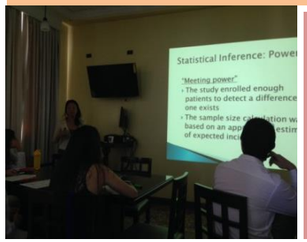
Journal Clubs are Universal!

While visiting Clinica Biblica, a pharmacy student doing her internship presented a journal club presentation. Marsella presented a non-inferiority trial, “Edoxaban versus Warfarin in Patients with Atrial Fibrillation.” The pharmacy students in Costa Rica do not have Drug Information as a didactic course. They were taught how to evaluate a study during their internship experience by one of their preceptors at the hospital.



Spread of Knowledge

Since the pharmacy students interning at Clinica Biblica were not exposed to evaluating studies in school and only had one prior lecture about non-inferiority trials, Dr. Gim volunteered to give a lecture to the seven to ten students about evaluating non-inferiority trials. The students were very interested in the topic and greatly appreciated her time. This experience allowed Dr. Gim to share her knowledge and specialty with the students and give them an insight as to how a lecture is conducted in our program.

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.

Special Thank You to:

We would like to thank everyone for their support and contributions to our trip to Costa Rica. We would like to especially thank Mr. Fernando Gonzales for his help and dedication. He helped us organize a bowl-a-thon to help raise money for our trip. He went out of his way to spread awareness about our trip and helped us to receive many donations from students, professors, and faculty all around school. We are sincerely grateful for his help and for everyone’s contributions. Your generosity is truly appreciated.

We would also like to thank LIU Global Faculty, Ms. Maria Sandberg, and Ms. Sarah Moran for helping us to arrange all our site visits and providing us with the contacts needed. We truly appreciate all your help and time. You all made our trip a successful and memorable one. We are sincerely thankful for everything LIU Global has done for us, both before our trip and during our trip.

Last, but certainly not least, we would like to thank Dr. Suzanna Gim for giving us the opportunity to travel and learn about pharmacy practice and education abroad. We greatly appreciate her time, dedication, and guidance throughout this entire experience. We learned so much prior to our trip, during our trip, and after our trip. She truly made our rotation experience in Costa Rica unforgettable. Her passion and dedication to public health and international pharmacy practice is admirable. We hope all of her future trips will be as successful as all her trips thus far. Thank you Dr. Gim for everything you have done for us!

To donate online, please go to https://community.liu.edu/donate.
For Designation select "Other" and in the Comments section type "International Pharmacy Fund."
Your donations will help fund the students' travel expenses.

iLEAP 8
Volume 3, Issue 2

Spring 2014 Edition

Costa Rica

Trip Itinerary:

03/07: Arrival in Costa Rica. Tour of Heredia & LIU Global Center.
03/08: Medical Spanish Class. Tour of San Jose.
03/09: Sunday Funday: Whitewater Rafting.
03/10: Clínica Bíblica**,** University of Costa Rica**,** UNIBE**.**
03/11: UCIMED, San Juan de Dios Hospital.
03/12: Practice at Clínica Bíblica. Observed Journal Club Presentation by local pharmacy intern from UCIMED.
03/13: Practice at Clinica Biblica Inpatient & Outpatient Pharmacy, Dr. Gim’s Non-inferiority Lecture to local pharmacy students, interns, and pharmacists. Practice at San Juan de Dios Hospital Pharmacy and renal clinic.
03/14: Practice at an EBAIS Pharmacy in La Carpio, an underserved population.

PharmD 2014 Candidates:

Evelyn Ong (mid-right)**: “***This experience has taught me to never underestimate the health system or education system of other countries. Because of this trip to Costa Rica, I truly want to do other public health services in other countries in the near future. It reminded me of why I wanted to become a pharmacist in the first place, to help people.”*

Yulia Gramyko (far-right): “*We live in a society full of stereotypes. Traveling to Costa Rica to learn about its culture and health system opened my eyes to the reality. I was able to see the advances in their system and opportunities in their education that I believed to be nonexistent. This experience taught me to value other cultures’ contributions and respect their way of life and that I think would make me a well-rounded professional.”*

Mission Statement

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.

Exploring Costa Rica

Of all the Central American countries, Costa Rica is regarded as having the most stable and most democratic government. Costa Rica is known for its rainforests. Many alternative medications and supplements derive from plants found in these rainforests covering the mountains of Costa Rica. Two mountain chains together run almost the entire length of Costa Rica.

LIU pharmacy does not have many programs that allow students to study abroad and learn about countries outside the US. Dr. Suzanna Gim, however, gave us an opportunity to complete a rotation in Costa Rica through her hard work and dedication to public health and pharmacy practice all around the world.

Universal Healthcare for All

Costa Rica is able to provide their citizens with universal health coverage through employment taxes. A 9% tax rate is deducted from everyone’s paycheck to help maintain the universal health care system. There are public clinics available all around Costa Rica called EBAIS to provide healthcare services daily.

Our Trip At a Glance

This rotation abroad allowed us to learn about international public health, about the universal health system in Costa Rica, as well as about pharmacy education and practice in a Latin American country. Our trip consisted of visiting public and private hospitals and universities with pharmacy programs.

At the hospitals, we met with administrators, directors, and pharmacists who explained what services the pharmacy offers and how pharmacists impact patient care. The roles of pharmacists in Costa Rican hospitals are very much like those here in the US. This experience allowed us to learn from them and vice versa.

At the universities, we met with the school deans, program directors, and faculty who thoroughly explained their pharmacy program to us. This opportunity allowed us to compare the pharmacy education in both Costa Rica and in the US.

The Capital of San Jose

San José is the capital and the largest city of Costa Rica. In the Spanish colonial era, San José developed gradually as a tobacco center. In the 1840s, the town became one of the important centers for coffee production. Most of the sites we visited were located in San José. Many people in the surrounding cities commute each day to their jobs, many of which were in San José. From our travels, San José is a well-developed city, much like the cities in the US.

Heredia as Home

Heredia is a city in Costa Rica, northwest of the capital, at an elevation of 3,729 feet above sea level. The city of Heredia was believed to be founded around the 1570s. It was originally called Cubujuquí and then Villa Vieja. The name Heredia was adopted in honor of the president of the high tribunal in 1763. The city is surrounded by mountains.

When we visited, it was during the dry season. In efforts to conserve their water sources, certain areas in Heredia did not have running water between the hours of 10am to 6pm daily. The traffic to get out of Heredia and to get into Heredia during rush hours resembles the traffic seen here in NYC. During our stay in Costa Rica, we lived with host families in Heredia. The LIU Global College center is also located in Heredia, which was walking distance from our host families.

Healthcare Delivery in Costa Rica >>>

Hospital San Juan de Dios

Hospital San Juan de Dios is the first and oldest public hospital in the country. It has a very large pharmacy department that we were able to visit. They make about 5000 prescriptions per day in addition to TPN services as well as liquid preparations for in-patient use.

Since the hospital prepares so many prescriptions at this hospital, all of them by hand, it is not feasible to promise same day wait times. Therefore, unless the prescription is an emergency and comes directly from the ED, patients may pick up their medication at the earliest, on the following day.

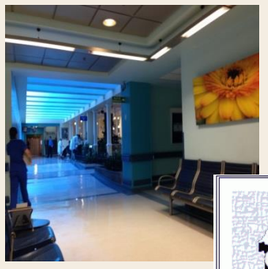
I had the opportunity to observe an MTM conducted by a clinical pharmacist on a renal patient. The patient was a 66 y/o M with a PMH of HTN, CKD, DMII, IDA. He was treated with 15 different medications.

The pharmacist went over each medication, asked how the patient was taking them, and reviewed his medication log (included the time, name of the medication, direction, and picture of the pill). It was a great service for CKD patients as they are a vulnerable population, and would benefit greatly from a clinical medication review.
www.ccss.sa.cr/hospitales?id=25

Private Hospitals >>>

Clinica Biblica

Clinica Biblica is a private hospital that features state of the art equipment and facilities. While the hospital only has 50 beds, the patient to employee ratio ensures that each patient received the best care possible. The hospital features a nuclear pharmacy lab and an interactive computer system designed by the hospital's IT department.



HOSPITAL CLINICA BIBLICA

http://www.clinicabiblica.com

Public Health >>>

Primary Care in Costa Rica: EBAIS

EBAIS: (Los Equipos Básicos de Atención Integral en Salud).

EBAIS are public clinics operated by the government to ensure that all people have access to healthcare. Currently, there are over 1000 clinics all over Costa Rica. They offer primary care services, as well as other medical services (ie: nutrition, etc.) Each EBAIS is composed of at least one doctor, one nurse, and one technical assistant. The distinguishing feature of EBAIS is the home visit. These are done by the technical assistants in order to evaluate living conditions in each family in the area it serves, identify any health risks and ensure proper medical treatment when necessary. Unfortunately, appointments at these clinics can only be made for the same day, and to schedule an appointment, patients would have to come very early and wait in line until the clinic opens. Then, they must return to the clinic for the scheduled time later that day. If a patient is given a prescription by their doctor, they can conveniently drop it off at the window in the clinic, and pick up the medication after one hour.

Pharmacy Education

Universidad de Costa Rica (UCR) is the oldest and only public pharmacy program in Costa Rica educating students for over 112 years. UCR's program most closely resembles our program here in the US. They have a five-year didactic program with an additional six-month internship program at either a hospital or industrial site before graduation. Aside from their didactic course works, each student is required to complete 300 hours of community service and volunteer work prior to graduation.

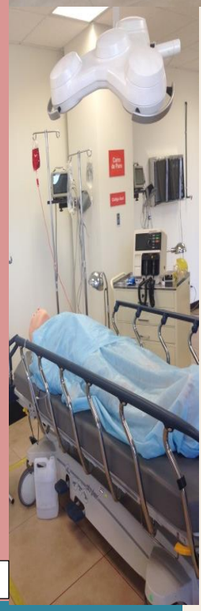
Their program consists of three main departments with an emphasis on humanistic approach: pharmacology, pharmaceutical care, and pharmaceutical sciences. Students study plant extracts, investigational drugs, formulations of medications and cosmetics, along with basic and profound courses in the industry field. Their school year is divided up by semesters and students pay roughly $300/semester. Professors are paid by the government and practice site preceptors are essentially volunteers. UCR has an average class size of about 100 students with a 50% graduation rate each year.

http://www.ucr.ac.cr/

UNIBE is a private university with four main majors: pharmacy, medicine, psychology, and nursing. UNIBE is about 20 years old and it is the only university in Costa Rica with a connecting healthcare clinic. The pharmacy program is divided into ten trimesters, costing about $2,500 each. However, the school is in the process of changing the program to a five-year program in the near future.

Not specific to the pharmacy department, UNIBE has an international exchange program called "Global Strategy Program", where they work with universities in various countries all over the world such as the United States, Chile, Portugal, Argentina, Spain, and Mexico. The exchange program is accredited by the Department of Education in the United States and by the Veterans Affairs.

http://www.unibecostarica.com



UCIMED is a non-profit, private university. The pharmacy program is the smallest program in UCIMED with only about 10% of the total number of students on campus. The program is divided into nine semesters, costing $4,000/semester. The program consists of sixty-seven faculty members, of which forty are pharmacists. In February 2014, UCIMED organized a drug take-back program throughout various community pharmacies.

Unique to UCIMED is their hospital simulation lab. Pharmacy students work hand-in-hand with the medical students in their hospital simulation labs. There are many different rooms in which mock units in a real hospital: labor & delivery room, neonatal room, cardiac & thoracic room, ICU, and a room for IVs and sutures. To imitate real life situations, there are many stress factors that are instilled upon the students, such as limited sources of light, unbearable room temperatures, loud noises, screaming robots that imitate distressed patients, etc. In the ICU, there was also a robot that reacts to medication administration.

http://www.ucimed.com

A Private Market vs. A Public Market

Healthcare: while a universal term, the meaning behind it differs across the globe as we go from country to country. Some have universal health care, while others have private insurances or social welfare programs for those that qualify.

When we visited the numerous hospitals in San Jose, Costa Rica, it was evident that healthcare varied from what we are accustomed to back home. While everyone across the county is entitled to free healthcare via primary clinics and hospitals, there was a noticeable absence of counseling efforts throughout the clinics.

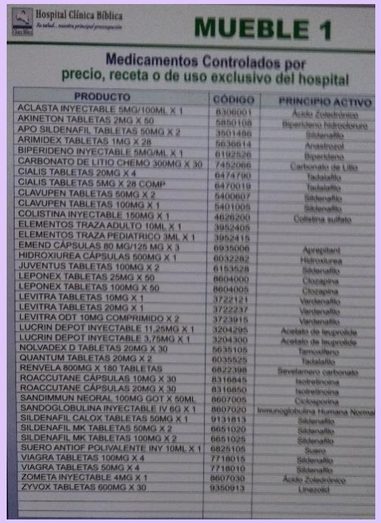
We were concerned that certain populations of people may not be educated enough to read or understand the importance of a prescription label. On the other hand, home visits done by the clinics ensured that people were cared for and remembered by their government.

Those people that desire more personal attention from a healthcare provider have the option to go to a private clinic or hospital and pay for services there. However, the prices for medications and services are more affordable than in the US which makes it possible for many people. Additionally, we noticed that there is an abundance of technicians and pharmacy staff at their disposal, and they are not limited by a pharmacist to technician ratio.

A limitation we noticed was that government facilities run on a national formulary which is unfortunately limited in the choices of medications. If patients need non-formulary medications, they would have to pay for it themselves.

Comparisons >>>

Challenges in Healthcare



Hospital Clínica Bíblica

MUEBLE 1

Medicamentos Controlados por precio, receta o de uso exclusivo del hospital

PRODUCTO	CÓDIGO	PRINCIPIO ACTIVO
ACLASTA INYECTABLE 5MG/100ML X 1	8306001	Ácido Zoledrónico
AKINETON TABLETAS 2MG X 50	5890108	Biperiseno hidrodenuro
APO SILDENAFIL TABLETAS 50MG X 2	3501486	Sildenafilo
ARIMIDEX TABLETAS 1MG X 28	5636614	Anastrozol
BIPERIDENO INYECTABLE 5MG/ML X 1	6192526	Biperideno
CARBONATO DE LITIO CHEMO 300MG X 30	7452066	Carbonato de Litio
CIALIS TABLETAS 20MG X 4	6474790	Tadalafilo
CIALIS TABLETAS 5MG X 28 COMP	6470019	Tadalafilo
CLAVUPEN TABLETAS 50MG X 2	5400607	Sildenafilo
CLAVUPEN TABLETAS 100MG X 1	5401008	Sildenafilo
COLISTINA INYECTABLE 150MG X 1	4626200	Colistina sulfato
ELEMENTOS TRAZA ADULTO 10ML X 1	3952405	
ELEMENTOS TRAZA PEDIATRICO 3ML X 1	3952415	
EMEND CÁPSULAS 80 MG/125 MG X 3	6936006	Aprepitant
HIDROXIUREA CÁPSULAS 500MG X 1	6032282	Hidroxiurea
JUVENTUS TABLETAS 100MG X 2	6153528	Sildenafilo
LEPONEX TABLETAS 25MG X 50	8604000	Clozapina
LEPONEX TABLETAS 100MG X 50	8604005	Clozapina
LEVITRA TABLETAS 10MG X 1	3722121	Vardenafilo
LEVITRA TABLETAS 20MG X 1	3722237	Vardenafilo
LEVITRA ODT 10MG COMPRIMIDO X 2	3723915	Vardenafilo
LUCRIN DEPOT INYECTABLE 11,25MG X 1	3204295	Acetato de leuprolide
LUCRIN DEPOT INYECTABLE 3,75MG X 1	3204300	Acetato de leuprolide
NOLVADEX D TABLETAS 20MG X 30	5635105	Tamoxifeno
QUANTUM TABLETAS 20MG X 2	6035525	Tadalafilo
RENVELA 800MG X 180 TABLETAS	6822398	Sevelamero carbonato
ROACCUTANE CÁPSULAS 10MG X 30	8316845	Isotretinoina
ROACCUTANE CÁPSULAS 20MG X 30	8316850	Isotretinoina
SANDIMMUN NEORAL 100MG GOT X 50ML	8607005	Ciclosporina
SANDOGLOBULINA INYECTABLE IV 6G X 1	8607020	Inmunoglobulina Humana Normal
SILDENAFIL CALOX TABLETAS 50MG X 1	9131813	Sildenafilo
SILDENAFIL MK TABLETAS 50MG X 2	6651020	Sildenafilo
SILDENAFIL MK TABLETAS 100MG X 2	6651025	Sildenafilo
SUERO ANTIOF POLIVALENTE INY 10ML X 1	6825105	Suero
VIAGRA TABLETAS 100MG X 4	7718015	Sildenafilo
VIAGRA TABLETAS 50MG X 4	7718010	Sildenafilo
ZOMETA INYECTABLE 4MG X 1	8607030	Ácido Zoledrónico
ZYVOX TABLETAS 600MG X 30	9350913	Linezolid

Clinical and specialty pharmacy is on the rise here in America, however there isn't as large of a push for it in Costa Rica yet. If at all, clinical pharmacy is still in its early stages. And if one wants to specialize in a field of pharmacy such as nuclear pharmacy for example, they would have to travel out of the country to become a specialist in this field since education in certain specializations of pharmacy is not available.

Meeting the Family

During our trip, we were able to have the full Costa Rican authentic experience. Instead of a hotel, we stayed in a host family in Heredia. Our host "mom's" name was Patricia and she lived together with her mother Elizabeth and son Frederico. Having never lived in a host family before, we were a little nervous about meeting them. Our fears evaporated as soon as we met them.

Turned out, Patricia was an expert at dealing with students. After all, she has been doing it for over 30 years! Her family was the first one to partner up with LIU Global College to provide housing for our students abroad. We especially enjoyed our daily dinners with the family. It was not only time to eat, but also to socialize and a chance to practice our Spanish. Although Patricia spoke English well, she always made the effort to converse in Spanish during dinner and teach us popular phrases and names. She especially enjoyed telling us about Costa Rican culture and government, because Patricia is an active member of her regional union that works to address problems and advance social, economic and cultural aspects of the community. Elizabeth used to be an artist until she retired. Their house is still full of beautiful paintings, quilts and flower arrangements that made the house look welcoming and beautiful.

Essential Tips for First-Time Travelers

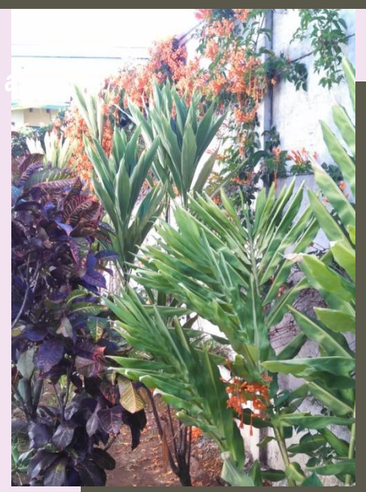
If you are travelling to Costa Rica, make sure you like rice and beans. These two ingredients permeate the cuisine and are a staple in all social circles. For breakfast, Costa Ricans prefer gallo pinto—a mix of black beans and rice, together with onions, peppers, cilantro and Lizano sauce. For dinner, expect to see beans and rice with a choice of meat or fish, along with fresh salad and sometimes fried plantains.

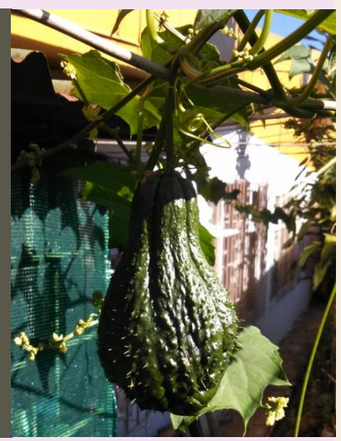
Ask the experts >>>

Q: *What should I try while in Costa Rica?*

A: *All types of fresh fruits and juices*

Costa Rica is home to a large variety of tropical fruits available all year round. Do not miss the chance to try some of the varieties. Costa Ricans not only eat these fruits raw, but they also love to make juices, smoothies, preserves and use many of them when cooking.





Frutas

The fruits that we tried there were so ripe and delicious! Every day, Patricia would make fresh squeezed juice from different fruits and we were glad to taste-test all her creations. Because of the abundance of fruits available, Costa Ricans love to make smoothies. Anywhere we walked, there was always a small store selling smoothies. I especially enjoyed one I got with strawberry, banana and mango and vanilla ice cream. Muy Rico!