Rwanda and JeffHEALTH

JeffHEALTH (Helping Africa Link To Health) is a student run organization at Jefferson that works in rural Rwanda. For a history of JeffHEALTH, see our Pulse site. We currently have relationships with two Rwandan villages: Rugerero and Akarambi. The area we call “Rugerero” consists of two survivors’ villages, Kibaya and Nyarurembo, where families displaced during the genocide in 1994 were resettled. Rugerero is located in the Western Province, near the city of Gisenyi which is located on the shores of Lake Kivu. Akarambi village is located in the Northern Province, about a one hour drive from the capital, Kigali. Compared with Rugerero, Akarambi is a more remote village.

Getting to know the village you are working in will make your time in Rwanda more rewarding. I would recommend spending at least 3 weeks in each village. That means if you want to work in both and get the most out of your experience, I would recommend at least 6 weeks.

Rwanda is a beautiful country, nicknamed the “Land of a Thousand Hills,” and the people you work with there are extraordinarily welcoming and friendly. I fell in love with the country during my 6 weeks there. If you are at all interested in travelling to Rwanda, be sure to connect with JeffHEALTH, even if you are not interested in working with our organization directly. JeffHEALTH members from years prior helped me to plan my trip, and those of us who travelled in 2011 will be more than happy to help you to do the same.
Akarambi Village: Akarambi is located on the hill in the top picture with the homes of the villagers spread down the sides of the hill.
Medical System

Rwanda has a single medical school, the National University of Rwanda, located in Butare. Unlike the US system, students enroll directly from secondary school without obtaining a bachelors degree first. The program for medical students is 6 years.

The medical system in Rwanda is organized in tiers. An average of two community health workers per village are trained by community health centers and serve as the first line of medical information for villagers. Patients first present to the community health centers which serve several villages. These centers are staffed by nurses, and typically visited by a physician 1-2 days per week. If a case is too complicated for a community health center, the patient is referred to a district hospital of which there are about 40 in Rwanda. The most advanced care is administered at large hospitals in Kigali and Butare, some of which are teaching hospitals. There are also private hospitals and clinics for those who can afford them.

Rwanda suffers from a shortage of physicians. As of 2007, there were a total of 427 doctors in the country, equating to 1 physician per 10,000 persons (vs. 26 per 10,000 in the US). Nursing/midwifery personnel totaled 4 per 10,000, and there were 14 community health workers per 10,000. The majority of physicians are concentrated in the urban areas, so a large fraction of the population is cared for exclusively by nurses and community health workers.

I had the opportunity to shadow a trauma surgeon at CHUB in Butare as well as round in Internal Medicine at CHK in Kigali. I would highly recommend seeking out the opportunity to shadow while in Rwanda or any developing country. It is very eye opening. Ask any of the Rwandan medical students, and they will likely be able to get you the opportunity to shadow.

Project Work

I focused primarily on one income generating project as well as two education projects in Akarambi. In the summer of 2010, the HIV co-op of Akarambi proposed a beekeeping project as a way to generate income to support its members living with HIV. JeffHEALTH chose to fund this project and this summer delivered the last installment of funds to purchase supplies necessary to tend to the hives and harvest honey. The first harvest is anticipated to take place in December, and we have high hopes for this project.
In addition to following up on the beekeeping project, I also conducted surveys among women who participated in JeffHEALTH lessons in 2010 to follow up on our soil-transmitted helminths (STH) project. The soil-transmitted helminths (whipworm, roundworm, hookworm) are the most prevalent disease within a class known as the Neglected Tropical Diseases (NTDs). The NTDs are a group of 13 bacterial and parasitic infections which tend to thrive in conditions of poverty. NTDs stand in the shadow of infectious diseases such as HIV, malaria and tuberculosis, which receive a greater share of attention from the media and charitable funding sources. While NTDs are not as likely to be lethal, they are chronic, associated with significant morbidity and can contribute to poverty. There are cost-effective, proven treatments for the seven most common NTDs, which account for 90% of the global NTD disease burden, however these drugs are often not available to those who need them.

In the past, the high cost of effective antihelminthic drugs meant intervention efforts were heavily reliant on external donors. Upon expiration of their patents, drugs such as albendazole and mebendazole for the treatment of STH became affordable, costing less than $0.02 per dose. Access to
antihelminthic drugs is still a challenge for some areas, but the cost-effectiveness of interventions aimed at reducing the morbidity associated with STH infections has improved.

Based upon mathematical models, the World Bank has estimated that 70% of the global burden of disease due to STH can be prevented by treating only school-aged children in high-prevalence areas. Therefore mass drug administration (MDA) programs directed at school-aged children have the potential to be a cost-effective strategy for reducing a large fraction of the disease burden. In 2002, the World Health Assembly passed a resolution requiring the provision of treatment for STH to 75% of school-age children in endemic countries. In “high risk communities” (defined as ≥50% infected), the WHO recommends biannual treatment of STH for all school-age children regardless of enrollment.

In Rwanda, over half of schoolchildren are infected with at least one STH. Many are coinfectected. In 2008 the nationwide prevalence was estimated to be 65.8%. In the Rulindo district, where Akarambi is located, 71.8% of schoolchildren tested were infected with at least one STH. To combat this problem the Rwandan Ministry of Health (MoH) in cooperation with Access Project, a NGO, initiated a mass drug administration program in 2007 modeled after the WHO recommendations. A key component of this program is education on hygiene and preventive practices, however, it is unclear how often this is carried out.

To ensure that the people of Akarambi were being sufficiently educated, JeffHEALTH initiated a STH program in 2009. For a more detailed history of the project, anyone interested should feel free to contact me or reference the JeffHEALTH pulse site. In 2010, lessons were taught to women of childbearing age, and a pre/post-test was used to evaluate how well the lessons were received. This summer I tracked down the same group of women and asked them the same set of questions to see how well the information had been retained. In general the women performed well on the survey. However, certain advanced topics, such as the idea of a sub-clinical infection and the effects of chronic STH infection on the development of children, are still not well understood. Surveying door to door was an important component of my trip. Being welcomed into villagers’ homes allowed me to get a look at Rwandan life that I would not have seen otherwise.
When we arrived in Akarambi, we asked the health committee members what they wanted to learn about while we were in Rwanda. One of the topics was family planning, particularly vasectomies. The Rwandan government is trying to advertise vasectomies as an effort to get men more involved in family planning. However, there are many misconceptions about the procedure. Many men believe it to be the same thing as castration, or that the procedure will leave a man impotent. What we came to find during our lessons is that many of the questions the committee had about birth control methods like vasectomies, IUDs and female condoms stemmed from a lack of understanding about the male and female anatomy. I held follow-up lessons in which we used diagrams to explain the anatomy and basics of how the various birth control methods work. These ended up to be my favorite lessons of the trip. The topics were a little uncomfortable, but we all laughed together as people asked their questions. Probably the most laughs came when one of the women brought out a female condom and asked me to take it out of the package to explain it to them. While humorous, that experience was also informative to me. We saw billboards all over Rwanda advertising female condoms, but it was clear that few people really understood them. It showed me how important our education programs are and how they can supplement the efforts of the Rwandan Ministry of Health.

![Teaching family planning lessons (right) and preparing lesson materials (right)](image)

**Excursions**

On the weekends there are numerous outdoor activities available that give you the opportunity to fully appreciate how beautiful Rwanda is. Rwanda is famous for its mountain gorillas, and if you can afford the price (approximately $600 in 2011) I have heard that gorilla trekking is a fantastic experience. The price tag did not fit into my budget so I opted to hike Mt. Bisoke instead. Bisoke is a part of a chain of eight volcanoes collectively called the Virunga Mountains located between the border of Rwanda and the Democratic Republic of the Congo. Unlike the other volcanoes in the chain, Bisoke is now a crater lake at the top. Trekking the 3,400 meters to the top is physically exhausting, but incredibly worth it when you reach the top. We planned the hike, which took approximately 7.5hrs, as a day trip from Gisenyi, but it would also be possible as a longer day trip from Kigali.
We also took a “hike” through tea and coffee plantations in Pfunga, near Gisenyi. In contrast to Mt. Biseke, this is not a strenuous day, but instead a great opportunity to learn more about agriculture in Rwanda.
Finally, we took a weekend trip to Butare to see the medical school. If you have the time I would recommend stopping here. Butare has a very academic atmosphere that is different from Kigali. There is a museum that presents a very detailed natural history of Rwanda. In addition, there is a famous genocide memorial approximately 30mins by car. Tens of thousands of Tutsis were lured to the Murambi Technical school being told that they would be protected by French troops. Within a week, many were massacred by the Interahamwe. We chose instead to visit the Genocide memorials in Kigali and Rugerero.

**Accommodations and Transportation**

In Kigali, Gisenyi, and Butare there are numerous affordable hostels all of which have running water (albeit often ice cold running water). Your translator or the Rwandan medical students can assist you in making reservations. In Kigali we stayed primarily at St Paul’s. In Gisenyi we stayed at E.P.R. In Butare we stayed at the African Lodge. When working in Akarambi, you will stay at a seminary school which is a 40minute walk from the village. The parish typically has electricity, but no running water. There are latrines, and you will be provided with a jerry can of water to bathe and wash clothing. The staff at the parish will provide your meals, which you will eat with the priests and students. Several days
before you intend to arrive in Akarambi, you should notify Father Theophile by telephone. He is a priest at the Parish who speaks some English. For contact information for these and other accommodation options see the “Survival Guides“ on the JeffHEALTH Pulse site.

Main Building at the Parish

A typical room at the Parish (Reminder- that sink doesn’t actually work...)

Because Rwanda is such a small country it is inexpensive to travel around, although it may take some time to figure out the system. For travel within Kigali or within Gisenyi, we utilized “Motos” which are motorcycle taxis. For longer trips (i.e. from Gisenyi to Rugerero, or Kigali to Akarambi), minibuses called “Mutatus” are available. There are numerous bus lines that run between cities, and it is best to purchase tickets a day in advance. There is also detailed information related to transportation on the travel guides on the JeffHEALTH Pulse site.
Budget

Unfortunately getting to Africa is very expensive. After watching prices on Expedia and other websites the group I was travelling with finally bought our tickets for $2,180. Afterwards, however, someone else from our group found significantly cheaper tickets (~$1,700) through an agency called ASAPTickets. I would definitely recommend booking tickets through them instead (www.asaptickets.com).

The other significant cost for a trip to Africa is immunizations and medications prior to travel. The Yellow Fever vaccine is required for entry to Rwanda (and many African countries). Polio, Typhoid, and Hepatitis A are recommended vaccines that you will probably not have unless you have travelled previously. The Rabies vaccine is only indicated for travelers who are at high risk for contracting rabies (i.e. animal handlers, field biologists, cavers). Considering the scope of the work we do in Rwanda, getting a Rabies vaccine is a huge unnecessary cost (on the order of $600). Be sure to schedule an appointment with a travel doctor prior to your trip, because he/she is likely more qualified to discuss these options with you than a family physician. Marilyn Bradford at Jefferson Travel Med offers discounts to multiple students traveling to the same location if they share an appointment.

In addition to the required vaccines, a travel doctor will advise you on the necessary prophylaxis for malaria and traveler’s diarrhea. Check your prescription coverage before filling your prescriptions. I opted to take Malarone since I didn’t want to risk the sun sensitivity associated with the cheaper alternative, Doxycycline. However, my insurance would only cover 30 days worth of Malarone within a single 30 day period. Since I waited to fill my prescription until the last minute, I was left paying for my pills in excess of 30 out of pocket, which became a significant cost for me.

Once in Rwanda, most expenses are cheap. Lodging in hostels in Kigali and Gisenyi are about $20/night for a three person room. In Akarambi, lodging at the parish house costs $2.50/night for a one person bedroom. Meals are also cheap and you can eat three comfortable meals a day for about $5/day or less. If you are spending time in Kigali there are plenty of “Western” restaurant options where you can expect to pay more for a meal.

What I Wish I’d Known...

In addition to my mistakes in planning that I have already alluded to, there are a couple things I will do differently next time related to packing. First, I did not realize how well dressed the people I interacted would be, particularly in Kigali. I wish I had brought a few nicer outfits, to avoid feeling underdressed. In addition, if you are a planning to shadow, bring a white coat. I ended up borrowing one that was three sizes too big. Second, it was suggested that we bring a mosquito net, as some of the places you might stay do not provide them. I did not run into this problem, and the net just ended up taking up space in my bag. If you already own a net and have space for it, you may choose to bring it. If you do not own one, I would suggest waiting to see where you will be staying before purchasing. Most Rwandans use the nets in their home, so it is not impossible to buy one there if you end up in a pinch.

The last thing I wish I had known in advance is that July 4th is Rwanda’s “Liberation Day” and is celebrated as the anniversary of the end of the genocide. If you are in country at that time, you may want to plan to be in Kigali or Butare. I am told there are celebrations with performances, etc. Unfortunately I had already scheduled a meeting with the health committee in Akarambi for that date, and therefore opted to keep that commitment rather than take a trip back to the capital to celebrate with our Rwandan friends.