Uniting for Vision:
My Impressions after an amazing 8-week Journey with Unite for Sight: Ghana

“What seems to be the problem, Emmanuel?” My question was a mere formality: the bright, inquisitive eyes of the shy little boy sitting across the makeshift table were marred by a cloudy, milky white haze in the left pupil. The worried mother spoke up quickly.

“He can’t see well.”

“Ok, let’s do a simple test to see just how well he can see.” A quick wave of the penlight and it became apparent that little Emmanuel had no perception of light in his left eye.

“Has Emmanuel ever been hit in his left eye before?”

“He was hit by a stick when he was an infant.”

“OK, let’s take him to the doctor so we can get treatment for him.”

Little Emmanuel suffered from a mature cataract in his left eye, an opacity in the crystalline lens within. It is a natural process of aging: 20% of people over 60 will report at least the beginnings of a cataract, a figure that rises to 80% for people over 75. It is the leading cause of blindness in the world today, accounting for slightly over 42% of all blindness worldwide. While age is a major factor in cataract formation, it is not the only one. Excessive sun exposure, poor nutrition, diabetes, hostile elements, and, in Emmanuel’s case, even untimely physical trauma to the eye can result in a gradual degradation of the lens. In developed countries where access to healthcare is easily obtained, treatment is simple and easy: a procedure that involves an insertion of a new lens takes less than half an hour, with excellent prognosis.

Unfortunately for Emmanuel, who lives in a small fishing community on the banks of the Volta Lake in Ghana, the solution is much harder to find. The country is widely regarded as the model of stability and prosperity that should be emulated by other Africa nations. The abundant natural resources and thriving industries in the state has helped it avoid much of the violence that plagued its neighbors. However, a quick glance of data reveals a severely skewed distribution of wealth in the nation. About 28 percent of the population still lives in extreme poverty, subsiding on less than $1.25 a day (CIA World Factbook). Despite its rapidly improving infrastructure and the swelling influx of foreign investments, Ghana still remains very much a developing country.

Just a few hours outside the major cities, people live much as their ancestors had centuries before. Little villages are composed of mud brick and thatch houses,

and there is no power or running water. Despite the best efforts of the National Health Insurance Scheme, a national effort to provide basic medical attention to all, access to modern healthcare is extremely difficult to come by. In many of the villages that I visited, many of the residents had no idea about the national insurance policy. Because of the financial implications, they refuse to seek modern medical attention and instead resort to ancient superstitions and witch doctors, which have proven deleterious rather than beneficial. For example, many patients refuse SICS, a simple fifteen minute procedure that has a high success rate in restoring sight to cataract victims, because of superstition that their eyes would be taken out and replaced with the eyes of animals!

Getting the villagers to discard these century old notions would prove difficult, as we soon discovered. This reluctance to seek medical attention has led another leading cause of blindness in Ghana: glaucoma or, as optometrists call it, the "silent blinder". Excessive fluid pressure in the eye can damage and eventually kill off the optic nerve. There is no pain or sensation, just a gradual narrowing of vision until there is complete blindness. Glaucoma must be caught early to have any hope of salvaging normal vision. For people living hours away from any modern clinic, this is a very difficult task to achieve.

Beyond the economic and education limitations, physical access by healthcare professionals to the rural population in Ghana has proven to be yet another obstacle. Much of the infrastructure consists of dirt roads cutting through tiny villages. These roads, with treacherous ditches and potholes left by wagons and pack animals, are hard to navigate using even the newest 4x4s. The dirt paths are virtually inaccessible in the heavy rains that occur from April to July and from September to November. When dry, these roads kick up a haze of dust that is the leading factor in the formation of pterygium, a benign growth of the conjunctive that can eventually cover the eye and cause severe vision problem.

These were the conditions that met my fellow colleagues and me when we arrived in Accra, the capital city of Ghana. We were working for Unite for Sight, a non-profit organization that works with local eye clinics to provide eye treatment to lower-income patients that would otherwise never be treated. The local clinics organize outreaches into remote regions of the country to do preliminary visual screenings. This includes doing a quick visual acuity test, a private consultation session with a trained optometrist, and the dispensing of subsidized glasses and medications for those who need it. Those who need surgical procedures, whether it is cataract, pterygium, or glaucoma, are signed up at the outreach and picked up later that week to go to the clinic to have the procedure done. The surgeries are paid for by donations from Unite for Sight, whose volunteers raise money and organize collection drives for glasses. A small number of volunteers such as myself get the opportunity to travel to the developing countries that the organization is active in, and directly participate in the outreaches themselves.

The Ghana branch for Unite for Sight currently consists of five clinics. Northwest Clinic, Save the Nation's Sight Clinic, and Crystal Eye Clinic, headed by Dr. Gyasi, Dr. Baah, and Dr. Clarke respectively, are based in the capital city of Accra and mainly operate in the greater Accra region or the surrounding Central, Eastern, and Volta regions. Charity Eye Clinic, headed by Dr. Twumasi, is based in Kumasi, the second most populous city, and operates in the central-based Ashanti and Brong-Ahafo regions. Dr. Wanye heads the Eye Clinic of Tamale Teaching Hospital in the northern city of Tamale and conducts outreaches primarily in the Northern, Upper West, and Upper East regions. Each clinic has its own teams that conduct outreaches daily and holds surgery days on a biweekly basis. Unite for Sight volunteers are attached to these outreach teams for at least a week so they can grow comfortable with the unique logistics of each clinic.

I worked mainly with the Accra clinics, spending six out of my eight weeks based in the capital. The remaining two weeks were spent in Kumasi at Charity Eye Clinic. To say that my experiences at those clinics were eye opening would be an understatement. The sheer number of patients that were seen on any given day was simply incredible. During my time in Accra, the average number of patients on any given outreach was 65-70. In Kumasi, that number jumped to about 100. The sheer quantity of those in need was astonishing. Many of the patients that we saw were unable to afford even the meager transportation costs to travel to the nearest clinic. They knew that something was wrong, that their eyesight was slowly fading, but there was nothing that they could do about it. It was extremely difficult for me to envision this internal struggle; after all, it was a problem that I had never had to fathom. The outreach team always tried their best to counsel and treat the patients, but there were so many times when it was simply too late. What had been an easily treatable infection compounded and worsened by the time we got there. Standing there on my first outreach and listening to the head optometrist telling an unbelieving patient that the blindness would be permanent when it could have easily been treatable was one of the hardest moments of my life.

Emmanuel was one of the first patients that we saw on that first day. Standing at the far end of the visual acuity station, I saw a kid that was far smaller than what his ten years would suggest. It was trend that I would see again and again with these village children, whose meager daily intakes of food was simply not enough to pace their growth. That blow that he had sustained on left eye was probably the cause for his cataract, and the extended period of time between the accident and the diagnosis made vision restoration a complete toss-up. Successful treatment for cataracts depended on the fact that the back of the eye and the optic nerves were still viable. After years of blindness, this is a daunting obstacle. Dr. Aqua, the optometrist at the outreach that day, dilated Emmanuel's pupils to allow light to pass around the opaque lens. Twenty minutes later, he shone a penlight into the eye to see if there was a response. To our great relief,

there was an affirmative when we asked if he could see the light. Emmanuel's mother quickly signed him up for cataract surgery.

Unite for Sight coordinates with local doctors in order to provide surgical procedures to those who require it. The most common surgery performed is SICS, where the cataract is removed via a small incision through the schlera and an artificial lens is inserted. Other common surgeries include pterygium surgery, done to remove extra growth from the corneal surface, and glaucoma surgery, which creates a channel through which excess fluid can drain out of the eye.

The settings and equipment for these surgeries are influenced by sheer necessity. In Accra, Crystal and Northwest clinics have operating theatres onsite, brightly lit, high-ceiling rooms that see heavy usage every at least three times a week. Charity Eye Clinic in Kumasi is decidedly less fancy. Surgeries are conducted by Dr. Twumasi in his own house, a pale yellow bungalow that is only accessible via a long winding dirt road. Techniques are similar among the three clinics: the lack of proper surgical equipment has prompted improvisation. For example, the lack of surgical blades has forced the utilization of hypodermic needles, each lovingly bent into the proper shape by the physician, in the cutting and removal of cataract lens. Proper sterilization techniques were observed for the most part, but the disposal of bloodied bandages and swabs were all thrown in one big pile between the two operating tables, a practice that would have been a definite and serious violation of hospital regulations back home in the States. Despite the difference in protocols, I was astonished by the efficiency of the surgeons. Dr. Twumasi and Dr. Gyasi average around fifteen minutes for one cataract surgery. Dr. Clarke, having literally performed thousands of these procedures, finishes in a cool ten minutes. There is no wasted movement: every cut is precise and carefully placed, every injection exactly where it was needed. It was truly an incredible experience to watch these masters work. They are almost machine-like in their techniques. Compared to the Western surgeons, the rate of the surgeries is simply incredible. Clinics can operate on up to forty patients a day, working from early morning to late in the night. Often times, patients who have their cataracts diagnosed are operated on that same day!

Unite for Sight pays for the price of the cataract surgeries, which run about 80$ for each eye. The price includes the artificial lens that is inserted after the debris and the cataract lens is flushed out of the eye. It also provides payment for the pterygium surgeries. Volunteers such as myself are on hand to observe these surgeries to ensure that they have actually taken place. After surgeries, we also participate in post-op procedures, as the patients get their bandages removed and visual screening tests are done to determine the success of the procedure. Some of my best memories were the sudden astonishment on the villagers' faces when they realize that they could see again after decades of blindness. It is truly a heartwarming experience.

The partnership between the local doctors and Unite for Sight has yielded fantastic fruits over the years. One of the most valuable lessons that we were taught on the first day of orientation was that without local optometrists and clinics, it would be extremely difficult to provide the impact that is needed. The process of curing blindness does not end at the conclusion of the surgeries: there are post-operation tests and follow-ups that extend months into the future. The constant volunteer turnover means that we are unable to perform these duties. Without the local authorities to help carry out this process to its end, surgeries can be extremely dangerous, causing infections and poor success rates even with the best surgical techniques.

The Unite for Sight volunteers that are attached to the clinic serve an additional role: they lend a sense of credibility to the outreach teams. I have noticed that the villagers that we see inherently do not trust the doctors who are trying to help them. Despite the best of attempts of our optometrists to prescribe them the best course of actions, the patients often refuse the free surgical procedures or medications provided. They would rather trust local herbalists and witch doctors, members of the local community. This is where we stepped in.

As the country was part of the Gold Coast during the height of the European Age of Exploration, Ghanaians have seen their far share of colonialism. Sadly, those events have spawned misconceptions that still exist in their society today. Non-black foreigners, or o brunis, are thought to have a higher social status and are more knowledgeable about medical affairs. While this attitude is somewhat more tempered in the major cities, it still persists strongly in the rural villages. It often helps for the volunteer to talk to the patients about the surgery that they need. It is not uncommon for a patient who refuses the surgery vehemently when presented the option by the doctor to completely backtrack and consent to the procedure when an Unite for Sight volunteer explains the procedure to him or her. It is a trait that has frustrated many local doctors who do not have foreign volunteers on their outreach teams.

When Emmanuel was brought into the operating theatre at Northwest Clinic, I instantly recognized him. Although the left eye was covered by a rubber weight to facilitate the absorption of the lidocaine painkiller that had been injected in there, the right eye was just as I remembered, large and inquisitive. He was led past the tall metal tables where the nurses were busily sterilizing used equipment to one of the two operating tables in the room. Thirteen minutes later the operation was done, and he was led past an old, shuffling grandmother who would be taking his spot on the operating table. A week later, the boy came back for post-ops and Dr. Gyasi pronounced his satisfaction at his own work. A month later, Emmanuel was seeing 6/9 in his left eye, the metric form of the 20/20 scale, where previously he had been seeing nothing.

This is just one of the success stories that I had the opportunity to experience while working for Unite for Sight. It is one of the most successful health delivery

organizations in the world, having seen over 1 million patients and performing over 34,000 surgeries since its inception. It is a great example of how synergy between local doctors and international volunteers can be so successful, and why both need to work together in order to cure the most common forms of blindness once and for all. I am extremely grateful that I had the opportunity to participate in this grand endeavor. The experience has not only reaffirmed my desire to become a doctor, but also added an additional dimension to my career path: I now want to spend time working in the impoverished areas that I visited on outreach trips. Without the support of the Class of 1978 Foundation, my trip would not have been possible, and I greatly thank you for the support of the alumni and their families.

Working in Gomoa Manso, a village in the Central region of Ghana

Doing visual acuity tests at a village church

The surgical facilities in Kumasi (the house of Dr. Twumasi). These patients have just received cataract surgery. The black sunglasses were distributed to them to protect their operated eyes from the sun for the first couple of days.

Unite for Sight Volunteers at one of the medical dispensing tables.