

Retiring to Ebola

There are no emergencies in Ebola; the systematic provision of basic supportive care is the most important thing. The story of one doctor's retirement plan.

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Retirement has joyous advantages and frustrating drawbacks, like most major life-style changes. For me, I enjoy working at my own pace without holding to deadlines imposed by others, and I relish the chance to pursue only those things that I myself want to accomplish. Along the way, I take devilish delight in saying no to tasks that somebody else thinks are well suited to me. However, I have had difficulty feeling relevant.

I wonder if our society has retirement all wrong. Perhaps we should consider a system of graduated retirement. That is, the opportunity for retiring physicians to continue to contribute at three-quarter, half, or one-quarter time rather than 100% on the last work day and 0% on the very next day. I am pretty sure that for most of us retirees it is not about the money.

Dr Rekart immigrated to Vancouver from the United States in 1985 and served as the director of STI/HIV prevention and control at the BC Centre for Disease Control for 25 years. In his retirement, Dr Rekart teaches global health at the UBC School of Population and Public Health and works in the Tropical Medicine Clinic at VGH. Dr Rekart also started volunteering with Médecins sans Frontières in 2013, first as the HIV and outpatient doctor at a comprehensive clinic in Swaziland and, most recently, at an Ebola clinical in Sierra Leone.

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I would be more than happy to work for less if the tasks were relevant and rewarding and if I could receive my pension. Every physician who retires possesses well-honed skills and timeless experiences that could be put to good use locally or globally. I chose the latter.

When I arrived in Bo, Sierra Leone, on 8 December 2014 to begin my Ebola assignment with Médecins sans Frontières (MSF Holland), it was a sunny and humid 38°C. I joined a team composed of 34 international and 509 national staff working at the Bo Ebola Management Centre (EMC), a secure compound with 104 beds just outside of Bo town. There were 60 inpatients with confirmed Ebola virus disease (EVD) including 11 children, 1 infant, and 2 families consisting of a mother, father, and child.

The Bo EMC compound is an impressive and foreboding community on the road that travels east to Kailahun, near the outbreak epicentre. The spillover event that started the epidemic is believed to have occurred in a small Guinean village with a 2-year-old boy in the Gueckedou region that borders Foya in Liberia and Kailahun in Sierra Leone. His family house sat next to a large fig tree under which he played and which was home to hundreds of fruit bats. Fruit bats are thought to be the Ebola animal reservoir (i.e., where the virus resides in nature between epidemics).

A high fence with two guard sta-

tions encircled the complex. Within an inner fence, the EMC is divided into a low-risk and a high-risk zone. The low-risk zone comprises a nursing station, pharmacy, dressing room, laundry, bathroom, kitchen, and supply tents. The high-risk zone is separated by a third fence and contains the heavily contaminated areas: the triage area, the ambulance entrance, three 32-bed tents for confirmed EVD patients, an eight-bed tent for suspect EVD patients, and the morgue. There are three connections between the high-risk and low-risk zones: the discharge shower, the dressing (donning) room, and the undressing (doffing) room.

In the morgue, dead bodies are decontaminated with chlorine and zipped into white, plastic, nonporous body bags with the deceased's name and the Ebola outbreak case number written on the outside in permanent red magic marker. A local burial team digs the graves, transports and deposits the bodies, refills the graves, and marks the gravesites. This backbreaking, dangerous, and thankless work is performed under the hot sun, without complaint or payment by Sierra Leoneans who have lost family members to Ebola. One doesn't have to look far to find unsung heroes in this tragedy; the ambulance drivers are others.

The donning and doffing rooms are where the personal protective equipment (PPE) is put on and taken off. The donning procedure must be done in a specific order: surgi-

cal scrubs and rubber boots, inner rubber gloves, full-body nonporous containment suit, face mask, hood, rubber apron, outer surgical gloves, and finally the goggles. The goggles must cover the entire eye and nose area with no gaps between the outer goggle rim and the inner hood border. One always enters with a partner and stays in visual range of each other. The maximum time in PPE is 1 hour, twice per shift, but at midday 30 to 45 minutes is quite enough. A national staff directs the doffing routine that is basically donning in reverse plus hand washing with 0.05% chlorine and PPE spraying with 0.5% chlorine between each step.

My first entry/exit was the most emotionally stressful but strangely not as physically difficult as I expected. The primary stress was worrying about becoming dizzy or faint. I was able to see pretty well through the goggles because of the defogger spray, and dizziness and faintness were not problems.

The low-risk and high-risk zones are 2 metres apart, separated by a low plastic fence that allows for visual monitoring and verbal communication between the two zones. A person in PPE in high-risk can shout across the fence for clothes, oral rehydration mixture, or a medication that is then thrown to them across the fence.

What can be accomplished in EMC entries of less than 1 hour for extremely ill patients who cannot be properly examined or tested and who have a disease with no treatment and high mortality? From the public health point of view, the primary benefit of the EMC is isolation—removing Ebola-infected patients from the general population so they can no longer infect others. From a clinical point of view, most interventions are supportive, such as cleaning patients, helping them eat and take fluids, changing dressings, hanging new bags of IV fluids, helping with oral meds, and providing psychological support.

But Ebola patients also have medical needs that require physicians. These include clinical assessments; looking for coexisting medical conditions; prophylactic treatment for malaria and bacterial infections; prescribing drugs for fever, diarrhea, vomiting, pain, and anorexia; and managing palliative care. Deciding when to start an IV and successfully inserting an intravenous cannula for dehydrated and sometimes agitated patients while dressed in full PPE is a big deal. The Ebola viral load in blood can be extremely high.

Three weeks into my mission I was transferred to the MSF Switzerland Ebola Treatment Centre (ETC) in Freetown, Sierra Leone's capital, where MSF needed experienced staff. The setup, materials, and structures were similar to those in Bo, but the operation differed somewhat. Whereas Bo accepts mainly EVD-confirmed transfers, Freetown also receives highly suspect patients in ambulances from holding centres, quarantine houses, and the community. In fact, anyone can walk into the Freetown ETC if they are worried about Ebola. All patients go through a no-touch triage area.

A second difference is that the patient numbers in Freetown were rising and, because of this and other factors, the workload was greater. When I arrived on Boxing Day, the doctors were working every day for 12 hours, leaving the hotel at 6:15 a.m. and returning at 9 p.m. A third important variance between the approaches of MSF Holland and MSF Switzerland was that MSF Switzerland has a lower threshold for intravenous hydration, additional blood tests, and intramuscular injections. There is some difference of opinion as to how aggressive one should be with invasive procedures of unclear benefit that present extra risk to staff from an accidental needle-stick injury or blood splash.

The case fatality rates at Bo and Freetown EMC are around 40%. This



Dr Rekart dressed in the personal protective equipment necessary while treating Ebola patients.

is lower than in the community and in local hospitals but similar to other MSF EMCs. However, our mortality rate might have been artificially low because of survival bias; the sickest patients might die before they reached an EMC. The Ebola case fatality rate in Western hospitals is much lower than 40%. This is a clear demonstration for me that appropriate medical care in the hospital can save lives. That was one of the reasons I went—to save lives.

One of the hardest things for me was deciding what role to take. It would have been easier and more personally rewarding to just do it—deliver whatever care or intervention was needed and let the local staff watch and learn. That might have had a discernable effect on individual patients but not much of an impact on the general epidemic or in building capacity in Sierra Leone. I tried to provide support and guidance to national staff as they delivered the direct care.

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The deaths were difficult. Our Freetown ETC became a common referral destination for babies, small children, and pregnant women with Ebola. Infants and babies infrequently survived, small children had a higher mortality rate, and Ebola and pregnancy rarely coexisted for long. This increased our workload, stress level, and case fatality rate. Watching young children die was the thing I hated the most. Once they had passed away, the tragedy itself had happened and the grieving could start. But watching life gradually leave a lonely child is hell. They grab your arm and stare up at you with clenched teeth and pleading eyes. Their faces betray their terror.

I certainly learned a lot. Sierra Leoneans are friendly, caring, and remarkably cheerful. I was deeply impressed with the way adults in the EMC take care of the children and each other whether they were related or not. My MSF colleagues were compassionate, committed, and hard working. EVD is not complex. Patients fall into fairly well-defined groups according to the organ system targeted. The presenting signs and symptoms usually involve the gastrointestinal tract (vomiting, diarrhea, anorexia, abdominal pain), the central nervous system (confusion,

disorientation, combativeness, coma) or the musculoskeletal system (myalgia, profound weakness, joint pain).


When managing an individual Ebola patient, I found this adage to be true: there are no emergencies in Ebola. Quick and aggressive action can result in an increased risk to health care workers and seldom changes the ultimate outcome of the illness. The systematic provision of basic supportive care is the most important thing. Food, fluids, antipyretics, anti-emetics, pain relief, and psychosocial support are the keys. The Ebola blood test can be predictive: a higher viral load correlated with a higher mortality rate. Bleeding is a bad sign but occurs as a terminal manifestation rather than an aid to diagnosis.

At 2 a.m. on Saturday morning, 17 January, I entered the high-risk zone for the last time, intending to see all the children. Except for the damned mosquitoes, the ETC was remarkably quiet after only six admissions, three discharges, and one death earlier that day. That is when I saw Abigail. She was lying curled up and shivering in bed #14 in the intensive care tent. I had not admitted her so I don't know her full story. Abigail is not even her real name (I misunderstood the response of a national nurse when I asked her

first name). She was 12 years old but, like so many Sierra Leonean children, she appeared much younger. She was obviously malnourished and stunted even before she got Ebola. Her hair was in braids, her clothes were tattered, and she had several disturbing EVD symptoms and signs that I won't list. Suffice it to say, she was very sick. Despite her obvious pain and suffering, she said, "I'm fine," when I asked how she felt. But she appeared more dehydrated than usual and I decided she needed IV fluids. I wish I could say that I then deftly inserted an intravenous cannula but it was actually nurse Joseph who did that after I failed twice. Joseph and I stayed by her bedside as long as we could to ensure that she got a bolus of fluid and that her IV was secure.

I left the ETC hoping that she would hold on for a few days. I always felt the longer someone stayed alive the better their chances. But that evening, at my farewell dinner, I was informed that Abigail had died after I left and that her last words were uttered in English: "Help me."

Retiring to Ebola may not be to every doctor's liking, but there are certainly many retirement options that allow us to take advantage of our hard-won skills and experience. **BCMJ**



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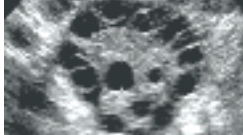
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