

Honduras Trip Report – Fall 2021

Department of Family Medicine, University of Rochester

| Participants | |
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| <u>Faculty</u> Ryan Cummings, Douglas Stockman | <u>Residents</u> Sheema Shabahang, Emily Triplett |
| <u>Interpreters</u> Diego, Heydi, Melissa, Paulet | <u>Unitarian Church</u> Barbara Gawinski |
| <u>Dental</u> Roger Carroll | |

Introduction

The Department of Family Medicine at the University of Rochester operates a Global Health Program. This year-round program offers didactic training throughout the year and travels twice a year for two weeks at a time to rural Honduras. The Department has partnered with a rural community called San Jose, San Marcos de la Sierra in the Southwestern state of Intibuca, Honduras. The needs of the target community are great and go beyond curative medicine. By listening to the concerns of the local community members and performing qualitative community assessment, we are creating interventions designed to address the common problems. Below is a report from our Fall 2021 trip. Due to Covid, this is the first trip our Department could make for two years.

Travel and General Comments

The trip to Honduras was uneventful. No bags, or people, were left behind. Doug was pulled out of line while trying to leave Honduras and his passport and boarding pass were taken. After about 45 minutes the issue was resolved. One interpreter had babysitting fall through at the last minute so we had a very active 6 year old as part of the group. Water was a bit of a challenge this trip. We got a little rain the first 1-2 days before the gutters on the volunteer house were fully reinstalled. After the gutters were installed we had no rain. A few years back the gutters on the volunteer house were stolen so we have to install and uninstall the gutters every time we visit. We did have gutters installed on the clinic that drains into our tank which is about 300 feet away using underground pipe. Unfortunately, road work being done on the dirt road crushed that pipe while we were there.

Reyna cooked for our group. There were some early challenges with the quality and quantity of food being prepared that we figured out. Unfortunately, the majority of the group developed diarrhea. With Cipro and a little time most people were able to keep working.



6 yo Nicole checking Ryan's temperature

COVID

Reliable statistics about Covid rates in the area were not available. A community health worker from San Marcos (a bigger town about 1 hour walk away) said that currently there are no cases of Covid in San Jose. She did say the hospital in la Esperanza was full with Covid cases. Although we saw many patients with cough and other respiratory symptoms, no one

tested positive for Covid. Earlier this year and last year a number of people in the San Jose area got Covid and a few people died, including a carpenter friend of Doug's.

Education & Schools

The First Unitarian Church of Rochester has actively supported education in this area of Honduras for more than ten years. This support takes the shape of scholarships, school visits and occasional funding of special projects.

Scholarship Students

The current scholarship day was designed to space out the attendees due to COVID-19 with San Jose, Guanacaste, El Horno, and Portillon, presenting in that order from 8:30-12:00 on Saturday. Heydi, interpreter, greeted the students and parents and presented the students with letters from their donors and took photos of the students. The students then presented their documents to Paulet (interpreter), Maria Gloria Lopez (former scholarship graduate) and Roney Amaya (director of education) in Migdalia's classroom. A groups of girls attended a little chat with Emily, Ryan, and Heidi about sex education. Of note, two scholarship girls were in their 8th month of pregnancy and had completed all their studies for the year. The parents presented to collect the scholarship dollars and expressed their gratitude to Barbara with Diego interpreting.



Students discussing sex education and development with the Doctors

Highlights of the current students; seven scholarship seniors at San Marcos de la Sierra represent one-third of the Senior Class. The graduation ceremony will be held on November 30. One mami began crying when sharing that it was the one year anniversary of her former scholarship daughter's death either from a fall or some other spiritual belief. Another of her daughters is receiving the scholarship in honor of the deceased daughter. Later in the week, one man presented because he had been attending the funeral for his father. Life is difficult in Honduras.

A total of 26 of the 31 students presented with their documents and received their second installment of scholarship Lempira. The five unaccounted for students were as follows: Two sister students went to the USA and 3 students failed to attend and present their work. All students agreed the year has been difficult without teacher instruction. They worked hard on their worksheets. Some used the internet for learning, but most, relied on what they could learn from the papers given to them. All are hopeful that in person classes will begin in February 2022.

Antonia Garica Cabrera graduated from University with a degree to teach in the Elementary Schools. In addition to her letter of thanks, she presented a lovely hand made ceramic gift for Barbara and a beautiful hand made paper box for Jean Hamlin, her donor. Unfortunately, due to local politics, she was removed from her teaching role in the kindergarten classroom which she opened and replaced by a less educated but more "connected" person. Antonia secured a teaching position in Los Potreros which requires a one hour walk in each direction which she does not feel safe walking. As principal of



Antonia Garcia and her former elementary school teacher Roney Amaya

Portillon, Profe Roney Amaya continues to hope he will be able to reinstall her in his Portillon classroom.

On Monday, Wilmer Bautista Hernandez, a university scholarship student, presented with magnificent stories about his training in clinical laboratory work during COVID. To supplement his scholarship dollars, he is working with Shoulder to Shoulder as a community health worker. He was thrilled with his future possibilities upon graduation next year.

First Unitarian Church Curriculum

On Wednesday October 27, Barbara Gawinski presented the curriculum created by the First Unitarian Church’s

Honduras Ministry members, Robin Suwijn, Mary Rapp, Carol Thiel and Barbara. The theme was “An introduction to writing.” Paulet served as interpreter and Sheema MD and Emily MD assisted in the delivery of the two and a half hour workshop. The presentation of curriculum tools were Rory Story Cubes, noun and verb sets, word banks, wood discs and graphic organizers.

Fifteen Honduran school directors attended from the RED district including Elementary School directors and Kindergarten teachers. Districts represented were La Calera, El Guanacaste, El Horno, El Portillon, El Potrero, El Rancho Quemado, El Salitre, and San Jose. Migdalia permitted the session to occur in her classroom in San Jose school. Attendees from US and Honduras used hand sanitizer upon arriving and wore PPE masks during the session. US personnel were fully vaccinated from COVID-19 but Hondurans were not necessarily so.



Wilmer Bautista Hernandez

Student-learners actively and enthusiastically engaged in the lesson presented. They demonstrated much curiosity and creativity through active questioning and elaborations on how else to use the materials presented. A great deal of energy was obvious in the classroom as the noise level increased, laughter increased, and dialogues continued. The Honduran teachers had a great deal of fun demonstrating that learners are different as demonstrated in the room with serious, playful and physically active performers.



Barbara and Paulet teaching the teachers



Teachers working with Rory Story Cubes



Scholarship graduate Antonia as teacher taking class

There was a short break with local prepackaged cookies, but not one teacher left his/her seat, demonstrating the eagerness to continue learning. The second lesson was on pronunciation of English words from the word bank. The teachers asked to extend their time as they were grateful to continue to learn and practice more English. The lesson concluded with presentation of learning certificates and a group photo.

New scholarship applicants

Due to COVID, student applicants and their parents were invited to meet on four separate mornings based on their community: San Jose, Guanacaste and Potrerros, El Horno and El Salitre presented with 21 students; Portillon presented with 10 students to enroll in 10th grade. Several students did not present with parents, so a neighbor, a sister, a cousin, and a teacher provided additional information for the






Teachers with certificates of class completion

parent's application form. There were only 32 applicants in total this year, which seemed low since last year we were not present to accept applicants. Members of the First Unitarian Church Honduras Ministry will review the applicants, review the teacher's recommendations and students' grades and select the best applicants for the 2023 school year. They are always looking for new scholarship donors to support these students.

Special notes

Maria Justa Gutierrez, a 2012-2017 scholarship recipient, presented for a conversation with Barbara. Maria Justa attended middle school in San Marcos, took up employment as a house keeper in Tegucigalpa so she could attend high school there. Since graduating high school, she has worked as a house cleaner and cook, affording herself to attend university to be a teacher. However, this year, her boss made sexual advances toward her and she returned home to San Jose. She has continued with on-line classes and would like to continue in university. She has been cutting wood, cleaning houses, and assisting neighbors to make a little money, but not enough for university classes. She will present her grades to Barbara with her official documents for university. She said that she has all her letters from her previous donor to inspire her to continue on in her education. Carol Ann Britt was one of her donors for scholarships in years past. Maria Justa hopes to become a certified elementary school teacher.

Due to the small number of brigade members, Barbara hired a former scholarship student, Maria Gloria Lopez, to assist with interviewing the parents on scholarship application day and to help document receipt of the current scholarship students packets. Typically she has been working as a house keeper in various cities while her husband works construction. Her mother cares for Maria Gloria's children when she must stay out of her home.

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| <p><i>First ever applicants from Salitre</i></p> | <p><i>Portillon applicants during testing</i></p> | <p><i>San Jose applicants</i></p> |

Honesty

I was raised to value honesty as the highest priority. Telling the truth was met with more respect and a less severe consequence than the discovery of a lie. I continue to value honesty and often find that honesty is interpreted differently. One year we discovered parents were accepting extra money for room and board for their students when their children were actually commuting to school. We learn this by conducting visits of the homes. A decision was made to discontinue scholarships for those families.

Each year, we ask parents questions about the value of things in their home and their property. We assess their wealth through these simple questions to determine who really needs a scholarship. We also learn how many people have received projects like water filters, latrines, and improved cook-stoves. We also assess wealth by learning about the ownership of animals: cows, pigs, chickens, ducks and turkeys and whether the family farm their local land or a large plot of land. Additionally we assess family home comforts like beds, blankets, radio, electricity and cell phone. Rarely have we determined that a family did not benefit from a scholarship. On this trip, as we have done in the past, I conducted a home visit. Naively my visit was to see how a family lives without some items that were difficult for me to imagine. The mother said she had no lights, no beds, no blankets, no filters, no latrines, no improved cook-stove, no chairs, no cell phone, no bicycle. Essentially she said she had nothing. I could not imagine the 6 people in the home and how they lived. I received permission from the mom to visit with a small group, and her son agreed to escort us to the home.

On Sunday afternoon, Heydi, Roger, DDS and I walked downhill through a half mile of a gorgeous coffee farm with bananas, mangoes and other trees, escorted by the home owner's son. He beamed with pride and taught us what is required to care for coffee and how little the family was receiving for a pound of coffee. As we continued the walk, there was a store house for coffee and three small functional houses for three independent families and there was an older unused home without a roof. The mother had two water filters, an improved cook-stove, solar electricity, latrine, running water from a spring. There were beds and blankets for each family member with separate rooms for various ages and genders of children. Well, the bittersweet was the family had so much more than she reported and I did not learn how the very poor live with very little. So the question remains, how to access accurate information about the financial status of the family and what comforts are afforded the family members. Self-report is obviously not the most accurate way to collect accurate information.

Education report by Barbara Gawinski

School Infrastructure Support

The Unitarian Church helped build some of the school buildings in Portillon. Recently one of the school buildings was damaged by a wind storm. The Church stepped up and helped purchase materials to repair the damaged school building.

Medical Care

Clinic

The clinic remained busy the entire time we were in San Jose. Given our small group size the two interns were seeing all the patients. They worked very hard, did a great job, and helped many people. Below are reports from their time in the clinic.

Report from Sheema

I was able to do my first bilateral knee injection! Ironically, a month prior, I was on my orthopedics rotation and was not able to do a single injection. In the two weeks I spent in San Jose, I got to do three. A middle-aged woman came into the clinic that day complaining of knee pain. Dr. Stockman was next to me the whole time, guiding me through and helping me find the appropriate landmarks for where I would insert the needle. I took a deep breath, sterilized the area, and injected the steroid into her joint. Luckily, the patient did not experience any pain or discomfort with the procedure. There was something so satisfying and rewarding about that experience. It felt like I had passed some sort of rite of passage as a primary care physician, and that was a very exciting feeling.



Sheema's first knee injection and a rite of passage as a family doctor

That same week, I got to see a pregnant woman who was around 36 weeks gestation who wanted an ultrasound to see her baby. She had not had any imaging of her baby since she got pregnant, so this was



Emily's first knee injection

going to be the first time she would see it. The ultrasound that we had in the clinic was kind of like me in that we were both from the early 90's, so we explained to her that we would not be able to do much with the ultrasound other than see if there is a viable pregnancy, determine baby's position in the womb, and get a rough estimate as to whether there was adequate amniotic fluid present. The patient understood this and was still excited at the prospect of being able to see her baby on the screen. I started out the first two months of my intern year on labor and delivery, so I felt fairly comfortable with using the ultrasound in this context. I was also excited to be getting OB experience since this is what I want to incorporate into my practice in the future. We placed the probe on her belly and we were able to see all four chambers of the baby's heart! We calculated the baby's heart rate, which was at an appropriate 130bpm. We verified that the baby's head was vertex in the uterus and were able to visualize that an appropriate amount of amniotic fluid present around the baby. We gave reassurance to the patient that her pregnancy is progressing normally and she left the clinic with relief that her baby was healthy.

Unfortunately, not all the cases I got to see had positive outcomes. For example, I had a woman come in who wanted a refill for metformin. She was one of the only type 2 diabetics that I had seen in the community up to this point, as T2DM is rare, yet an up and coming condition in this community. She said that she had been experiencing symptoms of hyperglycemia, such as polydipsia and polyuria. I used a POCT glucose monitor and her BG was so high it was out of range for the monitor to detect.

Had I seen a patient like this back in the States, they would immediately be sent to the emergency room, admitted to the hospital and started on insulin and IV fluids. I knew that a bottle of metformin was not going to control this woman's diabetes. But, alas, it was the only option we had in that moment of time. I discussed with the patient that metformin was not sufficient in managing her condition and that she needed to be on insulin to bring her glucose levels under control, but I also realized that would not be a feasible option for her. So, I prescribed her the bottle of metformin that we had available in the pharmacy and wished her the best. I felt extremely defeated that that's all I could do for her at that moment.



Diego and Sheema seeing patients

One of the last patient's that I saw at the end of my trip was a 75 year old woman who came in with her daughter. This woman was probably the sickest looking person I had seen since I was there. She was hunched over in her chair, struggling to take breaths. Her daughter explained that she had a cold a few weeks ago and since then her condition has gotten worse to the point where she has become increasingly lethargic and weak. Her legs were extremely swollen. I listened to her lungs and was barely able to detect breath sounds, indicating that there was likely fluid present. In combination with an extra heart sound on her cardiac exam, it was clear that this woman was suffering from severe heart failure. This was another case that if I had seen a patient like this in the US, she would be a direct

admit for IV diuretics in the hospital. But all we could offer her at that time was a few doses of spironolactone. Dr. Stockman, however, offered to pay for a cab to take the patient to a hospital in a nearby city so that she can receive appropriate care. The risk of doing this was exposing this already frail and immuno-compromised patient to a hospital overwhelmed with COVID cases. And that was probably the most difficult part of this entire experience - knowing exactly what to do to help a patient's condition, but not having the resources or the logistics to do it. At the same time, it was a huge motivating factor for me, because it inspired me to keep coming back and doing the work to help this community.

Sheema

Report from Emily

It took some adjustment to realize that despite the miles and resource limitations, clinic was not much different from home. The first day, I saw a little girl with bilateral ear pain and was tempted to give amoxicillin- she'd come all this way, surely she'd need treatment - only to discuss it with Doug and realize this was just the classic case of Eustachian tube dysfunction I'd seen so many times at home. We gave ibuprofen to relieve the swelling and I was more conservative for my next patient: a 3 year old with one day of cough and fever. Again, just some Tylenol, return precautions, and reassurance.

Later that day, I had the opportunity to drag out the old, bulky ultrasound machine. A woman in her 4th month of pregnancy had never gotten an ultrasound due to the expense. We warned that all we could tell with our old technology at such an early gestational age would be fetal positioning and maybe the presence of a heartbeat. She eagerly took any opportunity to see her unborn baby and we took the chance to refresh our ultrasound skills. Surprisingly, the image was much better than anticipated. We easily identified the proper vertex positioning and a healthy fetal heartbeat. Throughout the rest of the

trip we were able to use the ultrasound to look at an 8 month old fetus (word of a low cost ultrasound exam spreads fast), to differentiate a cystic lesion from a musculoskeletal pathology on a woman's foot, and to examine a kidney for renal calculi.

The next day, I had the pleasure of meeting a patient well-known to the clinic to have complete heart block. Our hand-held EKG confirmed a heart rate in the high 30s/low 40s without signs of ischemia. He denied any symptoms, beyond the expected exertional dyspnea – he had just come to clinic to check on the status of his condition and purchase some reading glasses so he could read his Bible.

Emily

A bad rash and a worse situation

One day the medical clinic was closed except for emergencies so we could focus on the scholarship program. A thirteen year old girl accompanied by her mother presented complaining of a terribly painful new rash and fever. We agreed to see her. She was a very quiet small girl who had difficulty making eye contact. The rash had started a few days before. She denied any exposures. When we examined her it was clear she had an extensive primary genital herpes infection. Although the patient had recently started having periods, she looked more ready to play with dolls than be sexually active. We asked the mom to leave the exam room so we could collect a more detailed history. The girl denied that anyone had hurt her but never made eye contact. We started talking among ourselves along with the interpreter Heydi. It was clear she had been sexually abused. We informed Heydi that in the US we must tell the police and do everything we can to keep this girl safe from future harm. Heydi informed us that if we tell anyone, especially the police, or even the girl's family, the girl would be blamed and she would be hurt even more. Heydi started to cry as did the rest of us with the realization of the injustice and inhumanity of the situation. Here was this little girl who would have to face the emotional and physical scars of this rape and herpes infection all by herself. Just as painful was the knowledge that other girls would be at risk to have the same thing happen to them by the perpetrator and there was nothing we could do. The girl continued to deny anyone hurt her. Through round-about questioning we were able to determine she was most likely raped by her older sister's boyfriend when the patient visited their house. The patient requested we not tell her mom about this rape. She agreed with Heydi that no one else could know. We brought mom back in the room. Mom informed us the girl was not eating, withdrawn, not doing well on her studies or chores. Using vague references we helped mom understand what to expect from the girl's behavior and how to keep her safe in the future. The patient's facial expressions suggested she seemed relieved when we said the patient could never go back to her sister's house.

Left over medications

Many times we have medications left at the end of the brigade that will expire before we return again in six months. We have in the past given some of these medicines to the clinic in San Marcos. Unfortunately, we have received multiple reports previously and on this trip that the medications we donate are removed from the clinic by health professionals assigned to the San Marcos clinic. The medicines are then sold for profit by the health care workers. Doing the right thing is often very hard in this complicated world of ours.

Home Visits

The Honduran interpreter, Paulet, helps care for a family who lives in a nearby village called Portillon. Among the members of this family is an eight-year old girl named Sayli. Sayli has a severe form of cerebral palsy in which she is essentially bed bound. She is unable to move or speak. Paulet had asked us to make a trek out to Portillon to check in on Sayli and make sure she has any necessary medications or medical interventions. Let me just say- I was not prepared for the hike to Portillon. It was about a 2.5 hour hike downhill and a 3-3.5 hour walk back uphill. Nonetheless, we persisted onward. As we were approaching the village, we went off trail into a smaller, more narrow path embedded in the forest. While navigating our way through this winding path, I saw a boy, about 5-6 years old, carrying at least 50lbs of wood on his back while walking up a steep, muddy hill wearing just rubber flip flops. Meanwhile, I am in full hiking gear carrying nothing but a camel-back bag full of water and I am struggling to breath. That image of the boy, however, stuck in my brain and it's an image I will never forget. It caused me to stop and look at myself for just a moment and forced me to realize that struggle and adversity is all relative. This extremely, physically challenging trek for me was an everyday activity for the people of this community. It is not a struggle but a means of survival for these people. I was immensely humbled by that encounter and will carry that with me as I face difficult situations in my life.

We finally made it to Sayli's home and we were welcomed inside with open arms. Their home was a concrete structure with a living area and a bedroom area. There were two beds that were shared amongst 7 different people. Laying on the furthest bed against the wall was Sayli. Her arms were flexed towards her chest and her feet turned inwards. She had the stature of a 3 year old toddler, not an eight-year old child. She was not very responsive to our presence but it was clear she felt comfortable with her mother nearby. Emily, Ryan and I slowly turned her on her side and pulled up her shirt to examine her back and



Home visit to a very nice home

torso. Our biggest concern for her being bed bound for extended periods of time were the formation of sores and ulcerations. She had some small, less than 0.5cm cuts on the upper and lower parts of her back and some bruising around her tailbone- likely the start of a bed sore. She also had fungal infections present on both her axilla and ears bilaterally. Her mother stated that luckily she has not been getting sick very often, but we had left her some Tylenol in case. We provided steroid and fungal creams for her ears and axillary regions and instructed her mother on placing padding on her back to help prevent the formation of sores. Her family was extremely thankful for our visit and it felt nice knowing that we helped positively impact this child and her family's life in a small but significant way.



Knee injection during a home visit

On our way back from Portillon, we passed through the village of Mangal. As we were passing through, we were stopped by this woman sitting on the porch of her home. She called us over to examine her left knee as she had been experiencing significant issues with mobility. She stated that because of her severely

arthritic knees, she has not been able to walk independently in months. She had been seen by an orthopedist in the town of Esperanza a year prior, and they had given her steroid injections which gave her temporary relief for a few months. However, since then her condition had progressively worsened. Her left knee was significantly swollen and deformed. She was experiencing pain everywhere we had palpated and she was barely able to stand up on her own. We had told her we would return in a few days to fully evaluate her knee to try and aspirate the excess fluid and inject her knee with steroid. While we knew this would not be a long term solution for her problem, we could at least provide her some relief with the resources we had available.

Sheema

Dental Care

Curative Dental Care

Roger Carroll, DDS was the busiest member of the group. Dental care is essentially unavailable for the vast majority of the population. Given we could not send a group for 2 years, there has been no dental care and the pent up demand was huge. Many San Jose residents have been in dental pain for 1-2 years with rotted teeth and smoldering dental infections. Roger saw about 120 patients doing 135 extractions and multiple restorations. We have limited dental equipment to begin with, but he had to deal with a broken control unit that made the one dental drill inoperative.



They came by donkey and mule looking for the dentist



Damaged front teeth before repair



A new smile!

Fluoride Varnish

We had over 600 doses of fluoride varnish to apply to children's teeth. Reaching the children was a challenge. Normally we send a team out to different schools each day to apply fluoride varnish. Given schools were not meeting due to Covid, we could not do the same. Additionally, we were a small group, in part due to Covid altering how many residents could travel. We were able to apply fluoride varnish on 2 mornings to children in San Jose Centro. Hopefully things will be better in 6 months and we can reach all eligible children.



Emily, Diego, and Sheema applying fluoride varnish

Rural Development Projects

Fogons (cook stoves)

The cook-stoves we designed years ago remain one of the most popular interventions. Over the past 6 months another 13 stoves were built. We bought enough materials this trip to build another 10 cook-stoves. The stoves reduce smoke exposure in the home, reduce burn risk, and use less firewood than an open fire.

Pilas

Pilas are cement water storage tank/kitchen sink/laundry area made on-site. Many people cannot afford the \$110 in materials to build a pila. Since we started subsidizing pila construction many more people have built pilas in their home. Our foreman, Edys, helped complete another 25 pilas since May and we purchased enough materials to build another 32 pilas in the coming months.

Latrines

Edys helped complete another 10 latrines since May. We bought enough materials this trip to build another 12 latrines.

Water Filters

Most of the water people use in the area for drinking is contaminated and can lead to diarrhea, especially in children. Many years ago we introduced ceramic water filters that are made in Honduras. In May, we had 200 filters delivered to San Jose. Since that time Edys has sold 41 filters. During our time there we sold another 31 filters for a total of 72 filters. Each filter costs about \$27. Given this relatively small investment reduces diarrhea in children and possibly reduces childhood deaths, it is money well spent.



Typical kitchen area with a pila to the left and a hand-cranked corn grinding mill to the right

Rain Water Collection

Two years ago we worked with people in the distant village of Salitre to distribute 55 gallon drums and home made gutters to 20 homes. Particularly for homes that do not have a pila, the water barrels and gutters significantly increase the amount of water available to the home during the rainy season. By working with the leaders in Salitre we identified 20 more homes to help with barrels and gutters. The biggest problem in Salitre is the lack of water. In the dry season most people have to walk 2 hours to reach a small basin sized pool of water. So far, we have not found a solution to the lack of water in the area for the dry season. The barrels and gutters definitely help in the rainy season. We have built 4,000 gallon water tanks in the past but this would only be enough for 1 home to make it through the dry season if they are very careful with water use. The trouble is each tank can cost close to \$2,000. We are exploring lower cost options. There are no naturally occurring springs in the area we can harvest. That is usually the lowest cost option for improving the water situation.

Solar Electricity

The majority of the homes in the area do not have electricity. This means from about 6 pm to 5 am every night most people are in the dark. There is no way to charge a cell phone or other device. Imagine your life if this were your reality. For about \$450 per home, we can install simple solar

systems that will provide 4 lights at night and the ability to charge cell phones or other USB-powered devices. Meals can be cooked while being able to see the food being prepared. Students can study after dark. People can stay in touch with loved ones and not have to walk 1-2 hours to charge their phones. We are starting a pilot project with 6 homes and will install solar systems. From this pilot project we plan to expand to other interested homes.

Clothing Distribution

The Honduran interpreters were the main driving force behind giving second-new clothes to some of the poorer inhabitants of San Jose. It is hard for most of us to appreciate owning only 2-4 pair of clothes and no shoes except a pair of flip flops. Heydi and Melissa brought clothes to give away. Roger did the same. For these three I think more than half their luggage contained clothing to give away. 2-3 years ago we received a donation of hand-sewn dresses. We brought some of these as well. Whenever a very poor person was seen during a day one of more of these 3 would be seen running down to the volunteer house to find clothes that might work for the person or family. So many people were made happy by these acts of kindness.

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| <p><i>Girl with a new dress</i></p> | <p><i>Grandma with a new shirt and girl with first ever pair of sneakers</i></p> | <p><i>Tomas and Melissa. Melissa makes sure Tomas gets a bath and new clothes every 6 months</i></p> |

One case in particular remains with us. A few years ago a woman was brutally attacked in a domestic violence incident. We offered help but the woman died from her injuries. We came across a daughter of this lady. She was living with her grand mother and both were clearly struggling. The girl was in rags and her flip flops were falling apart. Adding to this awful situation was the fact that the girl had lice crawling throughout her hair. The grandmother didn't have money to get treatment so the girl lived with the bugs crawling throughout her hair and causing terrible itching of her scalp. We treated her for lice and gave her clothes and footwear. The girl was so excited she put the clothes and shoes on immediately and was beaming. We saw her a few days later. She was so happy that the lice were gone and she had new clothes. The small things can make such a huge difference in a person's life, even if only briefly.

Agriculture

Coffee

We were able to get 130 lbs of coffee from our usual supplier (Gloria and Arnold). Unfortunately, this year's crop was just starting to be harvested so we got green coffee from last season's harvest. Fortunately, green coffee keeps well without degradation in taste over time. By the time you read this,

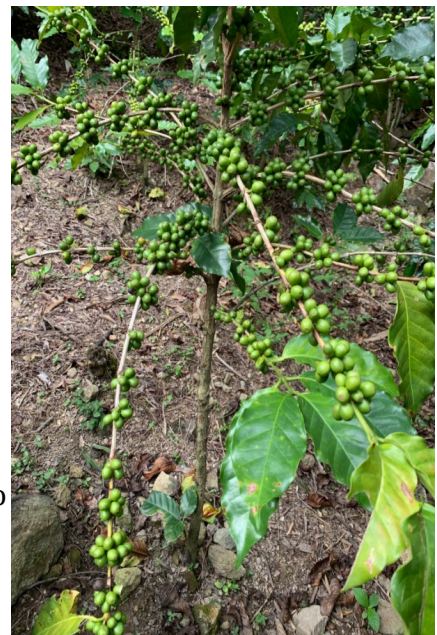
coffee should be for sale at HFM for \$13/lb, roasted, ground, and bagged in aluminum lined bags. We are using a Farm to Table approach. This means we skip all the middle men such as coffee buyers and distributors who get most of the profit from selling coffee. When coffee is sold to buyers in Honduras, the Honduran farmer makes about \$1-\$1.50/lb. That same coffee will be sold to you for \$10-\$15/lb. By selling direct to the buyer we can return most of the price you pay to the Honduran farmer. The Farm to Table approach means you get great coffee and the farmer, who does most of the work, can earn a living wage. Gloria and Arnold hire two full time workers from the poor community of el Salitre. They are able to pay 50% more per day to these workers (\$2 more per day for a daily wage of \$6/day). Everyone benefits.

About a year ago another coffee farmer approached us hoping to work with us. Margarito Sanchez is from San Marcos. He has about 3,000 coffee trees and has been going organic for the past 4.5 years. We were able to get 20 lbs of his organic Lempira coffee to try. If we like his coffee, we hope to get more in the future. Harvest time is now. I will get word to him to save us coffee if indicated.

The long term goal is to work with more farmers from the San Jose area so more people can be helped. Ideally, once a year we would ship a 20 ft container to the US full of coffee and sell in Rochester to supportive people. The increased profit would have long term benefits for hundreds of people in the San Jose area.

Hot Peppers and Other Crops

When meeting with the coffee farmer (Maria Gloria's son Arnold) we discussed the status of the hot pepper project. Hondurans love spicy foods. A few years ago we introduced a new heirloom hot pepper called the Scorpion pepper as a potential cash crop. Arnold planted 60 plants this season as a test. He admits he was too busy to nurture them as well as he should, but he was still able to grow about 40 lbs of peppers. The local peppers sell for about 50 cents/lb. He sold the Scorpion peppers for \$1.25/lb to a market woman who sells them in Esperanza. She reports that people love the Scorpion peppers and want more. Arnold hopes to plant more peppers this coming dry season. They have water year round and should be able to grow the peppers when most farmers cannot. Given crops like beans and corn are not grown in the dry season, Arnold may have more time to care for a larger crop of peppers.



Coffee trees heavy with fruit. Once the fruit turns bright red it will be harvested.

The Scorpion pepper is the third or fourth hottest pepper in the world. This trip we gave Arnold seeds for the Carolina Reaper pepper, the hottest pepper in the world (thanks Shirley Wong who provided the seeds). He planted the seeds shortly after we arrived. They are germinating well so hopefully he can grow the Carolina reaper and realize another income source. We also gave Arnold seeds for sweet peppers, squash, and zucchini.

Given Hondurans love of all things spicy, we brought some horseradish root this trip. We are trying to introduce unique agricultural crops that can help bring more money into the area. Whenever we ask people about business opportunities, they suggest selling the same crops they all know. The problem with this is that everyone else is doing it and the profit margins are tiny. The horseradish is another

experiment to see if we can find a new product that sells well and is not available elsewhere in Honduras. This can increase the profit margin.

Update on Project Status (updated 11/05/2021)

| Project | Completed | Project | Completed |
|----------------|---------------|---------------------|------------------------------------|
| Cook stoves | 383 | Scholarships | 100+ students, 36 current scholars |
| Filters | 490 | Fluoride varnish | We didn't track this visit |
| Latrines | 173 | Fish farms | 6 |
| Pilas | 166 | Piped water systems | 5 communities |
| Heirloom seeds | >15,000 given | | |

Your Help is Needed

We believe in low cost, simple technology solutions that the Hondurans can learn and maintain on their own. We are doing a great job in this respect. However, even simple interventions cost money. To continue the exceptional work we are doing in Honduras, we need more funds. If you have the financial ability and appreciate the great improvements our activities are bringing to rural Hondurans, please take a minute and donate to our project. Donations are tax deductible if you itemize your taxes. We are very fortunate to have the assistance of the Department of Family Medicine and dedicated volunteers to almost eliminate overhead expenses. Therefore, your donation will reach the Hondurans and not be spent on less helpful expenses such as rent for a dedicated US office or US-based secretarial support. If you would like to donate to the San Jose project, please make a check payable to “HH Foundation – GH Fund HFM”. Mail the check to “Highland Family Medicine 777 Clinton Ave, South Rochester, NY 14620 Attn: Douglas Stockman”.

Summary

The greater Rochester Family Medicine community has touched so many lives in Honduras and the Hondurans have enriched so many of our lives. As is true for all development projects, there will be setbacks. These are learning opportunities and allow us to improve future interventions. This cross-cultural project is realizing huge benefits for everyone involved, even with a few setbacks. The scholarship students gain confidence as well as a chance at a path out of poverty. Seeing the smiles and appreciation as people display their running water, new cook-stove, or water filter is so rewarding. Through these very intimate person-to-person exchanges we maintain hope that a better world will become a reality one community at a time. Thanks to everyone for their continued support to make this project such a great success.

Douglas Stockman, MD
 Director, Global and Refugee Health



*Front: Melissa, Paulet. Nicole.
Sheema, Roger, Emily, Roney, Diego, Doug, Heydi, Ryan, Barbara*