the U.S. ambassador, who had visited the hospital weeks earlier. “We are with you,” it read. “Be strong.” Then Khan turned away, struggling for composure.

The first Ebola cases in Sierra Leone had been diagnosed in late May, nearly two months before Fonnies’s infection, in Koindu, one hundred miles north of Kenema. Since then the sick and the dying had been flowing into his hospital at an accelerating pace. The death toll had reached several hundred, though nobody knew the exact count; many were dying in isolated villages beyond the reach of health workers. Seventy people filled the wards at Kenema hospital, and more were arriving in ambulances or coming on foot every day. Khan felt let down by the Sierra Leone government, which had all but ignored the outbreak; the minister of health and other officials “were too frightened,” says one U.S. doctor, to travel to Kenema. Khan was sending out emails to friends around the world, begging for equipment. Most of the staff had

fled — Khan was the only local doctor left — and the handful who had remained behind had begun to die. Four nurses other than Fannie and one lab technician lay gravely ill in the Ebola wards.

Nobody understood why so many nurses were getting infected. In the early days of the outbreak, Khan had introduced a rigorous decontamination procedure. After treating patients, staffers were thoroughly sprayed with a 30-percent chlorine solution. They would meticulously remove their personal protective equipment, or PPE — face shields, boots, and outer gloves — wash their hands with a 10-percent chlorine solution, a less abrasive but still effective mixture, and, after pulling off their second pair of gloves, receive a final squirt of Ebola-killing disinfectant. Still, they were falling ill. Some suspected that the problem was not the PPE-removal and cleaning-up process, but the PPEs themselves. It was widely believed that Fannie and three other nurses had picked up the virus at the same time in mid-July, while helping another nurse, infected with Ebola, deliver her stillborn baby inside the isolation ward. The birth produced a massive amount of infected blood and other bodily fluids, and colleagues assumed that some viral particles had leaked through the PPEs.

Khan “was frustrated, distraught, and overwhelmed,” says one Centers for Disease Control scientist. He spent much of his time trying to hold the hospital together. The facility was unguarded, and some patients, believing they weren’t sick, wandered off, escaping into the streets to return home. Crowds had begun to gather outside the hospital gates, bewildered and angry by the deaths of so many people. None could believe that a disease could be killing their loved ones so fast; they assumed there had to be a plot behind it. One peaceful vigil for nurse Fannie nearly turned violent when a rumor spread that she had died. “Let’s storm the hospital,” somebody yelled, and hundreds surged forward. After the outburst, they directed their rage at Khan. “The doctor is killing people, and these nurses are taking people’s hearts,” they cried. Khan had no choice but to address the crowd himself. He walked out of the hospital and assured them the rumor was false. “I’m putting my own life on the line,” he told them. “My nurses are dead, and I don’t know if I’m already infected or not.”

Seeing Khan, exhausted and alone, the people quieted down and wandered back to their huts in the bush and jungle-covered hills.

In October, I flew on Brussels Airlines to Sierra Leone, a former British colony about the size of West Virginia, sandwiched between Liberia and Guinea on the tropical west coast of Africa. The Ebola outbreak was then in its sixth month, and it showed no signs of letting up. (By late December, the number of confirmed cases reached nearly seven thousand; more than two thousand people have died. Only neighboring Liberia has reported higher numbers.) The outbreak had swept across the country with terrifying force, leaving a trail of corpses and eerily empty villages. And yet Khan’s story — a story that explains so much about the bravery of the first responders and how health officials, through ignorance, fear, and willful neglect, mishandled the situation — had gone largely unreported.



The plane was packed with returning Sierra Leoneans, Western doctors and public health officials, and the atmosphere was hushed. I had covered more than a dozen wars, revolutions, and coups — including two trips to Sierra Leone in the midst of its devastating rebel war in the 1990s — but I had never faced anything so unsettling. On the ground, the fear was palpable. People had stopped shaking hands, and chlorinated water taps stood at the entrance to every building I entered. Outside Connaught Hospital, a crumbling facility in Central Freetown, I watched as a man stumbled out of a taxi, collapsed, and died in front of the entrance. Men in biohazard suits appeared moments later and sprayed down the vehicle; pedestrians hung back, horrified.

Khan knew the risks better than almost anyone else in the world. Born in Mahera, a village of muddy roads across an estuary from Freetown, to a schoolmaster, he and his nine brothers and sisters grew up under firm rules. The elder Khan was a “strict disciplinarian,” recalls Humarr’s older brother C. Ray, who used a switch on his children and insisted they be held back a year if they finished below the top five in their class. But the rules weren’t without purpose. The Khans often offered to board poor children who lived too far away to walk to the school every day. “His father was intent on making sure that all kids could attend school,” says one of Khan’s close friends. “The mother would make clothes for all those needy families who didn’t have any. Every week, they would invite some individual from the community to have dinner with them — someone very poor, or someone with medical problems.”

Khan, a bright boy with a mischievous streak, often tarried on the way to and from school to pluck mangoes from neighbors’ gardens. By the time he was 10, he had started spending much of his time on weekends and after school down the street, wandering the grounds of Bai Bureh Memorial Hospital, a 50-bed private clinic founded by a wealthy German-French transplant and her husband, a Sierra Leonean obstetrician-gynecologist. The clinic drew expectant mothers and other patients from around the country — Siaka Stevens, Sierra Leone’s president, came here to be treated for malaria. Some camped out overnight in the Khan family living room while awaiting treatment. “Squazu [Khan’s nickname] wanted to know, ‘Who is this person who is so important that people stay overnight to see him?’” remembered Khan’s nephew “Alaska” Kargbo. Khan befriended the physicians’ three children. As his friends played football, he was making toy stethoscopes out of string and a sink stopper, and examining his brothers and sisters. “The surgeon became his role model,” says Alaska. “He started asking the man’s kids, when he was 13, 14, ‘How do I become a doctor?’ They told him, ‘You have to study science.’”

At St. Francis secondary school — one of the best in the country for science — Khan led the debating team, read the news at assemblies, and tutored his schoolmates after hours in math, chemistry, and biology. He had so little money that his fellow students took turns buying him lunch at the “kukeri” shops that sold cheap meals of rice, cassava, and potatoes. His obsession with medicine was evident. One day he came across the report of a Western physician who had contracted Lassa fever and died. He told classmates: “I want to be that guy. I want to cure Lassa fever.”

Khan graduated at the top of his class in 1993, and went on to medical school outside Freetown, where he started to date an attractive young nursing student named Assie. He had known Assie since junior high, but as the two grew closer, he fathered two children with two different women. “He was young, and he went out to sow his oats,” says his brother C. Ray.

In 1991, a rebel movement called the Revolutionary United Front coalesced in the eastern corner of the country, near Liberia, vowing to bring down an authoritarian and corrupt government. The insurgents, many of them children, killed and hacked off the limbs of thousands of civilians. Like many, Khan fled to neighboring Guinea. In 1997, he made a perilous boat journey down the coast after leading student demonstrations against the military coup and eluding a warrant for his arrest. He remained in exile for months. After returning, he was again driven out when rebels marched into Freetown, killing and mutilating hundreds. In 1999, Khan and his whole family fled to Conakry, Guinea’s capital, where his siblings — many of whom had already relocated to the United States — tried to persuade Khan to do the same. Khan was unmoved. “Everyone is saying Sierra Leone is lost,” he told his family. “But I’m going back to Freetown.” He caught a flight back days after British troops drove the rebels out of the capital and

encouraged his nephew, who dreamed of moving to the U.S., to join him. “He told me, ‘America, America, America. You’re going to wash dishes, do odd jobs. You are wasting your time, Alaska. Come home.’” Alaska did as his uncle asked.

90%

**OF EBOLA PATIENTS SHOULD
THEORETICALLY SURVIVE IF
DIAGNOSED PROMPTLY AND
TREATED AGGRESSIVELY.***

90%

**OF AMERICANS WHO
CONTRACTED EBOLA
SURVIVED.**

50%

**OF AFRICANS WHO
CONTRACTED EBOLA
SURVIVED.**

*Source: Dr. Paul Farmer of Harvard

In the ruins of the capital, amid a traumatized population and a shattered infrastructure, Khan went to work. He practiced at a local government hospital and also became a visiting doctor in Kenema, a town 190 miles to the east. Since the 1970s, Kenema had maintained Sierra Leone’s only treatment center for Lassa fever,

one of the biggest killers in eastern Sierra Leone. Like Ebola, Lassa is transmitted by animals — rodents, in this case—and attacks almost every tissue in the human body, beginning with the sinus membrane, intestine, lungs, and urinary system, before devastating the vascular system. The end result is remarkably similar to Ebola: Internal bleeding and high fever kill up to 70 percent of Lassa patients who become sick enough to seek medical attention.

In 2004, the director of Kenema's Lassa fever program, Dr. Aniru Conteh, died after pricking himself with a needle while drawing blood from an infected patient. Khan saw an opportunity: He applied for the post and was quickly hired.

"I'm on my way to Kenema," he told his nephew. "I'm leaving tomorrow."

His family begged him not to take the job.

"But the last doctor died," Alaska replied. "Don't you know how dangerous it is?"

Khan was undaunted. "They need me there," he said.

The 190-mile stretch of highway between Freetown and Kenema has become one of the main transmission routes of the current Ebola outbreak. During the last week of October, when I made the journey in a four-wheel-drive vehicle with a driver and a translator, we were stopped en route at 20 "Ebola checkpoints," rudimentary roadblocks manned by police, soldiers, and government health workers. At each one, my translator and I were ordered out of the car for a temperature check and a hand washing at a chlorinated water tap. (For reasons that nobody understood, the driver was exempted from the ritual.)

Kenema, a decrepit tropical backwater, has been battered by the twin African scourges of war and disease. Smoke rose over jungle-covered hills in the distance, once a sanctuary for rebels. Just inside the front gate of Kenema Government Hospital, dozens of people sat listlessly on plastic chairs beneath a tarpaulin, possibly infected with Ebola, awaiting admission to a larger observation tent in the "red zone." I observed from about 50 feet away as a man collapsed beside the guard booth and lay face down in the gravel, his chest heaving. A small boy, probably his grandson, squatted beside him. "Can you hear me?" a Red Cross official asked, to no response.

When Khan arrived in Kenema in 2005, driving a beat up sedan, the hospital was in a far different state. Tulane University had recently set up a state-of-the-art lab to test for Lassa fever, which meant that samples no longer had to be sent overseas. Researchers could diagnose the illness on the spot and get patients started on the right treatment. (A major scientific study had found that treating Lassa Fever victims with the antiviral drug Ribavirin during the first week of symptoms pushed the cure rate to 95 percent.) Khan worked closely with the lab, which grew viral proteins from a single strand of RNA and cultured human antibodies. He also tended to patients and opened a private practice. "He liked to joke, and he was always advising you to further your education," says nurse Issa French. Khan often lingered with patients, asking about their families, their jobs, their aspirations; his enthusiasm struck his colleagues. "He always wanted to talk about his latest cases," said Robert Garry of Tulane University, who worked closely with Khan. "Poisonous snake bites, vitamin deficiencies, seeing stuff that he had learned about in medical school [in clinical situations] fascinated him."

Kenema was still recovering from the rebel war, but Khan enjoyed the clean air and the slow pace. He found his way to The Capitol, a Lebanese-owned hotel and restaurant, which had hummus and tabbouleh on the menu, a murky swimming pool in the asphalt courtyard, and a flat-screen TV that played European

football matches. After work he liked to sit in a wicker chair on the second-floor veranda, order a Malta, and cheer on AC Milan, his favorite team. Peter Kaima, a bartender at The Capitol who would later become Khan's assistant, first met the doctor during the televised UEFA Champions League final in May 2005, shortly after his arrival in town. "When AC Milan scored a goal, he ran outside, took off his shirt, and was waving it and shouting in the street," Kaima recalls. "I asked people, 'Who is this man?'" And somebody said, "That man is a doctor."

A year after his arrival, Khan married Assie in a Freetown mosque, according to Muslim tradition (while Khan wasn't particularly religious, he did pray in mosque most Fridays). Khan's brothers and sisters used the occasion to pressure Humarr to make a fresh start. "I told him he should move to the U.S.A.," says his brother Sahid, who had settled in Philadelphia in 1992. "I wanted him to make more money. All he had to do was pass the U.S. medical boards." Assie wanted much the same: to begin a new life with her husband in England. Instead, the couple settled into a long-distance relationship. Assie visited Kenema once a year, staying for a month; Khan would stop in England on his way to occasional lectures and conferences in the U.S.

The distance wore on the young couple. Peter Kaima remembered fierce arguments between them at Khan's bungalow in Kenema. "He would always say, 'I need to stay here and work with my people,'" Kaima recalls. Assie sent Humarr letters expressing her frustrations and, finally, asked him for a divorce. "She wrote, 'It seems that you are married to your job. I cannot compete with it,'" says his older brother Alhajie.

Without Assie, Khan devoted himself further to his work. His efforts were recognized in 2013 when Kenema was included in a newly established, international consortium of medical schools and labs focusing on hemorrhagic fevers. The group won two multimillion-dollar grants from the National Institutes of Health, money that would allow Khan and his team to focus on sequencing the genetic code of a broad range of infectious tropical diseases, including Ebola — an essential step in the development of diagnostics and vaccines. In early May 2014, Khan met with Garry of Tulane University, Dr. Pardis Sabeti of Harvard University, and other members of the consortium outside Lagos to inaugurate a \$10 million initiative. Khan was buoyant. The U.S. Navy had recently approved funding for a new Lassa fever ward at Kenema Government Hospital to replace the sweltering concrete shed with a new, 48-bed ward — doubling capacity. In the evenings, Sabeti, Garry, Khan, and other members of the consortium would gather in a hotel suite near the university, discussing their plans to train a new generation of African researchers and doctors. "He was always the last one to fall asleep," says Sabeti. "He wanted to talk all night about the things we could do together."

Amid the good cheer, however, came disturbing news. In March, Guinea had notified the World Health Organization that it had confirmed a number of cases of Ebola — the first time the virus had ever appeared in that part of the continent. Then, just as quickly, the disease appeared to recede. "We dodged a bullet," Garry thought. Still, he told Khan he should be prepared when he returned to Kenema. "It could be a month, a year, or two years," Garry said. "But Ebola is going to come."

Unbeknownst to the doctors, deep in the rolling hills and diamond mines of eastern Sierra Leone, in a district called Kailahun, a traditional village healer had begun claiming that she had the power to cure the mysterious disease. Dozens of the desperately sick traveled from Guinea through the bush to visit the medicine woman's home, where she reportedly treated them by applying herbal remedies, draping snakes over their bodies, and uttering incantations.

Within weeks, the healer herself became infected and died.

On May 23, a pregnant woman who had attended the healer's funeral arrived to Kenema hospital, suffering from a severe hemorrhagic fever. Nurses initially assumed that she had Lassa. But the head of the Kenema

laboratory performed the diagnostic test and it turned up negative. Khan understood the implications immediately. “Okay,” he said, “then she has got Ebola.” On May 24, the lab director tested the sample of a desperately ill woman from Kailahun, along with the pregnant woman’s blood, and that of another woman who knew the healer. All three proved positive for Ebola. On May 25, the World Health Organization was notified that Ebola had spread to Sierra Leone.

Khan advised the hospital nurses and doctors to brace themselves: About 80 people had attended the herbalist’s funeral — a ritualistic practice that involved washing and dressing the corpse and crowding around to lay their hands on and kiss the body. At least 14 funeral-goers were now sick. “He said to me and [fellow nurse] Alex Moigboi, ‘You should tighten your belts, we are expecting two ambulances from Kailahun,’” recalls nurse John Tamba. Two days later, Garry of Tulane University came to Kenema, bearing nine trunks filled with gloves, gowns, and every possible brand of PPE that he could find. Nine hundred “changes” in all. But in the first weeks, the disease was little understood by the staff. Many nurses disregarded safety protocols and worked the ward wearing surgical gowns and old shoes that they had brought from home. People removed their vomit- and diarrhea- covered equipment without hosing it off, then washed their hands with a perfunctory splash of chlorine. “A lot of people at the hospital got sick right away,” says nurse Issa French. “We learned that it was a different disease than anything we’d ever seen before.”

838

**HEALTH WORKERS HAVE
DIED IN THE CURRENT
OUTBREAK.**

8,235

**PEOPLE ALTOGETHER HAVE
DIED IN THE CURRENT
OUTBREAK.**

Khan traveled to the epicenter of the outbreak in Kailahun to try to convey to village people the dangers of the disease. He took blood samples, held workshops for local health care workers, and helped to evacuate the sick. Villagers, he found, were in denial, blaming the illness on the dead herbalist’s snakes. They resisted going to the hospital. Local officials, fearing the spread of panic and unrest, weren’t helping. On one occasion, a local chief spitefully seized Khan’s government-issued four-wheel-drive Toyota and held it overnight, warning him to stay out of Kailahun. In Koindu, the home of the healer, the population put up roadblocks and threw stones, breaking the windshield of the four-wheel-drive vehicle. “There were rumors

that we were coming to give them the disease. They said we would take people away and never come back,” says Garry, who traveled to Koindu chiefdom in late May. “The attitude was, ‘Leave us alone.’”

Even those close to Khan had a hard time understanding the infectious power of the virus. During one trip north, Khan was about to step into his Toyota Land Cruiser when he noticed a sick woman lying sprawled in the back.

“Who is this?” he asked his driver.

“This is my sister, Dr. Khan.”

“Who put her in the car?”

“I did,” his driver replied.

“You? My God. Just stay outside the car.”

Days later, the driver died of Ebola. Khan never used the Land Cruiser again.

By early July, more than a month after Khan first recognized the virus, the outbreak had moved from Kailahun to Kenema district. Across the region, the disease was spreading uncontrolled, carried by truckers and farmers and motorcyclists on a network of roads that ran from bush to town to city. The World Health Organization responded to the crisis by delegating authority to its regional offices, which in turn deferred to the governments of West Africa. But officials in Freetown were in denial about the severity of the outbreak. They didn’t declare a state of emergency until August. And even then, they faced an acute shortage of hospital beds, ambulances, burial teams, and investigators. Ambulance drivers often crammed sick people and uninfected relatives into same vehicle. When hospitals were full the sick were placed on home quarantines, and when food wasn’t provided the sick would go to markets and spread the contagion. “We had no strategy, no laboratories, no observation centers. We were completely unprepared,” said Victor Willoughby, a veteran Sierra Leone internist with whom Khan did his residency in the early 2000s. The wards at Kenema were overflowing.

“The situation was chaotic,” recalls Will Pooley, a British nurse from King’s College Hospital in London who arrived to work on the Ebola wards in early July. When he first met Khan, the doctor was huddled with a visiting CDC scientist in his office, a small, cluttered trailer beside the isolation wards, trying to work out how many members of the nursing staff had died — between 10 and 15, at that point. Khan shook Pooley’s hand warmly, trying to make him feel welcome. Khan, Pooley says, was “the general,” poised, in command, and working hard to hold things together.

Each morning from that point on, Pooley donned his protective suit and crossed a barrier of orange plastic mesh into the red zone. He started his rounds in the “Annex,” a large white canvas tent filled with those awaiting their diagnostic results; some were already near death by the time they arrived at the hospital. Pooley frequently found corpses sprawled in the toilets, lying in pools of contaminated blood from the IV lines that they had ripped out of their arms during the night. One morning he walked into the ward and saw a naked male adult lying dead on the floor, and a “sweet-looking” naked toddler sitting in his blood. Somehow, the toddler survived.

Confirmed Ebola cases were remanded to Ward A, the former Lassa fever unit. One CDC official recalls following Khan inside, stepping over corpses in body bags lying on the walkway before the entrance. Within five minutes of entering the ward, he says, the oppressive heat and humidity in the windowless unit caused his plastic visor to steam up. He groped his way forward, banging into cots, too frightened to adjust

the eyewear and risk exposing his skin to viral particles. Khan, he noticed with alarm, lifted his goggles from his face several times to defog them.

Just outside the entrance of Ward A stood a small shed where corpses were stacked like cordwood; the bodies often spilled over and lay scattered on the walkway. One day, trying to identify patients who had died overnight, Pooley unzipped a body bag and came face to face with a corpse wearing a protective suit—“masks, goggles, the full gear,” he says. “I was wearing my suit, this guy was looking back at me, and it was as if I was looking into a mirror.” (Ambulance attendants sometimes put infected Ebola patients into PPEs before transporting them to the hospital in a misguided attempt to protect themselves; the patients often died of heat stroke.)

After a few days working in the red zone, sometimes alongside Khan, Pooley calculated his chance of catching Ebola at 50 percent. If he got it, he figured that he stood a one-in-two chance of surviving. “I was thinking, ‘How can I exit this situation without being a complete disgrace?’” he remembers. “Weeks went by, and then it wasn’t possible to leave... I didn’t want to look like a coward.”

By July, Ebola was raging across three West African countries — Guinea, Sierra Leone, and Liberia, infecting more than eight hundred people and killing more than half of them. From Kenema, the virus made its way toward Freetown. On June 20, Doctors Without Borders declared the outbreak “totally out of control,” and one week later the organization opened an Ebola treatment center at the epicenter in Kailahun — the first international medical organization to open a facility there. On July 17, the number of cases in Sierra Leone reached 442, surpassing the total in Liberia and Guinea. More than half of those had died. Every week, as many as 70 suspected Ebola patients were pouring into Kenema Government Hospital. Khan was working 14-hour days, too preoccupied now to unwind in the evenings at The Capitol, where crowds gathered to watch the World Cup in Brazil.

“I don’t have any time for the World Cup anymore, Alaska,” he told his nephew. “I’m either in the ward or the lab.”

“Why can’t you just leave Kenema?”

Khan laughed ruefully. “At a time when the whole country is looking to me, is it the time to run away here?” Khan replied. “Do you know what you were telling me to do? Abandon my profession.” He optimistically told his nephew that he had just discharged 45 people that day.

“I want to come to Kenema, to see you,” Alaska told him.

“No. You have to stay away from here.”

“I’m really worried about you.”

“Don’t worry about me,” Khan said. “I am well protected.” To reassure him, he sent a photograph taken in the Ebola ward showing Khan and two colleagues covered head to foot in their PPEs. Scrawled on the apron of the man standing to Khan’s left was the name “Alex Moigboi.” The nurse, Khan’s closest friend at the hospital, would die a few days later of Ebola.

Khan was known to be meticulous about safeguards: He had even installed a mirror in his office in a small trailer beside the red zone, to check for tiny holes in his protective suit before entering the isolation ward. By now the staff had become well acquainted with their enemy. He and his colleagues knew that one tiny slip-up, one tear in the PPE, could have lethal consequences.

But Khan was overwhelmed with work, fatigued, and stressed. “He was animated, he was go-go-go, but he was also distraught. He was worried about the survival of the whole program,” recalls a CDC scientist who spent several days with Khan and his staff in mid-July.

Nurse John Tamba believes he can pinpoint the precise moment when Khan dropped his guard. It was about 5 p.m. at the end of a long mid-July day. Khan and Alex Moigboi left Ward A and walked together, in their protective suits, to the decontamination area. Staff members sprayed each man down with a 30-percent chlorine spray. Their PPEs were bagged and removed for disposal.

As they stood together in their civvies in the low-risk zone, Moigboi confided to the doctor that he was not feeling well. Khan immediately began an examination. He reached for Moigboi’s eyes, looking at his pupils. “He touched his skin,” recalls Tamba. Perhaps, Tamba speculates, it was a momentary lapse of attention; or maybe he was in denial, unable to accept the possibility that his favorite nurse had contracted the disease. Whatever the case, Khan assured Moigboi that he was suffering from malaria, and advised him to have his blood tested. “We will prove that it’s nothing to worry about,” Khan said.

The following day, Moigboi’s blood results came back positive for Ebola, and he was taken by ambulance to Kenema Government Hospital. Khan was devastated; he was also concerned for himself. “He remembered that he had touched Alex’s bare skin,” says nurse Issa French. It’s not clear that the contact with Moigboi was responsible for what happened next — Khan had possibly exposed himself to Ebola infection several times inside Ward A when he removed his goggles — but at least three Ebola unit nurses witnessed the moment, and they all cited it when trying to explain the events that followed.

On July 19, Alex Moigboi died in Ward B, delirious and incoherent in his final hours. That evening, Khan returned home despondent—and more tired than usual. He had the chills, and he was running a slight fever. He told his assistant, Peter Kaima, that he was worried. “Doc,” said Kaima, “you’re under a lot of stress. Your staff is dead. Maybe you’re traumatized. Don’t think about something that is not inside you. Try to calm yourself down.” The next morning the fever had abated, and Khan returned to the hospital for a day on the ward. That evening he addressed an audience at the Kenema community center. Sunday brought a setback: He awoke with a fever, too sick to work.

“Don’t come closer by me, don’t touch me,” he warned Kaima that evening.

Khan went to the hospital on Monday for a blood test. The result came back a few hours later: negative. That day, Mbalu Fonnies, his beloved head nurse, died. “He called me in a dull voice, and he said, ‘Alaska, Nurse Fonnies is dead. She was like my mom,’” recalls Khan’s nephew. The next day, with Khan still ill, the laboratory ran the diagnostic test again. At 2 that afternoon the district medical officer and other officials arrived at Khan’s home.

“You should go outside,” they told Kaima.

Hovering in the doorway, Kaima watched a slumped-over Khan receive the news: The Ebola test had come back positive.

Medical officials were immediately concerned about how Kenema’s patients and staff would receive the results. “If people know you are sick,” the chief medical officer told Khan, “everyone will panic, they will leave Kenema.” The officer made it clear that the best choice would be for Khan to go to the Doctors Without Borders center 75 miles to the north in Kailahun. Khan acquiesced.

After a five-hour ambulance ride, in heavy rains and over a rutted dirt and mud track, Khan was received by physicians in protective gear. “I can walk inside myself,” he told them. They led him across a barrier of orange plastic mesh and into the isolation zone: six white tents, each one containing eight “cholera cots,” military-style beds with holes cut out for defecation. The doctors immediately placed Khan on a standard regimen of oral treatments — paracetamol for pain relief, antibiotics for diarrhea, and rehydration salts. Doctors Without Borders seldom use intravenous fluids with Ebola, believing that the risks of death from bleeding are greater than the potential benefits.

Almost as soon as Khan entered isolation, a debate began about how to save him — one that would be steeped in agonized second-guessing and lingering controversy. On July 22, Sierra Leone’s government sent an email to medical experts around the world seeking information about a drug or a vaccine that might help. The appeal prompted a round of conference calls involving the World Health Organization, the U.S. Centers for Disease Control and Prevention, the Public Health Agency of Canada, the U.S. Army, and Doctors Without Borders. The discussion focused on ZMapp — an experimental vaccine manufactured from mouse-human antibodies grown in tobacco plants. The vaccine, which had cured 100 percent of 18 rhesus monkeys that had been given Ebola in a lab, had never been tested on a human. But three vials of it were being stored in a battery-powered freezer in the isolation ward just steps from Khan. They had been left there in June by a researcher at the Public Health agency of Canada’s research facility in Winnipeg as a way to test the vaccine’s durability in tropical environments.

The drugs were a gift. “Everyone was on board for giving it to him, and I got off the phone thinking, ‘He’s got it,’” says one medical officer who participated in a conference call. There was some trepidation about giving Khan a drug that had never been tested on humans, but almost everybody, it seemed, believed that the potential benefits outweighed the risks. “Everybody agreed that it made sense that a very informed and important person, who had treated more patients with hemorrhagic fever than anyone else in the world, should be given the experimental drug,” says the medical officer. But the final decision was left to Khan’s primary caretakers: Doctors Without Borders and the World Health Organization.

“At the end they got cold feet,” says the medical officer. “The thinking was, ‘He’s such a high profile individual. If we do it and we screw up we’ll be in big trouble.’ I think they should have gone forward. Khan would have wanted it. The family would have wanted it. But they panicked. It was a very hard decision that nobody wants to make, and you have to respect them for it, whether it is your choice or not your choice.”

On July 25, the international groups finally informed Khan that they had decided against treating him with ZMapp. (Khan was made aware of the debate but was never asked for his opinion.)

Yet there was another potential way to save Khan’s life. While the ZMapp debate intensified, Sierra Leone’s government contacted an air ambulance service to arrange for an evacuation to a better-equipped hospital in Western Europe or the United States. A jet reportedly owned by International SOS, founded by two French doctors in the 1980s, landed at Lungi Airport outside Freetown. Equipped with a single-person isolation unit, the jet sat on the runway while the minister of health, Miatta Kargbo, frantically contacted counterparts in Germany, Switzerland, and the United States, trying to arrange Khan’s transfer. (International SOS would not comment on whether its plane was involved in the attempted rescue operation.) According to C. Ray Khan, who was in daily communication with Kargbo, Western governments all rejected the minister’s pleas — none were apparently prepared to deal with the backlash from allowing an Ebola-infected patient into the country — but finally one country, possibly Germany, agreed to take him in.

No one had ever before attempted to air evacuate an Ebola patient. Doctors pondered whether they could treat Khan, who was vomiting and had diarrhea, in a small space without becoming infected themselves, and whether Khan could withstand the stress of being shuttled by ambulance to Lungi Airport and then put on a plane.

Conditions had to be perfect. Several times a day, the Doctors Without Borders physicians measured Khan's white blood cell count, relaying the numbers to Kargbo. The count dropped sharply and then rose but, according to the version of events that Khan's brother received in daily conversations with the minister of health, always remained too low to move him.

Khan's symptoms fluctuated accordingly. For the first three days in Kailahun, he was conversant and able to move with relative ease. He would spend much of the morning and afternoon — when the heat and humidity built up to uncomfortable levels inside the isolation tent — in a small cordoned-off outdoor area, sitting and chatting with visitors across the orange-mesh barrier. “I was there every day, bringing him coconut water, a new charger for his cell phone, corn porridge for breakfast,” Kaima says. “Then Dr. Khan didn't come outside for two days. He was not eating anymore.” A World Health Organization physician working with Doctors Without Borders told Kaima on the fifth day that Khan's condition had suddenly gone critical. The doctor helped Khan outdoors that afternoon. Khan looked frail, with a hollow-eyed stare, but he could still sit up.

“Doc, I know you are a fighter, you have to win this,” Kaima said.

“Peter,” Khan replied, weakly. “You don't know what I'm going through. This is not easy for me.”

On July 28, Mohamed Sankoh-Yela, a nurse from the Kenema Government Hospital who had tested positive for Ebola the previous day, arrived for treatment in Kailahun. “Dr. Khan was not very strong, and he had frequent diarrhea,” Sankoh-Yela remembers. Still, he was able to sit up in bed and make small talk. He did not seem, the Ebola-stricken nurse recalls, as if he were anywhere near the point of death. At Tulane University, Garry had been receiving regular updates from colleagues in Kailahun. “We heard that he was feeling okay, he was doing fine,” Garry says. “We thought he had entered a critical period where if he makes it through the next few days he'd be out of danger.”

On July 29, the health minister called C. Ray Khan with good news: His brother's white blood cell count had risen overnight, and he was nearing the level considered safe for air evacuation. But while his body was fighting the virus, he was now unable to stand without help, and he had near-constant bloody diarrhea. “He asked me to help him change his Pampers,” recalls Sankoh-Yela, “then he asked me to take him out for fresh air.” Sankoh-Yela, with the help of doctors, lay Khan down on pillows in the outdoor area in front of the tent. Around 2 p.m., Khan asked Sankoh-Yela to prop him up in a seated position. “Dr. Khan, I am tired, I am also sick, I think I must leave you now,” Sankoh-Yela told him.

“Yela, are you leaving me?” Khan asked.

“Yes, I am running away from you now, I need to rest,” he said and returned to the ward.

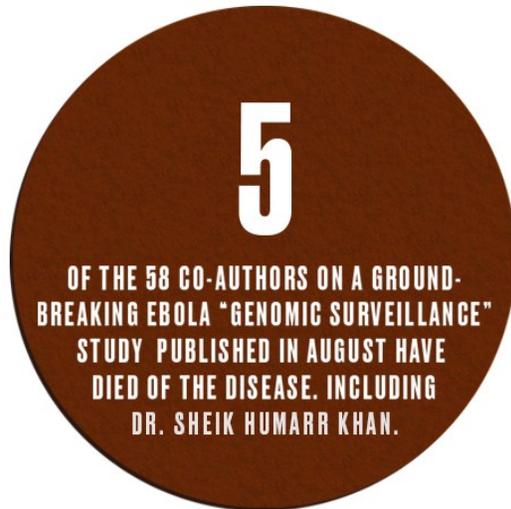
Minutes later, lying in his bed, Sankoh-Yela heard a shout from outside. It was another nurse from Kenema, holding vigil for Khan.

A few minutes later, C. Ray Khan received another call from the minister of health. “Your brother passed away,” she told him. “We have to let the plane go.”

Khan was a test case. Every high-profile instance of infection that came after him went completely differently. In late July, Dr. Kent Brantly, an American physician-missionary in Monrovia, Liberia, fell sick with Ebola and, as Khan lay dying, the National Institutes of Health arranged a shipment of the three vials of ZMapp from Kailahun to his treatment center. As rested in quarantine, nine days after showing the first symptoms, a single dose was injected into his bloodstream. Within an hour, Brantly's breathing improved and a rash that had covered his body faded. Hours later he boarded a Phoenix Air Gulfstream jet contracted by the U.S. State Department and fitted with an “aeromedical biological containment system,” a collapsible

plastic tent designed to house a single patient. From his isolation room at Emory University Hospital in Georgia, Brantly told the assembled media that “God leads to unexpected places.”

Brantly’s colleague in Liberia, Nancy Writebol, contracted Ebola around the same time. She received the last two vials of the drug from Kailahun, and, on August 6, she was able to board the same Phoenix air ambulance and return to the United States, where she quickly recovered. During the same frantic period, the Spanish government sent a specially equipped Airbus A310 medical jet to Liberia to evacuate an infected missionary, Father Miguel Pajares, to Madrid. Pajares was also given ZMapp but he died in a hospital a week after his evacuation, one of two Ebola patients treated with ZMapp who did not survive. (The other was a Liberian doctor.)



The fifth Ebola patient to be treated with ZMapp was Will Pooley, the British nurse at the Ebola ward in Kenema. The 50–50 odds of contracting the virus he had given himself did not work out in his favor. He believes he got the virus from an 18-month-old infant whose parents had died of the disease but who had initially tested negative; the nurse had begun changing its diapers, and the child developed Ebola symptoms while Pooley was caring for it.

“I thought I would go to Kailahun, and that scared me, because Khan had died there,” Pooley recounted one evening over a beer in a bar in Freetown. “But it also occurred to me that I wouldn’t have to go on the ward at Kenema.” Instead Pooley traveled in an ambulance with a police escort to Lungi Airport, where he was put on a Royal Air Force air ambulance to London, and was given one of the world’s last remaining doses of ZMapp. “I had a really high fever and the shits, and then I started to recover,” he says. When we met, Pooley had been back in Sierra Leone for a week; he was working in the “suspect ward” at Connaught Hospital in Freetown, treating sick patients who were waiting for the results of their Ebola tests. The difference this time was that Pooley had almost certainly developed an immunity to the virus because of his previous exposure. “The doctors aren’t 100 percent sure, but it’s probable,” he says. Pooley believes that ZMapp cured him, and probably could have cured Khan as well. Medical experts aren’t so sure. “If the question is, ‘Did ZMapp do this?’ The answer is that we just don’t know,” says Anthony Fauci, director of the National Institute of Allergy and Infectious Disease. “People who are in much less sophisticated medical care conditions in West Africa are recovering 50 percent of the time.”

In the aftermath of Khan’s death, many of those involved in the decision-making have been reluctant to talk about what they know. “Unfortunately I cannot comment on this matter at this time. Is that okay?” Miatta Kargbo repeated robotically at least 15 times when I pressed her on the phone after she had been fired from her post as Sierra Leone’s minister of health. Doctors Without Borders, invoking patient-doctor privilege, refused to answer any questions about Khan’s condition while in their care, or even to explain why a patient who is walking and talking can, as Khan did, rapidly deteriorate and die. (Studies have attributed

sudden death to shock and organ failure caused by fluid loss, and a sudden onset of arrhythmia.) According to Doctors Without Borders, the determining factor in denying Khan ZMapp was “clinical” — the belief that Khan’s condition had deteriorated to the point that ZMapp probably could not have helped him. But that doesn’t explain why Khan was up and about, talking coherently and eating well for his first few days in the treatment center.

Doctors Without Borders also denied that it played any role in the “management” of the plan to evacuate Khan, or the final decision to abort the flight. This contradicted what C. Ray Khan had been told by the minister of health. “Things aren’t adding up,” he said in a phone conversation from Mahera. “Somebody isn’t telling us the truth.” Khan’s brother Alhajie remains angry that an African was denied treatment with the experimental drug while two white Americans became the first to be given ZMapp, and distrusts Doctors Without Borders’s account of what happened. The decision, he says, “looks political.” One medical professional who was involved in the conference calls told me that Doctors Without Borders “was being very paternalistic,” entirely cutting Khan out of the decision-making process. “It’s not that they didn’t want to do what was best for Khan,” the medical professional says, but the organization allowed the perception to take root that “it was about color.”

Khan was buried in a hastily dug grave in a weedy field behind the Kenema Government Hospital, next to the new, unfinished Lassa fever research center. The minister of health attended the ceremony, but many other government officials were afraid to come, and Khan’s immediate family stayed away. “He died like a brave soldier defending his country,” I was told by Victor Willoughby, Khan’s mentor, who himself died of Ebola in December. During my visit to Kenema, a nurse from the Ebola unit took me behind the compound to show me the grave. It was a desolate place, a slab of marble-tiled concrete standing alone in a field of dirt and weeds. There were no markings on the tomb, which was already crumbling, and the only indication of who was buried there were three black flags drooping from wooden posts, left by different departments at the hospital. “The district health management team extend their condolence to the family and friends of Sheik Humarr Khan,” one read, “who suddenly left us when we needed him most.”

On my last afternoon in Sierra Leone, I took the ferry to meet Khan’s family in Mahera, where the doctor’s love of medicine had first taken hold. I was met by his brother C. Ray, and together we drove to a low-slung yellow house a few blocks from the sea. The family’s 98-year-old patriarch sat on the porch, draped in a brown traditional gown and Muslim skullcap, still as a statue, acknowledging my presence with a trembling lip. His wife, who is 86, sat beside him, clad in a richly patterned peacock-blue gown and maroon headscarf. She shook my hand and managed a soft “hello.” I tried to engage them in conversation but made little headway, except when C. Ray prodded his mother about the corporal punishment that she had sometimes meted out to young Humarr when he misbehaved.

“I whipped him six times with a small, thin cane on his butt,” she said.

“It was more like 12 times,” C. Ray interjected.

The old woman nodded. “He was a very nice boy,” she murmured. “A quiet boy.”

C. Ray brought out a folder filled with family photographs — a portrait of his grandfather in the British colonial police force in the early 1930s, Khan posing in front of his car a decade ago: with a grin so wide he seems to be laughing at a joke between him and the photographer. After a time, I excused myself to catch my flight home to Europe, and the elder Khan finally mumbled something. “My father wants to pray for you,” C. Ray said. Khan raised his hands and chanted a prayer in Arabic in a raspy whisper, which C. Ray translated: “Take this son of America home, safely. Guide him well.”

As we walked to my taxi, C. Ray gazed at me intently. “When the minister of health called me about my brother, and told me that he had passed away, I said to myself, ‘Oh, wait a minute, how am I going to tell my parents?’” He had decided to take them into their bedroom, where he asked them to sit down. “I have some bad news for you about your son,” he said. “Do you remember that you didn’t want him to go work in

the Lassa fever program because of what had happened to the other doctor? Okay, well, he got sick from Ebola, and he died.”

C. Ray braced himself for the worst. He had expected that his mother and father would collapse. He imagined having to call an ambulance and rushing with them to the hospital emergency room. Instead, they sat perfectly still, saying nothing. Then they raised their hands together toward the ceiling and began to pray.

“Thank you for what you’ve done for Humarr. For what you’ve done for us,” they said. “You are the only one who gives life and takes life, so who are we to cry?”

C. Ray was flabbergasted.

His father looked at him: “Nobody cries in this house,” he said. “We should all give thanks to God.”