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Final Report: 2018 Queenan Visiting Teaching Fellowship

Site: Ghana, West Africa

Mentors: Dr. Lucie Moravia and Dr. Timothy Johnson

Dates: March 30, 2019 – May 31, 2019



I would like to express my gratitude to the Foundation for SMFM for receiving the 2018 Queenan Global Health Visiting Teaching Fellowship. I would also like to thank my mentors Dr. Lucie Moravia and Dr. Tim Johnson. My two-month stay in Ghana was exceptional and full of both professional and personal growth. Ghana is an English-speaking country, and Twi and Ga are the local languages. The two large tertiary hospitals in Accra and Kumasi both have established obstetrics and gynecology residency training programs. The Ghana College of Physicians and Surgeons (GCPS) approved a maternal-fetal medicine fellowship to start at Komfo Anokye Teaching Hospital in Kumasi and Korle Bu Teaching Hospital in Accra in 2018. Dr. Johnson and Dr. Moravia (2015 Queenan Global Health Fellow) helped develop the curriculum for the fellowship. Two fellows were accepted to the programs at each hospital and they started in January 2019. In addition to teaching at the hospitals, one of my goals during my trip was to evaluate the status of the new program and help with structure to ensure success.



### **Komfo Anokye Teaching Hospital (KATH), Kumasi, Ghana**

KATH was established in 1955 and acts as the regional tertiary hospital with 1,200 beds serving the Ashanti region of Ghana with an estimated population of 2 million residents. It is one of the leading centers for medical training in West Africa with accreditations from the GCPS and the West African College of Physicians and Surgeons. For the OB/GYN department, there is an accredited residency and fellowships in gynecology oncology, urogynecology, and family planning. KATH obstetric department has 160 maternity beds and 10,653 deliveries annually.



## APRIL 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11	1 Prenatal Screening and Diagnosis	2 Cardiotocography	3 Renal Disease	4 Thyroid disorder	5	6
7	8 Clinical application of Dopplers/UGR	9 Preterm Birth	10 Multiple Pregnancy	11 Cardiac Disease *vaginal lac sim*	12 Ultrasound/CTG	13
14	15 Asthma in Pregnancy	16 Diabetes in Pregnancy	17 Preventing the Primary Cesarean	18 Fetal Anomalies *vaginal lac simulation*	19 Good Friday	20
21 Easter Sunday	22	23 Hypertensive disorders	24 Postpartum Hemorrhage	25	26 Ultrasound/CTG	27
28	29 ICU patient	30 Proposed Role of the KATH MFM specialist	1	2	3	4

I arrived in Kumasi, Ghana on March 30<sup>th</sup> and spent approximately 32 days in the city. I was welcomed by department head Dr. Yaw Owusu-Asubonteng and introduced at the morning meeting as a visiting fellow to the entire department including faculty, fellows, residents and house officers (interns). After the meeting, I was introduced to the maternal-fetal medicine department and the fellows. Prior to my arrival in Ghana, I had outlined a lecture schedule with 16 presentations of varying topics including: hypertensive disorders of pregnancy, diabetes mellitus, postpartum

hemorrhage, renal complications, asthma, critical care, twin gestation, and fetal anomalies. After one week at the hospital, I realized there was a high cesarean rate of 40%, thus I decided to give a lecture on preventing the primary cesarean. The fellows, residents, and faculty of all specialties attended my lectures. The audience ranged from 10 to 60 people.



Outside of the presentations, my days varied from attending obstetric clinic, participating on ward rounds, performing and teaching ultrasounds, observing on the labor ward with vaginal and cesarean deliveries and cerclages. We were able to do three external cephalic versions (ECV). After the lecture on preventing the primary cesarean, more patients were counseled about an ECV at 37-week gestation. I also conducted fetal tracing or cardiotocography (CTG) rounds with the staff on a weekly basis. KATH has a dedicated CTG room for antenatal testing and one CTG machine on the labor ward. Due to resources, they are not currently doing continuous

fetal monitoring. However, they do intermittent monitoring with auscultation and with CTG in the high-risk patients.



I conducted a perineal repair simulation using the [Vincent LaPorte Sponge Method](#). Due to the heavy surgical volume, the midwives do most of the normal vaginal deliveries and repairs up to a second-degree laceration. Most of the residents were uncomfortable with perineal repairs. I reviewed basic anatomy, the different types of lacerations, and management according to the ACOG Practice Bulletin. Afterwards, we partnered up for the simulation. Each group had a sponge for second- and third-degree repairs and each person had a rectum made from insulator material and mucosa for the fourth-degree repair. It was an excellent

session, full of fun and knowledge. All materials, including instruments, remained at the hospital for future teaching.



The ultrasound unit has two dedicated sonographers. One handles the outpatient ultrasounds and the other scans the inpatients and overflow from the outpatient. The residents rotate with the sonographers and help teach basic knobology, biometry, and ultrasound skills. The MFM fellows now have dedicated time in the ultrasound unit with both the sonographers and faculty. Unfortunately, there is no image storage. However, there are typed reports with an ultrasound template with all reportable information according to AIUM and ACOG. We saw multiple fetal anomalies including

hydrops, gastroschisis, cardiac defects, bladder outlet obstruction, and ventriculomegaly. There is no avenue for invasive genetic testing currently. Every Friday we had an ultrasound day with the MFM department. We counseled the patients about various diseases along with the fellows. We also discussed the latest evidence and how we develop protocols and policies specific to the hospital.

While at KATH, I was able to attend a maternal mortality meeting for the month of March. There were 11 maternal deaths for the month and all of them were transfers from outside hospitals. The causes of death included: postpartum hemorrhage, preeclampsia/eclampsia, strokes, sepsis, pulmonary embolism, uterine rupture, and cerebral malaria. The team reviewed the cases with discussion including limitations, preventable and non-preventable causes, and how we can improve in the future. The meeting was conducted in a similar matter to a root cause analysis meeting.



At the end of my time at KATH, I met with the MFM faculty and fellows to talk about the program and how to make the fellowship successful. We discussed multiple changes that need to be implemented including: more structure with didactic schedule, solely focusing on obstetrics, emphasis on research, and more dedicated time in the ultrasound unit. My last presentation to the entire department was entitled "The Role of an MFM Specialist at KATH," and it discussed the changes needed to make the

department a success and ultimately decrease maternal mortality in the Ashanti region of Ghana. Afterwards, the department surprised me with a citation for exemplary service and six yards of kente cloth which was made into two gorgeous dresses.





I had an excellent first month at KATH. I found the physicians to be dedicated to patient care and education. During my four weeks, I saw changes in the clinical care and the development of protocols. They were receptive to change and working hard to make their hospital the best for women's health.

### Korle Bu Teaching Hospital (KBTH), Accra, Ghana

KBTH is the third largest hospital in Africa and the national referral center in Ghana. It was established in 1923 with an initial 200-bed capacity to a now 2,000-bed capacity and daily attendance of 1,500 patients with 250 admissions. KBTH has 16 residency programs and 65 fellowships including subspecialties such as neurosurgery, cardiothoracic surgery, pediatric surgery, ENT, oncology, and reconstructive plastic surgery and burns. KBTH serves the greater Accra area with a population of 2.9 million people. The obstetrics and gynecology department has 261 beds and conducts more than 11,000 deliveries per year.



I arrived in Accra on May 1<sup>st</sup> and spent 30 days at KBTH. My schedule was like the one at KATH, however I substituted a lecture on asthma for obesity in pregnancy. I was formally introduced at the morning meeting by department head, Dr. Samuel Oppong. Due to the larger size of KBTH, there were more attendees at the meeting including medical students and nurses. After the meeting, I met with the MFM department to discuss the fellowship program and where to focus my efforts outside of lectures, deciding that most of my time would be spent in the ultrasound unit with the fellows and residents. The fellows were excused from their other duties to spend the month working on their ultrasound skills. I also conducted the perineal laceration simulation and CTG rounds with the residents.

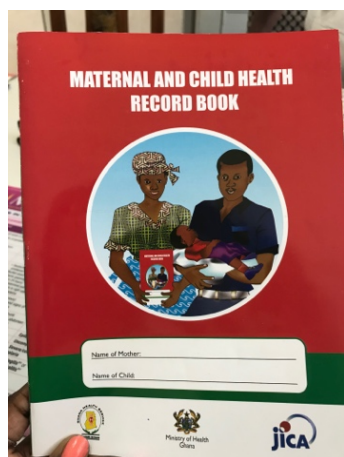


The ultrasound unit has three ultrasounds and the residents and fellows perform all ultrasounds because there is no sonographer in the unit. The faculty members oversee the residents but also have other clinical responsibilities. So, at times, the residents and fellows make clinical decisions. Most of the ultrasounds were for growth and placental location in the third trimester. Currently, a small number of patients get an anatomic survey at 18-22 weeks gestation because of a history of anomaly, suspicion of a fetal anomaly, or multiple gestations. Some of the residents received additional focused ultrasound training outside of Ghana. They are the providers who perform or supervise the anatomic survey or evaluation for fetal anomaly when available. Because the women aren't routinely scanned, there are missed fetal anomalies. During my visit I diagnosed rhabdomyoma, myelomeningocele, hydrops, hydrocephaly, clubbed feet, and bilateral renal agenesis. Like KATH, there is no prenatal genetic



testing; therefore, the patients were encouraged to have a postnatal evaluation. The patient with myelomeningocele met with the neurosurgeon and neonatologists in the prenatal period to prepare for delivery. There is also a separate room for antenatal testing for the high-risk patients with CTG.

There are two labor wards at KBTH. One is designated for high-risk patients and managed by the residents. There are two CTGs available for use in the high-risk ward. Some patients do receive continuous monitoring and the hospital is currently working on obtaining more machines for the ward. The second labor ward is for low-risk patients and is managed by the midwives. Patients are moved from the general floor to the labor ward when in active labor or fetal distress.



The clinics are very organized and patients move smoothly from check-in to nurse visit to the physician visit. There are several specialty obstetric clinics including a sickle cell, HIV and renal clinic. The cardiology disorders in pregnancy clinic is starting soon. Patients are on a first-come, first-served basis and all have the same prenatal book provided by Ghana Health Service, which is very comprehensive. This book can be used for up to six pregnancies and includes topics ranging from health maintenance, nutrition, danger signs in pregnancy, to feeding and vaccinations for the newborn. The age of viability for neonates at both KBTH and KATH is 28 weeks gestation.

I was able to attend two maternal morbidity and mortality meetings while at KBTH. For the month of March, there were 769 vaginal deliveries, 30 breech deliveries and 348 Cesarean deliveries. The Cesarean rate for March 2018 was 44.3% and for March 2019, it was 46.3%. During my month at KATH, there were three maternal deaths secondary to sickle cell disease and pulmonary embolism. The maternal mortality ratio in April 2019 is 386/100,000 live births compared to April 2018 of 543/100,000 live births. There has been a decrease in maternal mortality over time with the graduated trainees practicing in the district hospitals.



At the end of my month at KBTH, I met with the department to discuss suggestions to improve the fellowship. My recommendations included: have a sonographer in the ultrasound unit with residents and fellows; make protocols and policies specific to the hospital and environment; and implement more structured didactic schedules, like KATH.

Overall, I had a phenomenal time in Ghana at both hospitals. The physicians are very knowledgeable and have excellent surgical skills. I am very excited about the opportunities that will arise in the future with our partnership. For long-term goals, I discussed with each department the need for a regular visiting lecturer/teacher, due to the newness of the fellowship. I proposed a plan that someone return every six months for two weeks at a time for the next two years. At that time, the first set of fellows will be graduating from the program as MFM specialists with a goal of decreasing maternal mortality in Ghana.

I am extremely grateful and appreciative to be given this opportunity. I would like to thank the faculty, fellows, residents, staff, and patients at both institutions for making my trip exceptional. Prior to my trip, I had my DNA analyzed and learned that I am 45% Cameroon, 35% Togo/Benin, and 10% Ghanaian. Knowing this information enhanced my trip as I took the opportunity to visit the historical sites and participate in festivals. I am looking forward to my next visit. I plan to incorporate global health in my career as I pursue a faculty position in academia.

