A Recurring Epidemic: Viewing Ebola and other Infectious diseases through the Lens of Developing Health Systems

by Treniese M. Polk

I remember the day vividly. It was 2009, and I'd been advised by the Peace Corps Medical officer to visit the Mozambican local hospital for my ear infection in lieu of flying to the capital city for treatment. I'd visited the main hospital in Central Mozambique countless times to help organize community health fairs, meet with hospital staff, and visit sick patients, but this was my very first time visiting the hospital as a patient and walking in the patient's shoes changes the way you view a health system.

Upon entry to my right there was a large basin of water with a sign above stating that, "Persons who entered the hospital were required to wash their hands before entering the facility." I was speechless; I knew that health education was still very much needed in Mozambique, and many thoughts raced through my mind: "It's stagnant water, and there's no soap." "This is a hospital, so ill patients are rinsing their hands in this basin, and the majority of transmissible diseases spread by bacterium and viruses both thrive in water." "…and to make matters worse it's cholera season!" By this time I'd already personally known two Mozambicans to die from cholera, an intestinal disease caused by ingesting water or food contaminated with a type of bacteria found in fecal matter, which produces uncontrollable diarrhea, vomiting, and cramping and can kill within hours if left untreated.[i]

As my thoughts of dread raced, the line behind me continued to grow, and the hospital guard blocked my access to treatment for my ear infection. I dipped my hands into the water and vowed that I would not touch my mouth or any other entry point while in the hospital and that I would scrub profusely with anti-bacterial soap upon my return home.

After I passed the guard, my true healthcare experience began. I joined a line, which curved around the walls and through the hallways, with every age represented from infant to elderly and patients with varying degrees of illness. There were about 300-400 of us that day awaiting treatment from the two physicians on site. I shouldn't have been surprised. I knew the patient-doctor ratio by memory; 1 doctor per roughly 33,000 people. Low patient-doctor ratios are typical in many developing countries, but Mozambique held one of the lowest. I knew the statistics, but in that moment I became the statistic, because I was one of those 33,000 patients standing in line seeking treatment.

I waited in line for what seemed like hours, debated leaving, and then something remarkable happened. One of the physicians on staff recognized me from an ex-pat gathering and pulled me out of line to be treated immediately. As he asked me about my ear infection, I inquired about the water basin at the hospital entrance, and he responded that even some of the hospital staff needed health education. As he attempted to treat my clogged ear with an

expired bottle of peroxide, I realized that healthcare might be free in Mozambique, but healthcare resources and supplies (even topical agents) were definitely scarce.

Finally, I understood why some Mozambicans distrusted a healthcare system that frequently turned away patients because there were no available physicians or health staff or medical supplies and feared hospitals because of high mortality rates. Others evaded seeking medical treatment through public hospitals and instead turned to alternative medicine, traditional healers who could treat them in ways which often exposed them to unsafe, unsanitary, or medically un-founded practices.

Much of what I experienced as a patient, while working with health actors in Mozambique in 2009, reawakened in light of the Ebola outbreak of 2014. The Ebola epidemic occurring on the West coast of Africa could easily take root and spread in Mozambique and other developing countries with similar health systems.

Surfacing in Guinea in spring 2014, the Ebola virus has spread to several other West African countries including, Liberia, Sierra Leone, Senegal, and Nigeria. A separate and unrelated Ebola outbreak has also taken root in the Democratic Republic of Congo (DRC), with the first case appearing in late August 2014, and the number of cases rapidly reaching 62 in early September 2014.[ii] The virus has already crossed neighboring borders and has the potential to spread even further in our globalized world, where we have the ability to reach different continents by plane, no longer in days, but in hours.

The immediate response to the Ebola outbreak has been identification of infected persons and quarantine followed by treatment. This approach is historically similar in nature to responses for many other infectious disease outbreaks such as cholera, influenza, and tuberculosis. However, this three- layered treatment approach does not appear to be stabilizing the epidemic, in fact, cases are steadily increasing. Why is the Ebola virus continuously spreading, and why will developing nations be more susceptible to infectious disease epidemics in the future?

Viewing epidemics through the context and climate of developing health systems, the equation is really quite simple: An ill-equipped, understaffed healthcare system **+** Fear and mistrust of the healthcare system **+** Lack of health education and the presence of misinformation **+** Poor sanitary conditions **+** An infectious disease (like Ebola) **=** An epidemic. Of course there are other factors to consider, such as the level of poverty in developing countries, which lead some to consume infected bush meat, bats, etc. as an only source of meat, and high-risk practices, which may stem from cultural traditions. However, the essential first step to address epidemics is to target health systems that are unable to contain and treat infectious diseases. So while, the responses from organizations such as the UN and Doctors without Borders, the U.S., U.K, Cuba, and other countries are beyond commendable, they are reactive, but not sustainable.

Many countries, including the U.S. donate funding to developing countries annually for various disease-specific programs and interventions that target treatment and prevention. I would argue that funding should also be allocated towards strengthening developing health systems and their core components: health worker staff (medical and nursing schools and the next generation of health educators), the development of key infrastructure (health quality standards), and acquiring health commodities (equipment and medical supplies). Addressing health system components will also aid in rebuilding general trust of healthcare systems by demonstrating proven outcomes (e.g. low mortality rates and improved patient outcomes). Equipping developing countries with the knowledge and resources needed to support their citizens is not only a more sustainable approach to counteracting infectious diseases, but will also prevent us from recurrently existing on the brink of yet another health epidemic.

---

[i] Centers for Disease Control and Prevention, http://www.cdc.gov/
[ii] WHO | World Health Organization, http://www.who.int/en/

Treniese Polk is a Project Manager for CHPRE, and served in the Peace Corps as a health educator in Mozambique, Africa from 2008-2010.