

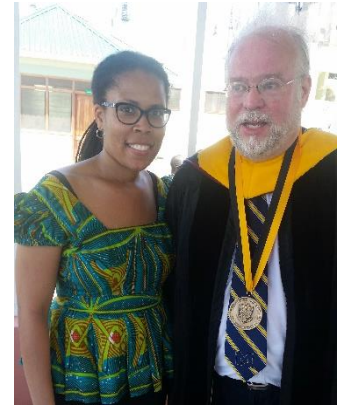
Lucie V. Moravia, DO, MPH

2015 Queenan Global Health Teaching Fellowship Recipient: Final Report

Site: Ghana, West Africa

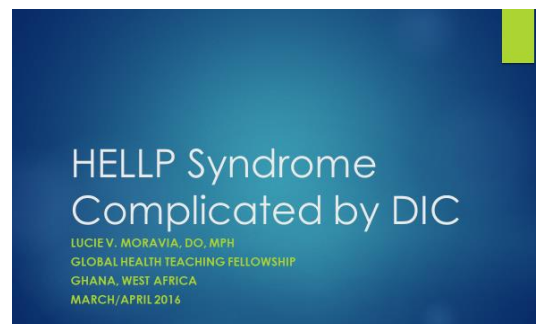
Mentor: Dr. Tim Johnson

Dates: March 5, 2016 – May 4, 2016



Korle Bu Teaching Hospital, Accra, Ghana

I arrived in Accra, Ghana on March 5, 2016. I presented to Korle Bu Teaching Hospital (KBTH) on March 7, 2016. There I met Dr. Obed, the head of the obstetrics and gynecology department. Dr. Seffa, my host, was out of town away at a conference with the West African College of Physicians. I was introduced to Dr. Kwaku Assah-Opoku, chief resident. Dr. Assah-Opoku and I met and devised a lecture schedule based on topics desired by the residents. I was asked to do resident lectures on Mondays and Thursdays at 2 pm. This was later changed to Mondays and Thursdays at 7 am due to resident schedule conflicts. Unfortunately, because many holidays fell on Mondays, some of my lectures were cancelled at the request of the residents/department. Nonetheless, the lectures I did perform were a catalyst for much needed discussion.



After my lecture on HELLP/DIC I learned that the ob/gyn residents at KBTH have never heard of a mass transfusion protocol (MTP). Thus, there is no mass transfusion protocol at KBTH. I learned that many patients receive multiple units of fresh frozen plasma and cryoprecipitate without receiving whole blood. I met an interested resident who is planning to put together a MTP with hematology, as a result. I also contacted the director of the blood bank at my institution who is willing to help with the

development of a MTP in a resource limited setting, namely KBTH. I plan to continue this effort even after my return. Additionally, after my lecture on cardio-pulmonary arrest I learned that there is no code system or rapid response system at KBTH. None of the physicians are trained to do CPR. This is another area of educational need. There are about 10,000 deliveries annually at KBTH. During my stay there were about 1-2 maternal deaths per week.

After lectures, I attended morning report and then divided my time between morning antepartum rounds, observing deliveries/cesarean sections, performing ultrasounds and consultations. Nonstress tests are done in a separate area from imaging/ultrasound. Because there was limited CTG paper, the NST room was often closed. There are about 30-40 combined outpatient and inpatient ultrasounds daily. KBTH does not have a dedicated sonographer. The patients are not scheduled for ultrasound; they are scanned on a first come, first served basis. Often, the physicians assigned to do ultrasounds are not available to scan. I



spent most of the day scanning the patients in the imaging room to facilitate timely patient flow. Moreover, I also performed confirmatory ultrasounds on patients with previously diagnosed fetal anomalies. Invasive diagnostic procedures are not routinely offered due to cost. Because many of the patients cannot afford ultrasound and need to save in order to get an ultrasound, many of them receive their first ultrasound in the third trimester. The cost of a routine ultrasound (fetal presentation, growth, placentation and AFV) costs about 40 Ghana cedis (\$10 US dollars). Most frequently encountered pathology in my opinion: abnormal placentation (previa), IUFD, neural tube defects, IUGR, and oligohydramnios.

I attempted to locate and purchase 50 beef tongues to conduct a vaginal laceration repair skills workshop for the residents. I spent 2 days in the local market trying to coordinate the receipt of the tongues, however to no avail. Due to the short notice and high demand, the butcher was not able to fill the order. Instead of completing a much desired vaginal laceration workshop, I conducted an ultrasound workshop. For one week, April 4, 2016 through April 8, 2016, I conducted ultrasound clinics. I provided free ultrasounds for patients who volunteered to be scanned by the residents. Each morning from 7 am to 10 am, three to five residents presented to the ultrasound room and learned the basics of ultrasound, including knobology.



Research is one of my academic interests (in addition to SIM) so I met with Dr. Nuamah, MD, PhD. She is an ob/gyn physician hired to improve the quality of research in the department. We met to discuss research opportunities during my stay and devise a plan to complete a project in 4-6 weeks. Because time was limited and my main goal was teaching and assisting with consultations/ultrasound we decided that I would return to develop a research protocol, apply for IRB approval, and complete a research project at a later date.



On March 16, 2016, I had the honor of attending the inaugural ceremony of Family Health Medical School. Ghana now has six medical schools. What made this inauguration monumental is that this is one of Ghana's first private medical schools. Also of note, the founder/director is one of the residents that pioneered the ob/gyn residency program that Dr. Tim Johnson

started at Korle Bu Teaching Hospital many years ago. Dr. Johnson received honorable mention at the ceremony for his dedication and contribution to Ghanaian medical education, and the medical school's library is named after him.



Currently in Ghana, there are obstetrical fellowships in Urogynecology and Family Planning. There is interest in starting a maternal-fetal medicine (MFM) fellowship, to include both Korle Bu Teaching Hospital and Komfo Anokye Teaching Hospital. One of my assignments was to develop a MFM fellowship curriculum for Ghana. Under the tutelage of Dr. Johnson, I designed the MFM fellowship curriculum. Included were a rotation schedule, description and goal of each rotation, didactic schedule, list of educational resources, ideas for how to log fellow cases and tools for fellow evaluation and assessment. To start a MFM fellowship there must be approval by Dr. Plange-Rhule, the President of the Ghana College of Physicians and Surgeons, Dr. Seffa, the President of the West African College of Physicians, and Dr. Kwame Aryee, the Chairman of the Faculty and Chief examiner of the Ghana College of Physicians and Surgeons. I arranged a preliminary meeting with Drs. Plange-Rhule and Seffa to learn of their interest in starting the fellowship, what was needed for final approval and if there were any additional obstacles to starting.



Upon Dr. Johnson's return to Ghana on April 1, 2016, we met with Drs. Plange-Rhule, Seffa and Aryee. We had a very productive working lunch meeting at Labadi Beach Hotel in Accra. Upon the conclusion of our meeting everyone was in agreement to start a maternal-fetal medicine fellowship. I submitted our proposed curriculum to all parties involved. After final editing, the curriculum will go before the board at the Ghana College of Physicians and Surgeons for final

approval. Lastly, Dr. Plange-Rhule inquired about access for Ghanaian resident physicians to the University of Michigan's digital library. Plans for Dr. Plange-Rhule to collaborate with the University of Michigan's librarian are to be arranged by Dr. Johnson. Lastly, prior to Dr. Johnson's departure we also met with Dr. Richard Adanu, the director of the school of public health at the University of Ghana to discuss his current and future research endeavors. This assignment in particular taught me a systemic approach to impacting and implementing change (and educational programs) in medical education in Ghana. This was one of the most valuable lessons learned during my assignment.



## Komfo Anokye Teaching Hospital, Kumasi, Ghana

I arrived in Kumasi, Ghana by air on April 9, 2016. I was met by the chief resident Dr. Appiah-Kobe. I presented to Komfo Anokye Teaching Hospital (KATH) on April 11, 2016. There I met Dr. Turpin, the head of the obstetrics and gynecology department. I was introduced to all of the attendings or “consultants” who are interested in maternal fetal medicine. Moreover, I was formally introduced to the residents after morning report and met with the chief resident to plan my lecture schedule. After reviewing the topics desired, I proposed a schedule that was later approved by Dr. Turpin. I was asked to lecture daily from 9 am to 10 am. Because Komfo Anokye had different lecture requests as compared to Korle Bu, I needed to prepare additional lectures. As a result, I lectured from Monday – Thursday. I prepared lectures on Friday, Saturday and Sunday. All on-service residents, consultants, visiting students and visiting consultants attended my lectures.



Later in the morning, I attended rounds where I offered my input on patient care. After attending rounds I went to the ultrasound room where I scanned patients alongside the lead sonographer. The consultants brought in “special” cases for me to scan, including patients from their private offices. I performed confirmatory ultrasounds for anomalies that had been diagnosed at private offices. One patient consented to a reduction amniocentesis for polyhydramnios, but declined on presentation. I also performed inpatient consultations for the reproductive endocrinologists, generalists, and high risk antepartum physicians.

Moreover, I oversaw the daily operations of the outpatient ultrasound office and provided education to their lead sonographer. At KATH, they currently have one sonographer who performs obstetric and gynecologic ultrasounds, including breast imaging. KATH is also a teaching site for the university’s ultrasound students. The sonographer currently has a reporting system in place for saving and storing ultrasound reports on Microsoft Word. Unfortunately, there is no PACS available. I performed an audit of all of his templates to ensure that each report template contained all reportable information as recommended by AIUM and ACOG.

On the weekend I went to one attending’s private office and scanned his patients. Additionally, he brought in patients that he previously diagnosed with fetal anomalies for confirmatory scans. Unfortunately, most patients cannot afford antenatal diagnostic testing so offering such testing is currently not the standard of care. Many of the fetal diagnoses were confirmed on delivery, and many resulted in fetal demise. At KATH, the majority



of the fetal anomalies I encountered were neural tube defects, cardiac defects, IUFD, and skeletal dysplasia. Additionally, there were numerous multiple gestations.



I was approached and asked by the high risk ob/gyn consultants to do a lecture on the role of maternal-fetal medicine in obstetrics and gynecology. They explained that with the development of a division of maternal-fetal medicine and development of a maternal-fetal medicine fellowship, they wanted a better understanding of a day in the life of a professional maternal-fetal medicine physician. Moreover, they wanted the members of the faculty to learn and gain an understanding of the importance of forming a division of maternal-fetal medicine.

After one of my lectures I learned that physicians at KATH are not required to be ACLS (ATLS in Ghana) certified. Dr. Reindorf and I went to the emergency department and met with some of the emergency physicians who are responsible for teaching the ATLS certification course. Dr. Reindorf is arranging for each ob/gyn resident and consultant to go through the course and become ATLS certification. We discussed plans for me to return later in the year to teach modifications to ACLS (ATLS) for the obstetrical patient. Apparently, this service has been available (free of charge) since the development of the new accident center/emergency department at KATH. Certification is good for two years. Additionally, KATH is also very interested in developing MTP protocols and a code/rapid response system. Lastly, one unique aspect of their antepartum floor is that they have their own designated critical care area. It is currently not staffed by the appropriate personnel; however, in speaking with the emergency physicians we learned that they are willing to staff it. This not only adds additional critical care beds to the antepartum wing, but also adds skilled physicians and nurses who are available to teach and respond to patients on the ward who may be in guarded, but not critical condition.



I found the physicians at KATH to be very engaged and dedicated to their patients. Many of the doctors went out of their way to make their patients feel safe and important. They employed their dedication by calling their patients in specifically to see me for a second opinion and/or consultation free of charge, on the weekends or during any free time they had.



My long-term goals include returning to Ghana with some of my MFM colleagues and sonographers to provide education/instruction in ultrasound (including fetal echo) and procedures (i.e., permanent cerclage, amniocentesis and CVS). I am also attempting to get two used ultrasound machines donated, one for each site. Moreover, I plan to collaborate with each site to develop much needed protocols, provide educational support to

the fellowship and collaborate on research. Lastly, my long-term goals include developing a SIM education program for providers in resource limited settings.

It is with great humility and appreciation that I express my gratitude for this award.

Respectfully,

Lucie V. Moravia, DO, MPH