iGIVE READER

Meet the iGIVE Africa Team

John Spencer

"There are no foreign lands. It is the traveler only who is foreign."

-Robert Louis Stevenson

Michael Ciccone

"To travel is to discover that everyone is wrong about other countries."

-Aldous Huxley

Kevin Waite

"This world is our village, and we must come together for the betterment of all"

-Chief Ernest N'domahina

LIU Pharmacy Class of 2015

What is iGIVE?

In an effort to increase awareness of iLEAP's trips abroad on campus and expand and diversify the pool of volunteers, the new student organization iGIVE (Initiation of Giving Internationally through Volunteer Experiences) has been founded! iGIVE serves to open up the volunteer opportunities abroad initiated by iLEAP to the entire LIU community. The integration of the LIU community beyond pharmacy corresponds with iGIVE's mission to create the most effective programs addressing people of different countries on any level. Under the guidance of Dr. Suzanna Gim, iLEAP has been able to send students to countries in need, such as Costa Rica, Haiti, Guatemala & Sierra Leone, West Africa. On these trips, students learn about the importance of international healthcare first hand and come back with invaluable experiences unattainable elsewhere. While certainly helpful for students in the health sciences, all you need is a heart to care. Above all else, iGIVE seeks to empower patients to take control of their health. With all members of the student community we believe we can accomplish this goal together.

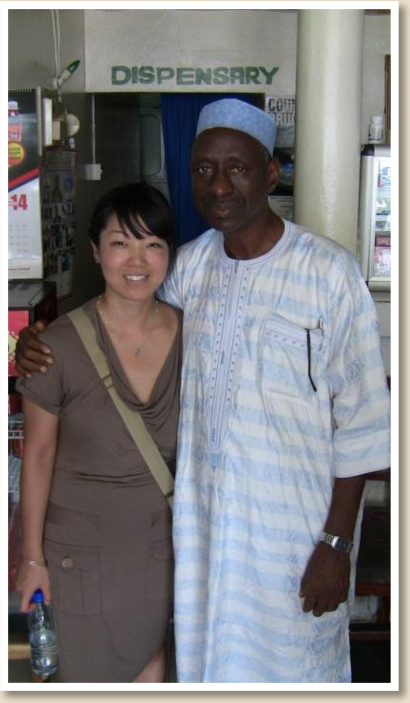
Trip Itinerary

Week 1: Freetown

- *Connaught Hospital*
- *College of Medicine and Allied Health Sciences (COMAHS)*
- *Sierra Leone Board of Pharmacy*

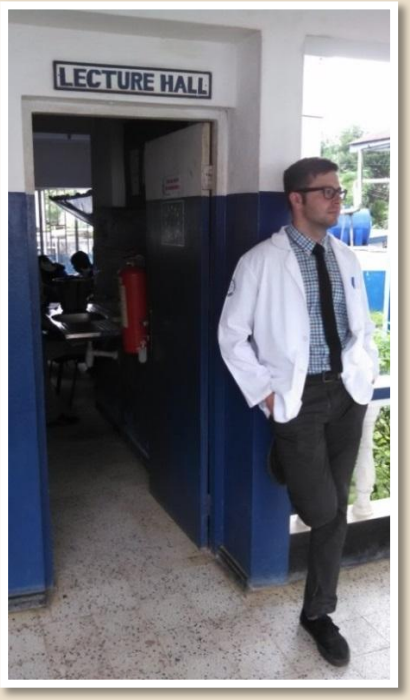
Week 2: Bo & Taiama Village

- *Government Hospital*
- *Taiama Clinic*



Suzanna Gim, PharmD, MPH
Faculty Preceptor
Director of the iLEAP program
Faculty Advisor for iGIVE

When in Sierra Leone…



From May 26 – June 5 of this year, John Spencer, Mike Ciccone and I traveled to the war-burdened country of Sierra Leone on a pharmacy mission. The Civil War in Sierra Leone lasted eleven years, 1991-2002. During these years a malicious revolutionary army broke down the country, both physically and mentally. Sierra Leone remained stagnant, without progression in healthcare and the economy. The war ended over a decade ago, but since the rebuild was starting from ground zero the country is still struggling. With this in mind, we began to prepare for our two-week long pharmacy mission. Our mission was to provide guidance and support to the people of Sierra Leone, concentrating on healthcare related needs.

One of the most obvious obstacles for healthcare facilities in Sierra Leone is the deprivation of materials necessary to effectively care for their people. In the attempt to break through this barrier toward better healthcare, we hauled 8 fifty-pound suitcases packed full of medications and supplies to be donated to local hospitals and village clinics. These donations were meant to temporarily replenish local healthcare facilities. We were all fully aware that this would be a transient fix that would soon fade away after we left. We also knew that this kind of evanescent deed was not going to be the answer for Sierra Leone. In order to create a more sustainable impact, we decided to educate the people.

On previous trips to Sierra Leone, several nurses had expressed concern about the management of life threatening allergic reactions, or anaphylaxis. The inability of the staff to recognize and treat these cases led to several deaths a year in some villages. We knew that this was not a major concern in America, and death by anaphylaxis can be easily prevented. This seemed like the perfect opportunity for us to step in and help, and that is exactly what we did.

(continued on p.3)

"Education is the most power weapon to use to change the world" -Nelson Mandela

Education is a key component as pharmacy students can provide to the healthcare workers of Sierra Leone. In order to ensure the training addresses topics most needed, we simply ask them when we visit and conduct surveys to allow for feedback. The surveys completed during previous trips identified anaphylaxis reactions and safe injection practices as topics of most interest.

"Injecting the truth"

As part of our pre-trip preparations, we realized that the administration of injections in resource poor countries are mostly unwarranted and unnecessary. The majority of treatments are being administered as an injection because of the misconception providers and patients have that injections provide a stronger and more effective therapeutic benefit when compared to oral medications. Administering injections puts patients at an avoidable risk for disease transmission and having poor administration techniques can cause physical harm to the patient. Over the years, there has been an increase in HIV, hepatitis B, and hepatitis C infections solely due to the unsafe and unnecessary administration of injections. While interacting with some of the nurses, they confirmed that there have been instances of children being injured due to poor injection technique. Knowing about these concerns and problems led us to prepare a safe injections presentation and provide a hands-on injection administration workshop for them to practice.

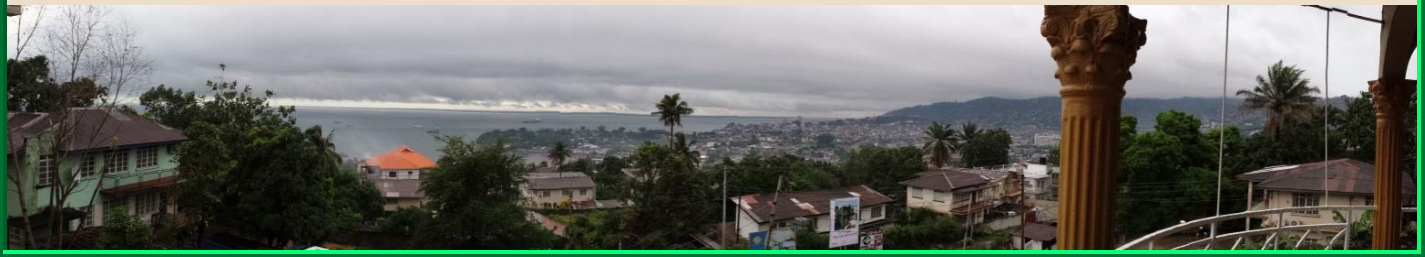
– John Spencer

We spent the majority of our first week at Connaught Government Hospital, located in Freetown. While in the hospital we acquainted ourselves with the different wards and overall structural layout. We set up several meetings with the hospitals Matron, pharmacist in charge and the dean of the pharmacy school. These meetings were very meaningful for us because they provided much-needed insight about how the hospital operates. They were also useful for setting up a suitable way to donate the supplies that filled our suitcases. We were able to give our presentation on anaphylaxis to the nursing staff and some pharmacy students while in Connaught. Before leaving Freetown we were able to visit the Board of Pharmacy. Unfortunately the building was under construction so we didn't get to see as much as we would have liked. We did, however, have the opportunity to speak with members of the board about their primary concern when dealing with drug regulation. They explained to us that most of their time is spent reviewing the process by which imported drugs are analyzed prior to being sold to the public. A thorough review of these processes serves to decrease the influx of counterfeit product into Sierra Leone; this has become a growing concern within the country over the years. It was interesting to learn about a step in drug regulation that is not considered frequent practice back home. The importation of counterfeit product is not something we struggle to regulate in the United States due to a high number of domestic manufacturers. Given the circumstances, our visit to the Board of Pharmacy was a great experience.

The second week in Sierra Leone was split between the village of Taiama and Bo. In Taiama we spent time at their community clinic, and in Bo we were mostly at the local government hospital. A similar sequence of events took place in both villages, as they did in Freetown at Connaught Government Hospital. We toured the facilities, presented to the staff on anaphylaxis and handed over suitcases full of supplies and medications. Overall, I could not have imagined a more successful trip to Sierra Leone. By the end of the trip, we presented 6 times at 3 different venues, to over 200 healthcare workers. We accomplished everything that we set out to do, and then some.

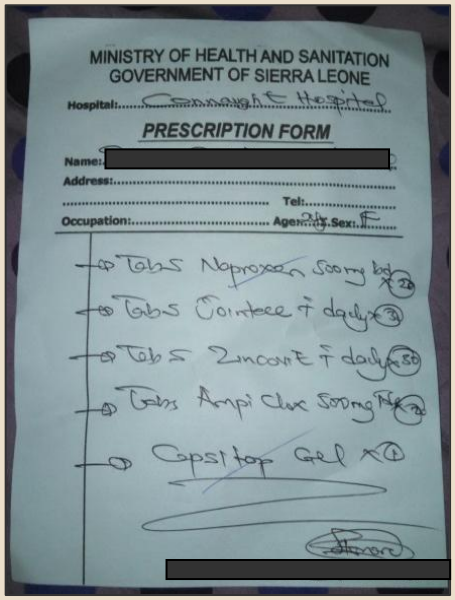
The people of Sierra Leone did not remain broken after the war and instead they have come together to restore the integrity of the place they call home. We, as privileged American pharmacy students, were given the opportunity to help the people of Sierra Leone and we can only admire the loyalty and pride they have for their country. This experience has left us humbled and wanting more.

– Kevin Waite



Pharmacy Practice Abroad

The process of how drugs are distributed in hospitals is different in Sierra Leone. When a patient is admitted into the hospital, they are given a bed in one of the wards where there are little to no drugs available for immediate use. Even drugs that are life-saving, such as epinephrine, are not readily available. When a drugs are ordered by a doctor, the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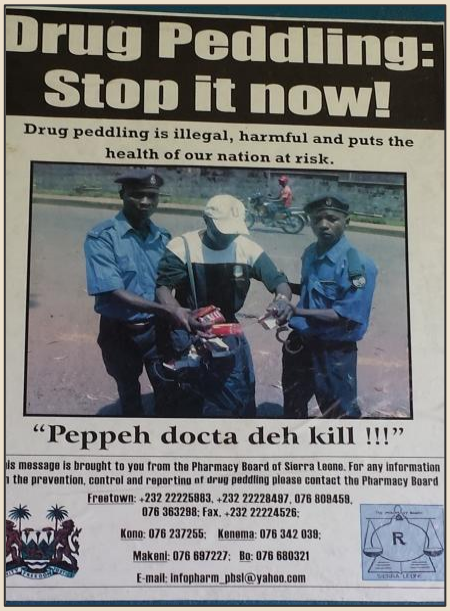
Caps Itop Gel x 1
[redacted]

patient or the caregiver must go out and purchase the medication in order for it to be administered. There are two options for purchasing medication. The first is going to the hospital pharmacy where drugs are subsidized by the government and are offered at reduced prices. The drawback to using the government hospital pharmacy is that drug supplies are limited. The pharmacy does not always have what is needed because drug shipments are irregular and sporadic.

The second option is to travel to a private pharmacy to make the purchase. The fall back here is running the risk of purchasing counterfeit medications. Counterfeit drugs are a big issue in Sierra Leone due to the fact that they do not have in country manufacturing of medications. Now you ask, why don't they just open up a manufacturing plant? Well, Sierra Leone often has power outages daily. During our trip, multiple times a day the power cut out for short periods of time. The process that goes into drug manufacturing such as milling, granulation, coating, and tablet pressing requires a copious and steady current of electricity. For this reason, Sierra Leone is totally dependent on importation of drugs from other countries which increases the risk of counterfeit medication. Medications purchased through the government pharmacies have gone through quality control measures assuring that they are not counterfeit. Once the patient purchases the medication, they have to bring it back to the hospital to have it administered by a nurse.

In the rural villages scattered throughout Sierra Leone, the government has set up clinics to supply healthcare to as much of the population as possible. The distance to government hospitals from most villages is quite great especially for a Sierra Leonean traveling on foot. In these small villages, clinics are run by community health officers (CHO). The CHO is an expedited physician who plays the roles of a prescriber, dispenser (pharmacist), and nurse.



The CHO purchases medication from the nearest city and charges the patients only the cost of the medication. Unfortunately medical teams at most remote clinics lack experience and knowledge in certain areas due to limited education and poor resources. During our visit to Taiama Clinic, we supplied the pharmacy with medications and supplies, but most likely our greatest donation was education on safe injection practices and aseptic technique.

– Mike Ciccone

Heathcare team of Taiama Government Clinic

When the Students Become the Teachers

Since we were uncertain of the previous training our audiences would have, we molded the presentations to be at a health literacy level that all individuals in attendance would be able to follow and participate. The audiences consisted of nurses, nursing and pharmacy students, and community health officers (CHO's). During the anaphylaxis presentation, we provided a general overview including common signs and symptoms and the management of such reactions. We developed patient cases that allowed for interactions between us and the audience to reinforce understanding of the material being presented. In our anaphylaxis presentation, we used a math problem to show the healthcare workers the different concentrations of adrenaline that are available and how different formulations of adrenaline have different concentrations per volume. After going through the equations and answers, it became apparent that they did not understand this concept and it was hard for them to follow along. We then showed them how to do the conversion and went through step-by-step how one concentration formulation was different than the other. This was a great teaching point to have because not only did we show them how to convert from one concentration to another, we also showed them how to calculate the same dose using different formulations. This instance allowed us to stress to importance for them to read all concentrations on every medication they administer to ensure it is the proper drug and dose and to also decrease the chances of having an unwanted adverse drug event.

The safe injection practices presentation covered the essential techniques and information one should know for performing a proper and safe subcutaneous and intramuscular injection. The majority of attendees were familiar with the topic and were able to follow along very well. We finished up the presentation with a hands-on demonstration on how to give a subcutaneous and intramuscular injection in a step-wise approach. After the demonstration was performed a couple of times, we had extra needles and cushion pads for the audience to practice on their own.

– John Spencer

"Give a man a fish, feed him for a day. Teach a man to fish, feed him for a lifetime"

Lao Tzu's quote "Give a man a fish, feed him for a day. Teach a man to fish, feed him for a lifetime" was so appropriate for the work we did in Sierra Leone. We came equipped with many medications to distribute to different locations, but to truly change these individuals lives would require more than just giving. We have to teach and educate people so that they can become self-learners and eventually teachers on their own. Being able to educate and spread knowledge is the most important thing we could have done during our time in Sierra Leone. The impact and change we wanted for everyone, required an effort on their part as well to become lifetime educators of their own. By the end of our twelve day medical mission, we performed the presentations six times to a variety of approximately 200 healthcare workers in two city hospitals and one village clinic. Providing the presentations to diverse disciplines and different locations, allowed for more individuals to learn about a topic that they may not have had awareness about before. Everyone in attendance could leave with the ability to go back to others that weren't there and teach them what they have just learned. We are very satisfied with the outcome of our presentations and look forward to helping future teams create projects for upcoming trips. – *John Spencer*

We effectively changed lives through education for the prevention of spreading disease. One has to understand that when resources are limited, the approach to managing patients is not so unambiguous. While we may encounter practices that seem strange to us, to them it is overcoming the reality of limited resources by improvising. As more students visit Sierra Leone, the growth of knowledge will be exponential and carry through the generations to come. While supplies only last for a limited time, education never ends.

Ebola Has Arrived

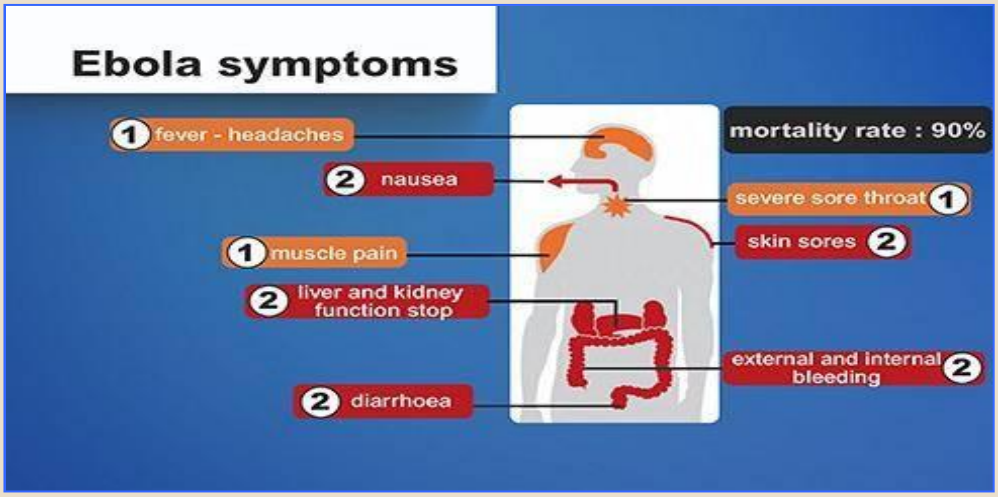
Ebola Has Arrived". That was the front page story of Sierra Leone's most widely read newspaper the first day we arrived to the country. Ebola hemorrhagic fever is a severe, often fatal disease in humans and primates. Researchers believe that the virus is zoonotic (animal-borne) with bats being the most likely reservoir. Patients become infected through direct contact with infected animals or person's blood or body fluids including through objects (such as needles) that have be contaminated with infected body fluids. Persons are only infectious once they present with symptoms. Signs and symptoms of the Ebolavirus include fever (>101°F or 38.6°C), severe headache, muscle pain, weakness, diarrhea, vomiting, abdominal pain, and lack of appetite. The virus ultimately causes bleeding inside and outside of the body, potentially leading to death. These symptoms may appear from 2 to 21 days after the exposure to the virus.

Risk of acquiring the infection is increased in those in close contact with patients such as family, friends, and healthcare providers. Proper precautions that must be made to ensure safety include wearing protective clothing, participating in complete equipment sterilization, and isolating patients away from unprotected persons.

Currently, Ebola does not have a known, proven treatment. Standard treatment for Ebola includes providing supportive care consisting of balancing fluids and electrolytes, maintaining oxygen and blood pressure, blood transfusions, and treating any complicating infections. The experimental treatment ZMapp (made of 3 monoclonal antibodies) was given to the 2 American missionaries who recovered, although the role of the treatment in their recoveries is uncertain. Development of vaccines are ongoing.

During our medical mission trip in Sierra Leone, we were able to attend an emergency meeting with all the Matron and head nurses of Connaught Hospital on the current outbreak of Ebola. There was a spreading rumor of an infected patient being at the hospital and that the patient was left on the floor and untreated in one of the wards because the nurses feared the possibility of becoming infected. Due to the lack of knowledge the nurses had on the subject, there was much panic amongst each other on the possibility on contracting this deadly virus. The emergency meeting sought to relinquish these fears and provide education and proper training on how to handle this situation. There was a nurse from an outside partnering organization at the hospital that was providing education to the nurses on proper protection from the virus and the correct way to suit up in full protective gear, such as masks, gowns, and gloves.

Little did we know that the Ebola outbreak in Guinea from March 2014 would spread to Liberia, Sierra Leone and now Nigeria to the extent and rate that it has. The Ebola outbreak of 2014 has claimed over 1,000 lives.



Depending on the location, the mortality rate ranges 50-85%. The lack of resources, properly trained personnel, poor infrastructure and misinformation to the public predict the outbreak is far from over.

– *John Spencer*

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The International Learning Activity for Pharmacy students (iLEAP) was created as a longitudinal project intended to expose students to international pharmacy, specifically in resource poor areas globally. This project is a compilation of various short trips with motivated students who actively work on interdisciplinary projects to help the global community in a sustainable way.

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For more information contact Suzanna Gim (suzanna.gim@liu.edu)