POGO Travel Journal

Medical Mission to Ambato, Ecuador

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Location

Medical Mission Ecuador takes place in Ambato, Ecuador, in the province of Tungurahua located in the Andean region of Ecuador. It is about 2.5 hours south of the capital Quito along the Avenue of the Volcanoes and is the third largest city in Ecuador comprised of about 330,000 people. The city lies between 6,000 and 12,000 feet above sea level depending on where you are in town. The city lies in close proximity to one of the most active volcanoes in the world, Tungurahua, which puffs smoke and ash at various times during our trip (Figure 1).

Where did you stay?

The mission trip coordinates with the local establishment "Hotel Florida" (so named because of the floral festivals held every spring in the city) in the Miraflores District. We utilize the entire hotel for 75-85 volunteers. We have used this location for almost 2 decades and the staff has become like family for many of our members.

What are health concerns on the trip?

The main concerns are related to altitude adjustment. True altitude sickness is rare, but almost no one is immune to the sudden adaptation to the higher altitude. Shortness of breath, rapid heart rate, and headaches are common for the first few days. In the highlands, tropical illness endemic to the Amazon is not a concern and no special immunizations are needed. Local water sources are generally not recommended for travelers.

Figure 1. *Tungurahua Volcano as viewed from the Hospital Municipal*

What are things to bring?

Volunteers bring typical medications for GI illness, sunscreen (higher elevation plus being on the equator can lead to more sunburn risk), U.S. dollars (Ecuador uses the U.S. dollar as its official currency so local money is not needed), and all the medical and surgical supplies we use for the trip. We do maintain a storage facility that has grown over the years to contain hundreds of trunks of supplies that are unpacked at the start of the trip and repacked and inventoried at the close. Each volunteer brings one to two trunks of

Figure 2. *The Pediatric Orthopaedic and Rehab Team–AKA Team "O" make their sign.*

supplies. Local hospitals only provide the OR room and clinic space. Drapes, towels, sponges, scalpels, scrubs, marking pens, anesthetics, IV tubing, sutures—you name it and we need to bring it with us. Headlamps, loupes, and any personal equipment are needed per surgeon preference. The only items we purchase locally are IV fluids due to their weight in the luggage. Our equipment and supplies are inventoried and listed for customs with approval from the Ministry of Health prior to arrival. Volunteers are required to provide Apostilles, which are international notarizations, of their medical qualifications to the Ministry of Health prior to approval to attend the mission.

How often have you traveled to this location?
Medical Mission Ecuador (www.medicalmissionecuador.org) was started over 25 years ago by plastic surgeons and Ecuador natives Dr. Henry Vasconez (University of Kentucky), his brother Dr. Louis Vasconez (University of Alabama), and their sister Beatrice to give back to the children of their hometown, Ambato. What started off as two surgeons donating some of their vacation time to do free surgery has led to a medical mission trip that brings in 75 healthcare workers annually including therapists, nurses, surgeons, orthotists, anesthesia personnel, surgical residents, and associated volunteers. Our pediatric orthopaedic team has been in constant attendance since about 2008 in various combinations with individual pediatric orthopaedists attending off and on prior to that.

What are the goals of the trip?
Our goal is mostly service-oriented with a renewed emphasis on education while providing free surgical care to the impoverished children in the region. Each year we try to expand our educational reach—training of local physicians, medical students and therapy students in pediatric orthopaedic care, especially in the neuromuscular disorder patient population. From the beginning, the mission trip has focused mostly on the care of children for plastic surgical, pediatric orthopaedic, and now some general surgical needs. For many years, care has also been provided from a gynecologic provider from the University of Alabama to an adult population as well. We also visit local orphanages and schools for education as well as social interaction.

Who are your typical patients?
Our patients come from all across the region, from local

city inhabitants to children from orphanages up to 10-hour bus ride from the city. Planning locally is a year in advance, with screenings by local physicians and therapists throughout the region. Most our patients are from under privileged backgrounds who have not been able to receive the standard of care for a variety of reasons (financial, social, or medical). Our patients typically include a high proportion of neuromuscular disorders including cerebral palsy and spina bifida as well as genetic disorders, clubfoot, and limb malformations. Interestingly, no matter where you are in the world, you will always find healthy patients with in-toeing or femoral anteversion and Ambato is no exception!

Who is on your team?
The mission trip is made up of anywhere from 70-90 volunteers depending on the year and participant availability. Whereas the trip started as mainly a plastic surgery-based mission, the pediatric orthopedic and rehabilitation portion now comprises over half of the volunteers. The mission trip works out of several local hospitals due to the size of the participant group, separated by field of practice, with the pediatric orthopedic and rehabilitation portion working out of the government supported Hospital Municipal Nuestra Senora de la Merced. At this location we have two operating rooms staffed by four pediatric orthopaedic surgeons, one PGY-3 or greater orthopedic resident, one or two anesthesiologists, two CRNAs or anesthesia residents, four nurses (circulating and recovery), two scrub techs, and a rehab team with 20 or more members consisting of PT, OT, speech, orthotics and prosthetics, child life experts, in addition to a wheelchair rehab team of trained PTs and OTs with nonmedical engineers and helpers. Our volunteers come from all over the United States (Figure 2).

What support did you have from your community?
A longstanding relationship exists with the local Rotary Club of Ambato. The group raises funds throughout the year for local support and helps support the mission with

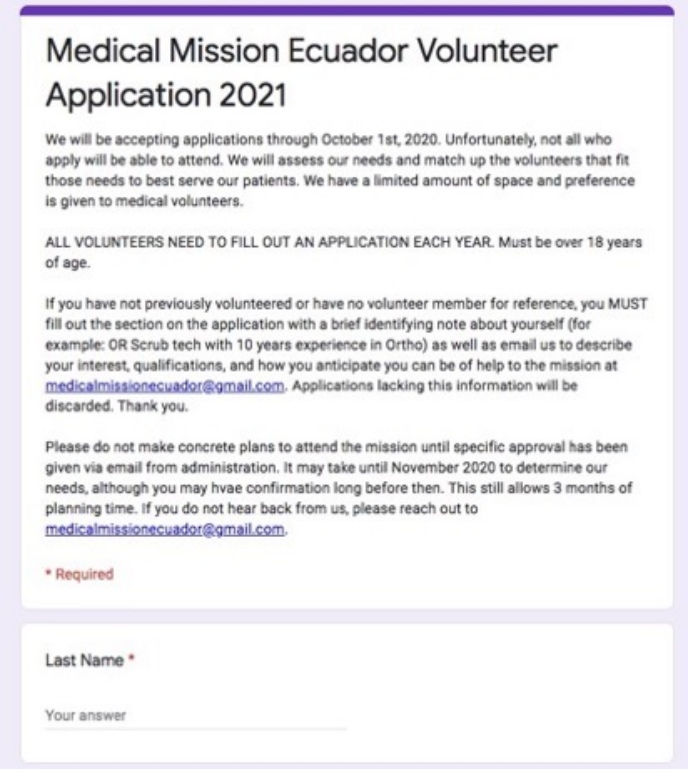

Figure 3. *Online forms for organization*

organization of the hospital access, transportation to and from the various hospital locations, clinic support, obtaining patients for clinic, and social and moral support throughout the mission trip. Importantly, the Rotary Club gets government permission to hold the mission, which is no small feat each year depending on the government. Local physical therapy programs send students for education during the trip, local medical school students also help with interpretation services, and local surgeons have a varying attendance at our surgical procedures.

What follow-up is there after you leave?
Our trip takes place annually with our founder Dr. Vasconez staying 1 to 2 weeks after the mission trip for wound checks on at-risk patients (mostly plastics repair). Physical therapy instructions are given to the families both pre and postoperatively, brace fitting and repair instructions are also provided, and follow-up is arranged for many patients for the following year. We split

postoperative casts and overwrap them so families can remove them at the specified times to convert to orthotics. Postoperative instructions are clearly written in Spanish and explained to the family, brace wear is demonstrated and reviewed by therapy and orthotics, and certain patients also follow-up with local orthopaedic surgeons for more routine x-ray evaluation or other clinical intervention.

Mission Travel Journal

Pre-trip preparations

Planning for the trip is done a year in advance. Organizing 80 volunteers, their travel plans, supplies to bring, and roles on the mission is a slow and steady process. I find I need to use free time at night, at lunch, and whenever spare time pops up to email volunteers, develop and maintain the website, recruit new members, and sort out how to get us all in the right place at the right time. The process starts in earnest in the fall and finishes hours before we all leave from all over the United States to meet up in Quito. A few years ago, I simplified the organization of all the data with travel plans and supplies through apps with Google Forms (Figure 3) and database management to ease the workflow. Locally, volunteers meet up for pre-mission supply packing and planning (Figure 4). Fundraising is performed throughout the year by our volunteers, especially by our team who organizes wheelchair sponsorships for donations that are used to buy strollers to convert into wheelchairs, additional parts, and supplies (Figure 5). QR codes printed on business cards and linked to fundraising sites can be handed out to friends and family and are a good way to get people to your website and help support your mission.

Day 1. Clinic Day

The first day is preop clinic and evaluations. The team arrives at the hospital and the rehab specialists start to set up their treatment area in a large assembly room. Crates of orthotics are unpacked and organized as best possible. An enviable workshop is set up with power

Figure 4. *Packing a few trunks of supplies—multiply by 70 plus volunteers!*

Figure 5. *Fundraising for wheelchair supplies*

Figure 6. *Our MacGyver-like orthotist Eric Miller*

equipment, air compressor, hand tools, heating elements, and an anvil. Our MacGyver-like orthotist Eric Miller gets ready for action (Figures 6, 7). The surgeons set up



Figure 7 (left). *An orthotics workshop is set up with a variety of equipment and tools.* ***Figure 8 (middle).*** *Drs. Iwinski, Talwalkar, and Williams evaluate bedside.* ***Figure 9 (right).*** *Dr. Riley is our pediatric hand expert.*

at five exam tables in the assembly room behind small curtains for what privacy can be afforded (Figures 8, 9). And then it begins. We see 300 patients in clinic in an organized chaotic fashion. Patients are organized by a number with a wristband of our own creation and kept organized and tabulated with our own medical record system maintained by one of our volunteers at a "front desk," which is a table and chair at the front door (Figure 10). The surgeons perform evaluations with an interpreter, therapist, and students at their side. Cases for surgery are "posted" with forms we created from home, sent down the stairs to see anesthesia, and other treatment needs are ordered on the form. For example, a spastic quadriplegic patient may need adductor, hamstring, and gastrocnemius lengthening. Postop they will need short leg casts, AFOs, knee immobilizers, and an abduction brace. They will need to see our orthotist preop to get the equipment measured, piles of braces sorted through for donated used braces that will be heated and modified to fit, and the items put into a bag with the patient's name and number down in the OR area. PT/OT will evaluate the patient for therapy needs, and the wheelchair group will see the patient for possible wheelchair fitting, modification, or adjustment. Each of these areas will schedule the patient on a large schedule taped to the wall and manned by a student volunteer to come back later in the week for the appointment (Figure

Figure 10. *The front desk and a few patients.*

Figure 11. *Three hundred sixty plus patient appointments for the rehab team schedule for the week, not even including the wheelchair team!*

Figure 12 (left). *Despite the long clinic hours there is still time for laughs.* ***Figure 13 (middle****). Some patients are like family, returning every year for hugs and pictures.* ***Figure 14 (right).*** *Three amigos and a friend in clinic (Figures 13 and 14 used with permission from family).*

11). If a patient is located far away, they will sometimes need to stay at a local hostile organized by the Rotarians. All of this happens in what we affectionately describe as organized chaos! Hundreds of families, the Rotarians, and medical volunteers are all moving and working in a relatively small space for 12 hours to make it all work. Patients wait hours to be seen with little complaint. It is inspiring to see such gratitude from our patients and families despite the chaos (Figures 12, 13, 14).

Day 2-5. OR Days

After clinic is complete, we perform the operations set up throughout the week (Figures 15-22). We do mostly neuromuscular tendon releases, clubfoot releases, open hip reductions for late developmental hip dysplasia, and hand operations for deformities and syndactyly. There are always unusual cases that come across, such as the entire family with Charcot Marie Tooth disease who has undergone similar procedures over the years, macrodactyly patients, and tibial pseudarthrosis patients with NF-1. Unfortunately, there are many cases that we don't have the means to address in our facility such as scoliosis, chronic osteomyelitis, or young patients or young adults in need of joint arthroplasty for congenital conditions. While there are physicians to treat these in the capital Quito, the financial means and social barriers can be a limitation to many of our patients.

Each day starts off around 7:30 am with breakfast at the hotel. We then take buses to the hospital, although Ecuador time tends to be very casual. This can turn into 8:30 or 9:00 am by the time we actually start—"When in Rome." While we have access to two operating rooms, we are sometimes bumped for emergent C-sections or appendectomies. As is true with trips of this nature, you learn to roll with the schedule. Some patients do not return for their scheduled surgery for a variety of reasons, and it is not uncommon to cancel surgery because the patient appears ill. We operate until all the patients are done for the day and sometimes this can be in the early afternoon and other times moves towards dinnertime. When the surgical team is done early, there are always additional patient evaluations, therapy treatments, or we start fashioning AFOs and other orthotics.

During the day, the Rotary Club arranges for us to have a midmorning snack, usually an Ecuadorian humita (tamale-like steamed savory cake) or quimbolito (a sweet cornbread-like steamed cake) with coffee. The Rotarians can get offended if we do not stop and take a snack. Lunch is also provided by the hotel staff who cooks all morning and brings it to the hospital to feed us. An afternoon break for a coffee and banana is also encouraged.

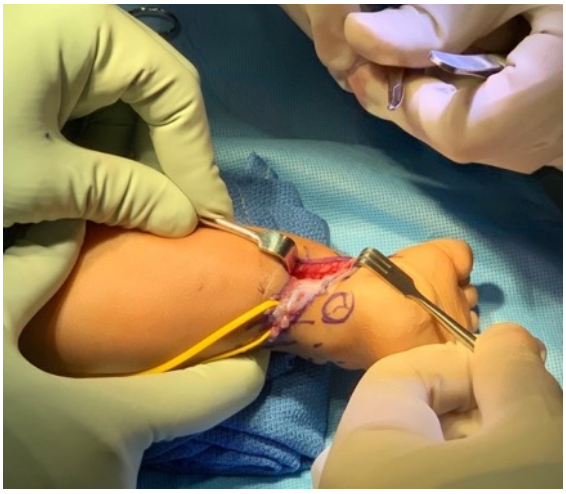
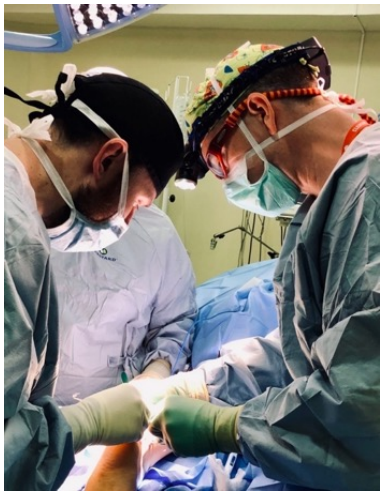
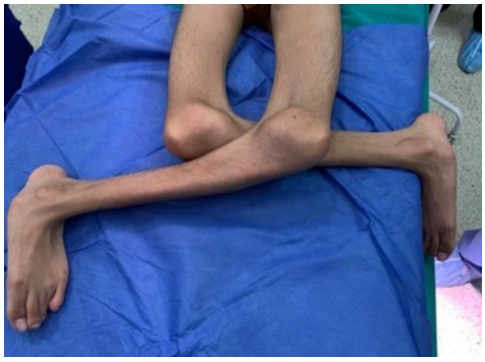

Figure 15 (left). *Club foot comprehensive release.* ***Figure 16 (middle).*** *Drs. Horan and Williams lengthening a heel cord.* ***Figure 17 (right).*** *Preop cerebral palsy patient in need of some tendon releases.*

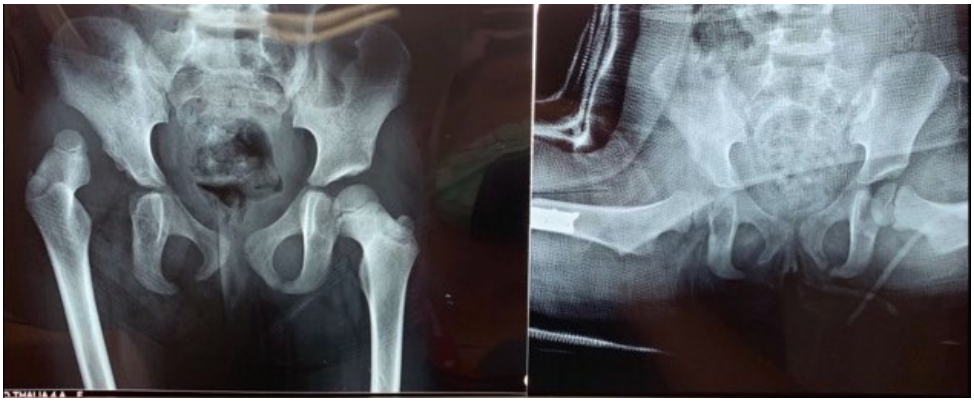
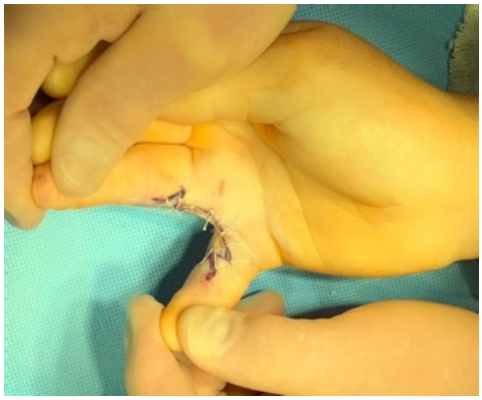

Figure 18 (left). *DDH with femoral shortening and open reduction.* ***Figure 19 (right).*** *Web space*



Figure 20 (left). *Drs. Horan and Riley repairing hand deformities.* ***Figure 21 (middle).*** *Drs. Talwalkar and Williams work with a local medical student.* ***Figure 22 (right).*** *Postop care hugs.*

After returning to the hotel, and depending on how late it is, we either go out for dinner in a local restaurant or we will eat at the hotel. Part of the fun of a trip like this is exploring the local culture. Being in a city that we have been to annually for over a decade, we have our week planned out based on where we will be going for dinner. Dinners may include locro de papas (Andean potato soup), local pizza, Parrilladas (grilled meats and sweetbreads), Ceviche, or Cuy (spit-roasted guinea pig! (Figure 23) served with fresh Aji (Ecuadorean condiment/hot sauce that is good on everything). In the evening, there is plenty of cerveza (beer) available to celebrate a good day.

Day 6. End of trip celebration and thank you

At the conclusion of the week, the Rotary Club puts on a party at the hotel for the volunteers. Although throughout the week we live mostly out of scrubs and T-shirts, for the party we dress up in celebration (Figure 24). Local dancers, entertainers, and singers are arranged for everyone's enjoyment. After a hard week of work, this is a great time to practice your Latin American dance moves. The conclusion, however, is that most of us need a lot more practice to keep up with the locals and Rotarians who seem to live to dance!

What are five challenges you experienced during this trip and how did you deal with them?

1. Travel Fatigue

One of the main things we all face is the fatigue of travel. The travel itself is exciting and the anticipation of the trip gets you motivated, but the reality is that we travel a good bit of the day to arrive. We land close to midnight and travel by bus for 2 to 3 hours to Ambato. We get in bed by 3:00 to 4:00 am and are up for breakfast between 6:30 and 7:00 am. We leave to set up and start clinic by 7:30 am and finish the first day 12 hours later. Add in the acclimatization to high altitude and it certainly can wear you out before you have even really started. To combat this, those who can arrive early do so in order to do tourist activities or just relax. Recently we have taken to going over to the hospital to set up clinic early with those who can spare the time from work by a day. Avoiding alcohol in the initial arrival period and keeping up with your Tylenol can help, but nothing replaces a good night's sleep (Figure 25).

Figure 23. *The traditional roasted guinea pig or "Cuy." It tastes a bit like a dark meat rabbit.*

Figure 24. *Celebrating with friends at the end of the week.*

2. Patient Volume

Each year, there are more and more patients as our reach increases, and we would like to help more people. The issue is that we only can get the facilities once per year.

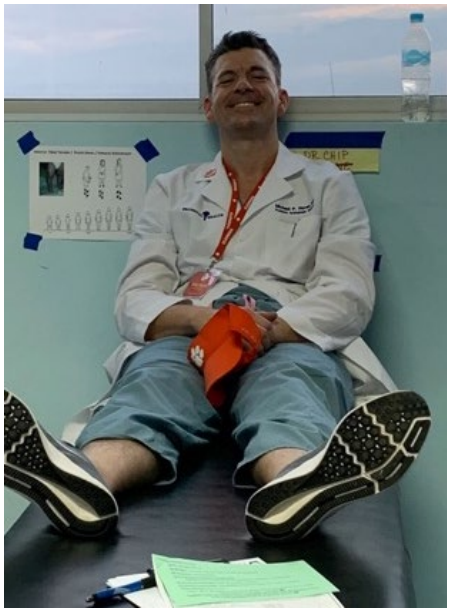

Figure 25. *Worn out after clinic and in need of a nap!*

As it is, even with that, we still get bumped from the OR for local C-sections or emergent general surgical cases. Patients may also arrive later in the week for evaluation and we run out of OR availability. It is disheartening despite all the good you try to do in a week to look into the eyes of a patient you know you can help and ask them to come back next year. You learn to do your best, take solace in the fact that you have helped the patients you can, and hope that the things you have helped teach local surgeons will provide care for patients in the future. Each year we work with the Rotarians to bring the patients in on time. We now have therapists who go down a week early to travel to local orphanages to try and find the most likely patients who need surgery and have them arrive early on clinic day so we can make sure to get them scheduled.

3. Lack of x-ray facilities

If there is one major equipment item we could use it would be intraoperative x-ray. There is a machine for plain films at the hospital, but not for the OR. When we must have a film, we will carry the patient downstairs for the x-ray and bring them back up to recovery while it is developed. This is crucial for our open hip reductions, but it would be nice to have a system to get a more expeditious film when needed. At least there was an elevator installed in the hospital a few years ago. We used to carry the patients in wheelchairs up and down the stairs as a team. Perhaps one year an intraoperative x-ray will be available too!

4. Illness

No one likes getting sick, but on a trip like this, several volunteers each year succumb to common traveler ailments. It seems there is always a need for an IV or two (Figure 26). Fortunately, most illnesses are self-limited. We have learned to keep a few IV set ups at the hotel with fluids, Decadron, and ondansetron on hand for that purpose. That being said, if one is going to get ill in a foreign country, it is definitely nice to be surrounded by a team of medical professionals at the ready!

5. Lack of ability to do larger cases

Our facility is limited in multiple ways that keeps us from doing larger cases like scoliosis surgery or larger boney procedures. Blood availability is limited, as are inpatient services. It is often up to the parent to watch their child overnight. Although nursing staff is for hire, the quality is sometimes lacking. Implant choices are limited to what we have in inventory with some very old AO sets for small frag work, we have made plates into shapes we have needed in our orthotic shop for valgus proximal femoral osteotomies and the occasional cold trauma. This is a common refrain for many international mission trips. The cases we have are

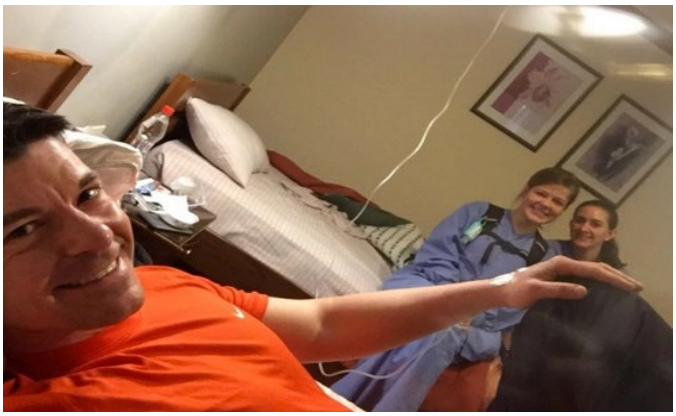

Figure 26. *It's good to know someone who can put in an IV.*

Figure 27. *Medical Mission Ecuador*

not life threatening, but if we could intervene, they could be life changing.

Case or tip of the trip?

My tip for this type of work is to go and get involved in a mission trip and bring your knowledge and skills to an area of the world that could learn from what we have been privileged to know. Ever since I was a third-year resident and heard about the first trip Drs. Iwinski and Talwakar went on back in 2008 with Medical Mission Ecuador, I knew I had to be involved. Little did I know that it would be 12 years of involvement, hundreds of new patients treated, and dozens of new friends made (Figure 27). The cultural awareness cannot be understated, and the joy with which we all look forward to the trip is immeasurable. I've learned to make Ecuadorian foods here at home that I would never have known about if I had not been a part of this trip. I am more motivated to work on my Spanish with my Hispanic patients here at home. My children want to be a part of this trip as they get older, and I hope they will follow through with that desire when the time is right. It was with a heavy heart I had to replay to our volunteers the message this year that the February 2021 trip was cancelled as Ecuador was in the midst of an even worse Covid-19 crisis than many other places in the world. Despite the risks of the pandemic, over half our members were still planning to attend when the trip was cancelled. We all found we were reaching out to one another during that week, reminiscing about the people, the food, and the travel. It was a similar experience that we had with our own families during cancelled holiday celebrations, demonstrating the family-like environment of the mission trip. I certainly missed my old friends and our patients. It is that longing which keeps us all coming back year after year, giving up time with our families and our own patients at home. Mission trips cost both time and income upfront, but they reward us on the back end with a payment to our soul that earns us more value in life than we can obtain in ordinary ventures. Please go get involved in a trip and pay it forward to the next generation!