

Report of First ANPA/CSDON Virtual Medical/Surgical Mission Nigeria April 30-May 9, 2021

Dear Colleagues, Volunteers, Partners, Family, and Friends,

Greetings from the Association of Nigerian Physicians in the Americas (ANPA). On behalf of our President, Dr. Chris Okunseri, and the entire medical mission team, I am excited to share with you our accomplishments during our innovative and unprecedented virtual medical/surgical mission amidst the COVID-19 Pandemic. To our knowledge, no virtual medical and surgical mission plus educational activities has ever been carried out on such a large scale by 45 volunteers from the USA and about 100 volunteers from the host country (Nigeria in this case) or reported in the medical literature or press! A little background would help the reader to understand the motivation for this pioneering undertaken.

ANPA flagship field activity is the ANPA week spent in different parts of Nigeria annually, involving Education, Advocacy in healthcare, and free Medical Mission. We planned to go to Calabar, Cross River State, Nigeria, in collaboration with our local Partner, Child Survival and Development Organization of Nigeria (CSDON) for these activities in April 2020, but the WHO declared Coronavirus (COVID-19, SARS-CoV-2 virus) as a Pandemic on March 11, 2020 and that trip was cancelled. It was postponed to April 2021; however, the Pandemic was not under control yet, and many people, especially in Nigeria, had not been vaccinated. Meanwhile, virtual health care using telephone or video devices grew in popularity worldwide and most of us were legally using them in the US to treat our patients. In lieu of cancelling the mission to Calabar again, I suggested to our President that we should try do the medical mission virtually. He agreed and we presented the idea to the Founder of CSDON, Her Excellency Mrs. Onari Duke, who agreed and was also excited about the possibility of helping her people via this innovative technology inspired method.

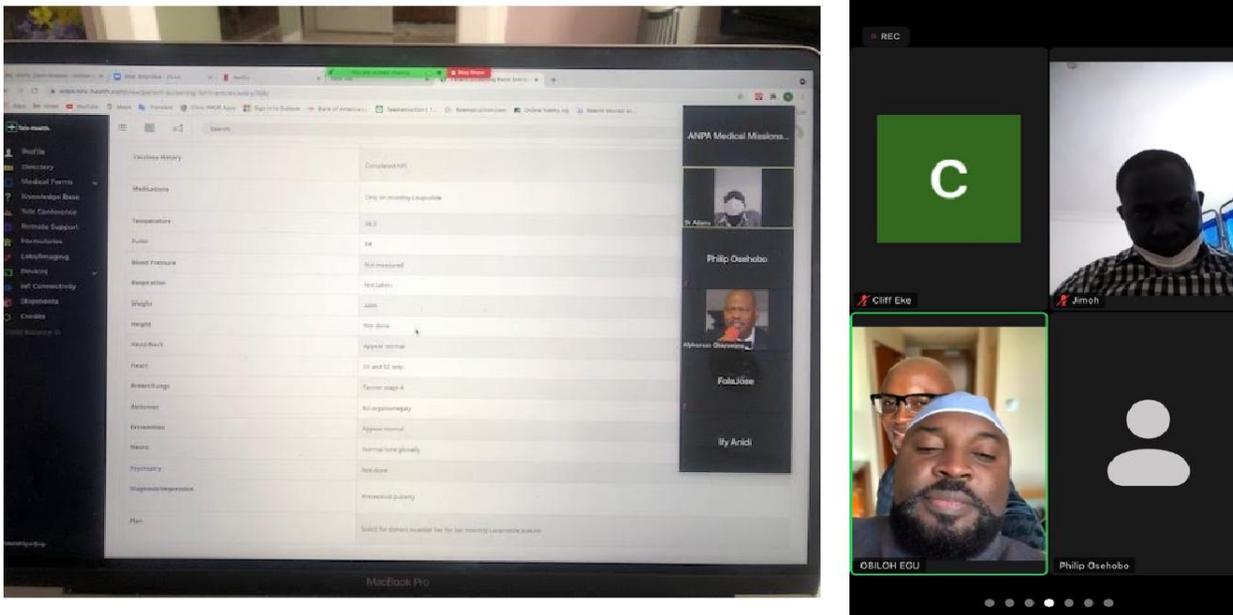
Next challenge was to find a technology company that would provide the Electronic Health Record (EHR) platform necessary for the virtual care. Our partner, Mr. Amadou K. Diallo, Founder of the company, tele-health, created and donated a cloud based custom site that could be accessed from any part of the Globe for the medical mission. He also donated 10 customized Tablets personal computers for the mission all at no cost to ANPA. Our Pharmacy volunteers also donated 4 more Tablet PCs, and these, plus those from tele-health were sent to Calabar for the volunteers to use for the mission. US volunteers used their personal electronic gadgets (smartphones, iPads, Tablets and computers) for the mission activities.

A multidisciplinary team of volunteers was then assembled by ANPA in the USA and included 45 healthcare providers from the following disciplines: Family Medicine, Internal Medicine and specialties (Nephrology, Infectious Disease, Cardiology, Gastroenterology, Geriatrics, Preventive Medicine and Rehab), Emergency Medicine, Psychiatry, Pediatrics and specialties (Neonatology, Hematology/Oncology, Gastroenterology and Nephrology), OB/GYN, Surgery and specialties (Head & Neck, General, Plastic, Pediatric), Dentistry, Radiology, Pharmacy, Research, IT, Residents and Pre-med students. A similar team of about 100 volunteers was assembled in Nigeria by our local host and partner, CSDON.

In preparation for the mission, the teams then had series of meetings weekly on a dedicated Zoom site provided by ANPA, plus countless meetings on WhatsApp, Zoom, Facetime, etc., by the leaders of the organizations, partners and team Leads in both countries. During the meetings team leaders for each Discipline were chosen, in both countries, Needs Assessments were made by volunteers on ground and

reported to the group, logistics were discussed and modified accordingly, procurement of medications and equipment locally plus those from the US and shipment were discussed. The need for robust communication, thorough planning, and a committed team of volunteers, especially those of the host country (without whom the virtual medical/surgical mission is impossible) cannot be overemphasized! We even created multiple WhatsApp groups for ongoing verbal, text, and video communications as needed.

Telemedicine Live! (tele-health, Zoom, Whatsapp, Telegram)



Pre-mission survey, developed by researcher, Dr. Pam Moye-Dickenson of Mercer University, was administered to all volunteers. A post-mission survey was also conducted for both volunteers and patients. These were IRB approved and were done to collect data that will help us understand more about the impact of medical missions, especially this novel approach, guide or streamline future activities, and perhaps drive local healthcare policies. Volunteers completed mission application forms with time commitments and were trained on the EHR platform virtually. The medical mission kicked off with an opening ceremony where President Chris Okunseri and Her Excellency Mrs. Onari Duke spoke, as well as the Director General of the Primary Healthcare Agency, Dr. Janet Ekpeyong, and a representative of the Commissioner of Health, Cross River State.

The Helping Babies Survive (HBS) educational training and workshop started the mission that first weekend. The HBS champions, Drs. Chinyere Anyaogu and Udo Asonye (US), and Drs. Jimoh Hassan and Emmanuel Adams, plus their team trained 11 health care workers who will in turn train others ("training the Trainers"). These were accomplished over Zoom, but there were mannequins provided at the Calabar Women and Children's Hospital (CWCH) where all medical mission events took place. Periodically attached in this report are some pictures to illustrate different aspects of the mission. Volunteers and patients gave prior consents to the use of the pictures.



HBS Training

Prior to the mission the public was made aware by flyers and Radio jingles handled by CSDON. Because of COVID situation and to avoid large crowds, most patients were required to register online and get a number plus appointment for evaluation. Strict COVID protocols were maintained at all times, including temperature check, masks, eye shield, hand hygiene, and social distancing. We had a COVID team led by Infectious Disease specialist, Dr. Gertie Anyanwoke (US), and Lab Scientist, Blessing Oriakhi (CWCH), who performed the first 500 tests during the mission.

ANPA had bought and sent the 500 point of care COVID Antigen tests through our volunteer Plastic Surgeon, Dr. Stanley Okoro, who was travelling to Nigeria then. Subsequently, ANPA bought and sent 700 more of same COVID tests via Dr. Nnamdi Maduekwe, one of our Psychiatrists. Thus, a total of 1,200 COVID tests were sent to Calabar for the mission with prior NAFDAC approval. Our COVID testing protocols were according to the standard oropharyngeal and nasopharyngeal swab technique, which we video observed the local volunteers do very well. All patients were asked questions about COVID symptoms then triaged accordingly. All surgical patients were tested while medical patients were tested based on symptoms, high index of suspicion, or at the doctor's discretion. CSDON had agreement with Teaching Hospital Calabar that all positive tests would be sent to them for confirmation with PCR test and possible use of their isolation center vs. home isolation.

When we saw that 498 COVID tests were negative, the team paused and double-checked testing techniques including video of the test being performed without the tester's awareness, and everything looked fine. We then decided to stop testing at the CWCH and split the remaining 700 tests between another community in Cross River State and an area with higher prevalence of COVID like Lagos. Mrs. Duke agreed to find such locations and arrange the testing logistics. As of the time of this writing she communicated that "we successfully carried out 100 more tests in Odukpani LGA in Cross River State with a single asymptomatic positive that was referred and received at the Teaching Hospital for a confirmatory PCR test which came back negative yesterday. Due to current prevalence in Lagos and Port Harcourt, with support of SYNC Lab Nigeria, CSDON will be conducting simultaneous testing in these two locations this weekend. We'll update you and the committee immediately after."

COVID Testing & Lab



The workflow for the Medical and Pediatric team included direct clinical duties and patient care at the hospital daily from 8AM to 3PM WAT (2AM EST) by local volunteers, followed by virtual medical review from 3PM to 5PM WAT with the US volunteers. This set up was necessary due to the challenge of 5-8 hours' time difference between Nigeria and different parts of the US. During the daily medical review interesting or difficult cases were discussed, care plans developed, follow-ups accomplished, and specialist consultations obtained. The Zoom platform allowed screen sharing of the EHR so that all providers could see the patient's medical data at the same time. Sometimes patients would be present and seen by video for further History and Physical etc. The medical and pediatric teams' champions, Drs. Philip Osehobo and Ugonna Chikeobi (US) and Drs. Annette Legogie and Jimoh Hassan (Nigeria), oversaw the almost 1,500 patients that sought care at CWCH. Common ailments seen included hypertension, diabetes, arthritis, hernias, otitis media, malnutrition, congenital syndromes, depression, etc.

Our Mental Health team led by Drs. Nnamdi Maduekwe and Ifeoma Anwunah-Okoye designed a screening form with questions that helped the primary care team and triage nurses to open discussions on mental issues and subsequent referral to Psychiatry if certain criteria were met. 141 patients were screened for mental health, 25 were referred, 8 were evaluated and treated. Efforts were made to educate people, increase awareness, and reduce the stigma against mental illness, a condition more common now with the Pandemic.

Mental Health

ANPA CSDON MISSION CORE 2021 (Mental Health/Psychiatric Team)

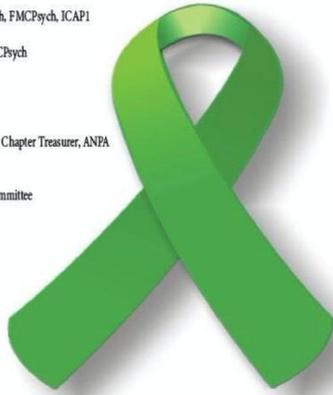
Dr. Ubi Idongesit Ayemo, Mbbch, FMCPsych, ICAP1

Dr. Ubong Udofia, Mbbch, FMCPsych

Dr Imoh Eisien, Mbbch

Ifeoma Okoye, MD, MPH
Consulting Psychiatrist, Former Chapter Treasurer, ANPA

Nnamdi Maduekwé, MD
Chair, ANPA Mental Health Committee



MENTAL HEALTH AWARENESS AND STIGMA REDUCTION



An interesting pediatric case involved a young girl with precocious puberty who had been on medications for years. She was evaluated live by the entire pediatric and Gyn physicians and was told to stop the medication to relieve her and her mom who was very worried about the cost. Their visible happiness and appreciation were priceless.

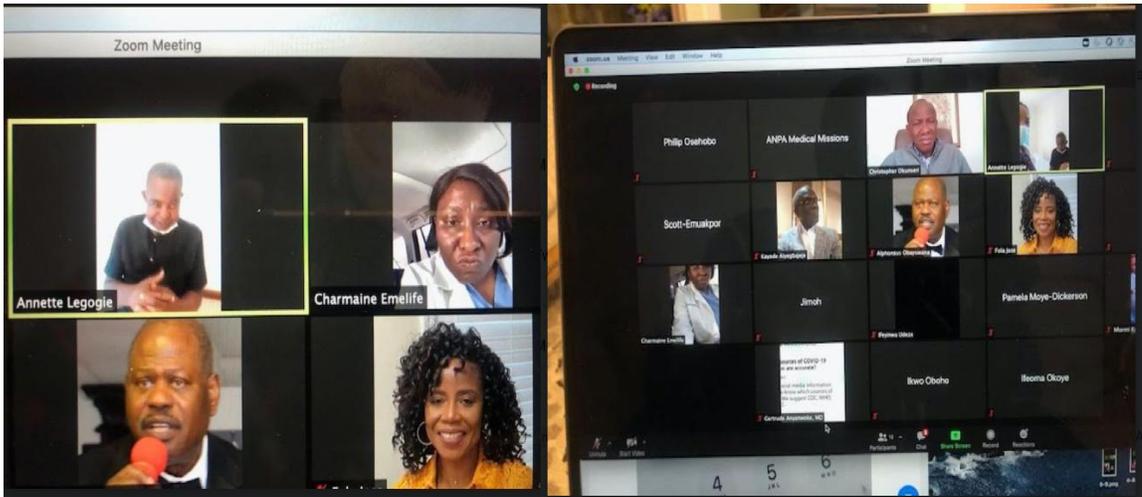
Pediatric Live Telemedicine – Precocious Puberty



A medical case illustrating the collaboration of primary care, nephrology, pharmacy, and laboratory involved a patient with Chronic Kidney Disease stage 4 who had been on medications and was told needed to be on hemodialysis. He came seeking financial assistance for dialysis but after first evaluation by our nephrologist, Dr. Charmaine Emelife, he was told that dialysis was not necessary now and his medications were adjusted,

labs ordered. He followed up 4 days later and his weight improved, pedal edema resolved, and medications further adjusted. He was also educated on diet and lifestyle modifications and more expensive labs plus renal ultrasound ordered, which he could not afford. ANPA paid for these tests with the help of CSDON and patient continues to be followed to date by Dr. Legogie who keeps us updated on WhatsApp. He is another pleased and grateful patient.

Adult Medicine Live Telemedicine – CKD4



The surgical workflow was similar to and ran simultaneously with the aforementioned medical/pediatric one but lasted till 5:30PM WAT (or beyond) followed by all team debriefing at 6PM WAT. Surgery was very popular, and it seemed a lot of people came for the opportunity to get free surgeries, possibly due to lack of access, cost, or a combination. For example, almost 70% of the children seen by pediatricians needed hernia surgery! Preoperative screening and evaluation of surgical patients were performed by the House Officer then discussed over Zoom or WhatsApp with the US and Nigeria surgery/OBGyn team, followed by scheduling of the cases after discussion with the anesthesia team. The logistics and performance of safe operations was the most difficult part of the mission, since it involved more teams, including perioperative nurses and staff, and “hands on” participation of international surgeons was not feasible.

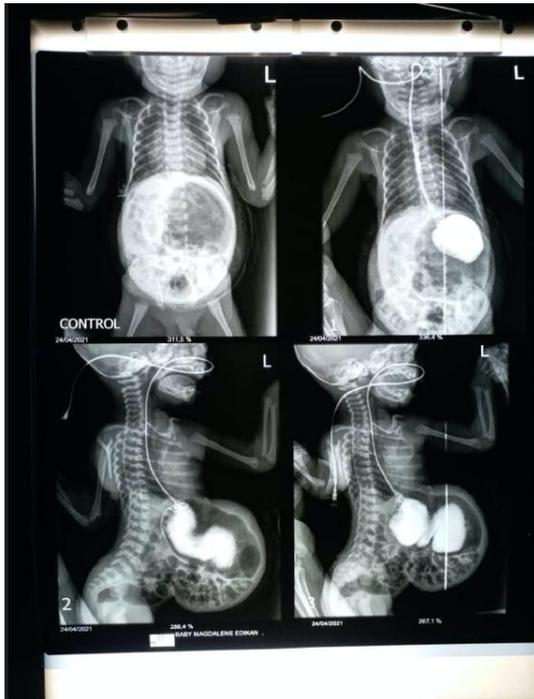
Despite these challenges the host Nation’s OR team champions: Dr. Ayi Etim (Plastic surgery), CMD, Dr. Ubong Akpang (OB/Gyn), Dr. Larry Obi (Anesthesia), Nurse Alice Brown (OR charge), Iso Iso (OR manager) and their team performed 100 operations without any morbidity. The supporting surgical team leads in the US included Drs. Cliff Eke (General surgery), Chinyere Anyaogu (OB/Gyn), and Ben Nwomeh (Pediatric surgery).

Types of procedures performed included incisional hernia repair with mesh, adult and pediatric inguinal hernias, colostomy, C-section, myomectomies, hysterectomy, thyroidectomy, lumps and bumps, etc. interesting cases included multiple congenital anomalies like imperforate anus and esophageal atresia (VACTERL syndrome), omphalocele, C-section, and very large fibroids as shown below.

Newborn with
Omphalocele,
April 9, 2021; 2nd
Patient



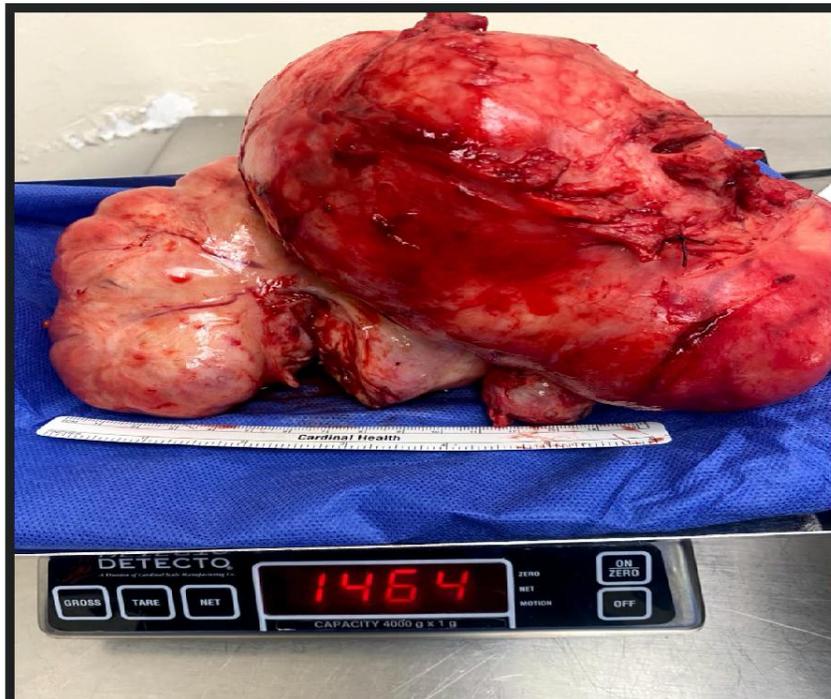
16 days old,
spitting up,
not tol PO, IV
D5+AA (No
TPN in Nig!),
had BM, NG
w some bile;
Discussed by
Peds, GI, Surg
team: D/Dx
PS, DA/JA,
Malrotation,
Other? OR?
Hx mom
"Herbal Rx"
during
pregnancy;
**Postpartum
retained
uterine
products
evacuation**
(4th Pt)



3rd Patient born April 10, 2021, with imperforate anus, and esophageal atresia; Had end sigmoid colostomy with mucus fistula, G-tube. Further workup showed Esophageal Atresia with distal Tracheo-Esophageal Fistula near the Carina, Cardiac anomaly, Vertebral anomaly, Renal anomaly (all **VACTERL syndrome**, except Long bone anomaly). Did not survive



Anesthesia, Surgery,
Theater Large Uterine
Fibroids



At the end of the mission ANPA left many sutures and other supplies to allow performance of more pending surgeries, especially pediatrics hernias.

Anesthesia, Surgery, Theater



The medical and surgical teams were supported by a fantastic Pharmacy team led in the US by Dr. Teresa Pounds and in Nigeria by Drs. Kayode Aiyegbajeje and Chinwe Effiong. Before the mission started ANPA bought medications and supplies (gloves, masks, etc.) with the help of the pharmacists in Nigeria. Besides organizing and dispensing medications the team engaged in drug counseling, surveys conduction, and tele-pharmacy using the 4 Tablet PCs they donated.

Tele Pharmacy



NAPPSA PHARMACY TEAM SCHEDULE				
		(6am-8am) EST	(8am-10am) EST	(10am-12pm) EST
Monday	Pharmacist 1	Teresa Pounds	Teresa Pounds	Teresa Pounds
05/03	Pharmacist 2	Pam Moyo-Dickerson	Pam Moyo-Dickerson	Pam Moyo-Dickerson
	Pharmacist 3	Nkiru Mbionwu		Ayo Fajembola
	Pharmacist 4			Antonia Fregene
Tuesday	Pharmacist 1	Teresa Pounds	Teresa Pounds	Teresa Pounds
05/04	Pharmacist 2	Pam Moyo-Dickerson	Pam Moyo-Dickerson	Pam Moyo-Dickerson
	Pharmacist 3	Nkiru Mbionwu	Chinyelu Umeano	Antonia Fregene
	Pharmacist 4			
Wednesday	Pharmacist 1	Teresa Pounds	Teresa Pounds	Teresa Pounds
05/05	Pharmacist 2	Pam Moyo-Dickerson	Pam Moyo-Dickerson	Pam Moyo-Dickerson
	Pharmacist 3	Nkiru Mbionwu	Ayo Fajembola	Ayo Fajembola
	Pharmacist 4			Antonia Fregene
Thursday	Pharmacist 1	Teresa Pounds	Teresa Pounds	Teresa Pounds
05/06	Pharmacist 2	Pam Moyo-Dickerson	Pam Moyo-Dickerson	Pam Moyo-Dickerson
	Pharmacist 3	Nkiru Mbionwu	Chinyelu Umeano	Ayo Fajembola
	Pharmacist 4			Antonia Fregene
Friday	Pharmacist 1	Teresa Pounds	Teresa Pounds	Teresa Pounds
05/07	Pharmacist 2	Pam Moyo-Dickerson	Pam Moyo-Dickerson	Antonia Fregene
	Pharmacist 3	Nkiru Mbionwu	Ayo Fajembola	Ifeyinwa Udeze
	Pharmacist 4			

Next was our Emergency Medicine Care (EMC) program led by Dr. Chinwe Ogedegbe, which started with a BLS workshop where 20 people were trained (some AHA certified). Lectures given included Wellness in Healthcare

(Dr. Abraham Chukwu), Robotic Surgery (Dr. Iyore James), Pre-hospital Care (Dr. Wasiu Adisa), Pediatric EM Highlights (Dr. Ofunne Obaze), and State of the art EM Care (Dr. C. Ogedegbe).

Emergency Medical Care & BLS



Emergency Medical Care

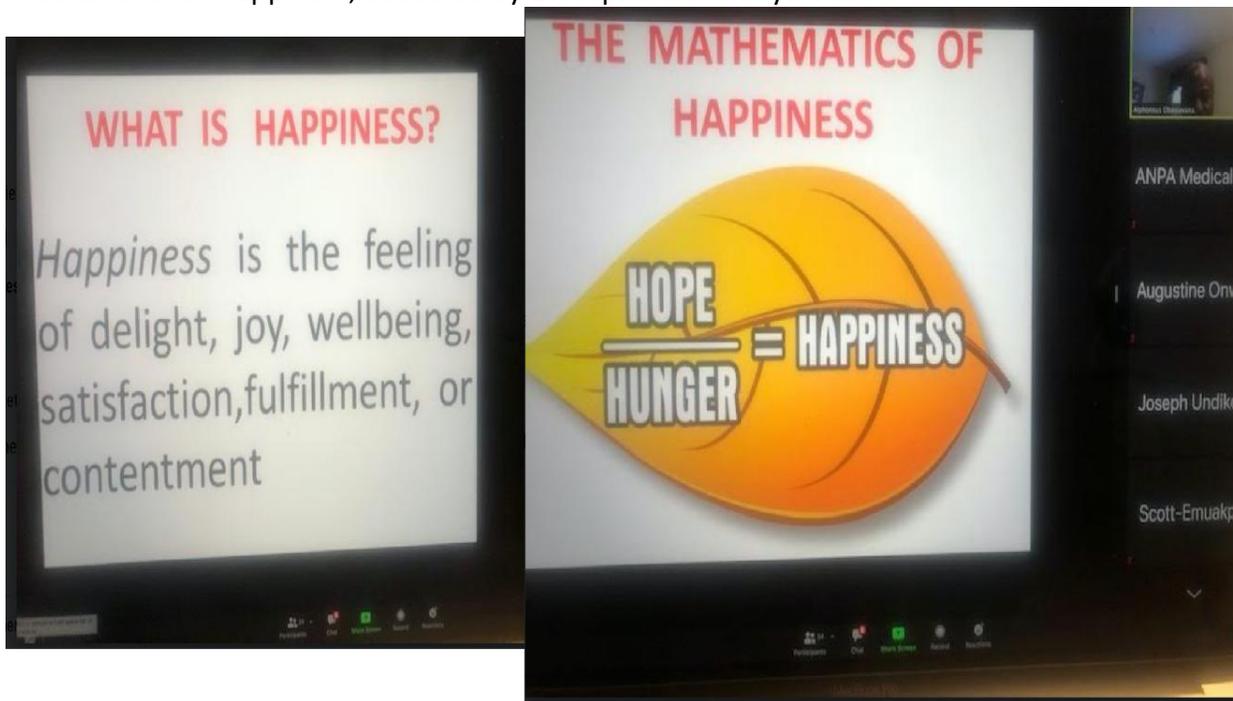


On our Media Day, Saturday May 8, 2021, Dr. Chris Okunseri, Mrs. Onari Duke, and myself appeared on the Channels TV Sunrise Morning show (courtesy of Mr. John Momoh, owner), where we discussed this innovative inaugural event. We talked about the challenges, achievements, lessons learned, and opportunities of continuous virtual care that lay ahead.

Media - - Channels TV Interview



The Closing ceremony was on Sunday May 9, 2021 which happened to be Mother's Day in the US and gave us the opportunity to appreciate our female colleagues. This was followed by a much-needed lecture, The Mathematics of Happiness, delivered by Dr. Alphonsus Obayuwana.

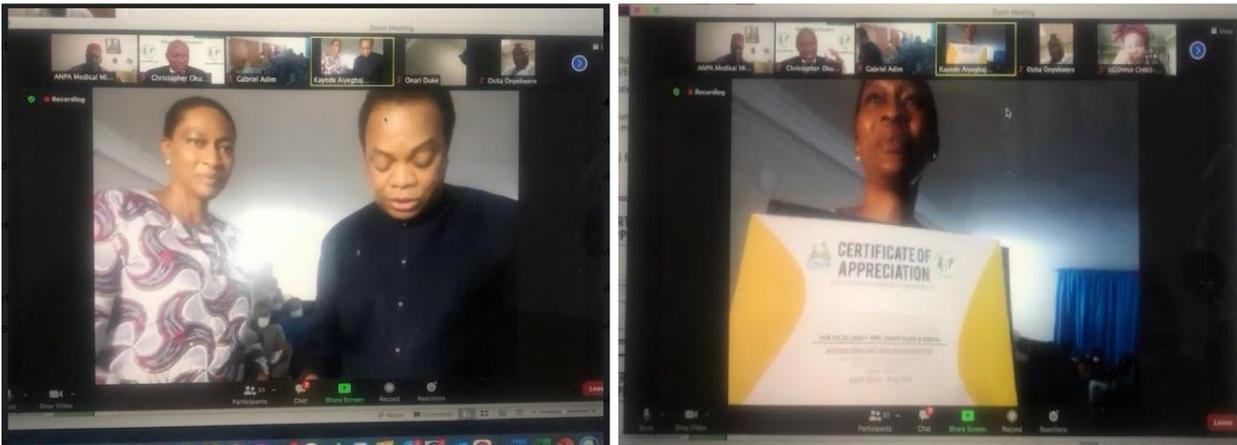


Finally, there was a surprise Certificate presentation to Her Excellency, Mrs. Onari Duke by ANPA via her husband, His Excellency, Mr. Donald Duke, former Governor of Cross River State. Mrs. Duke then presented each of our Nigeria volunteers with their certificates in addition to some token of appreciation by ANPA and CSDON. Music, food, and celebration ensued to cap off the long sleepless week of a very successful inaugural virtual medical/surgical mission, educational programs and workshops. Interestingly, one of our Nigeria volunteers who also knows IT, Dr. Elihu Osim, was able to digitize this mission's certificates and assigned them QR codes, thus making their forgery impossible (see pictures).

Certificates Presentation

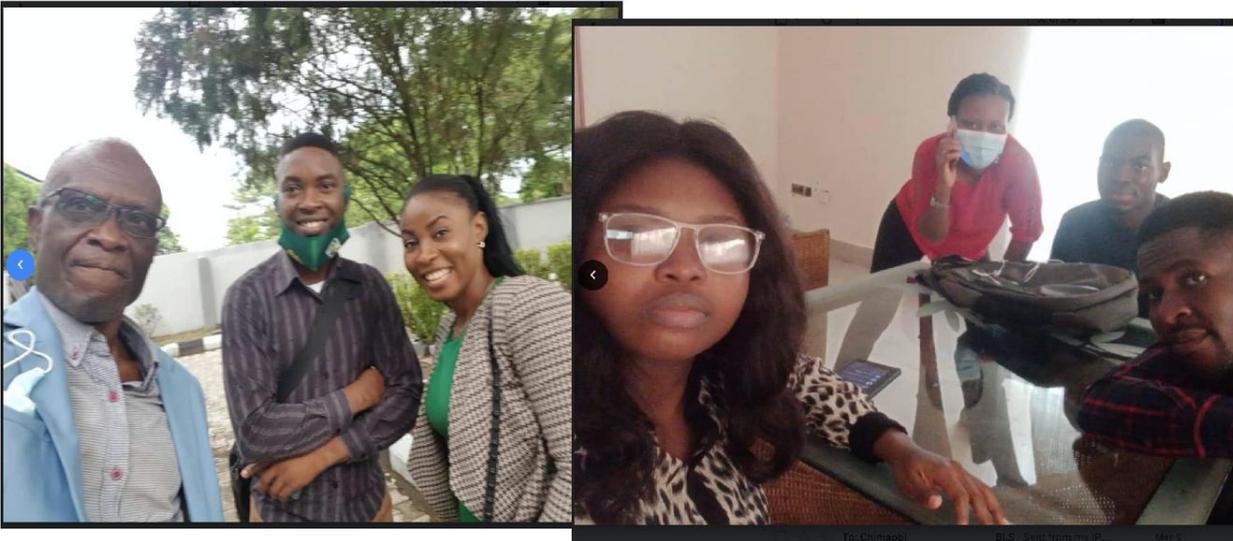


Certificates Presentation

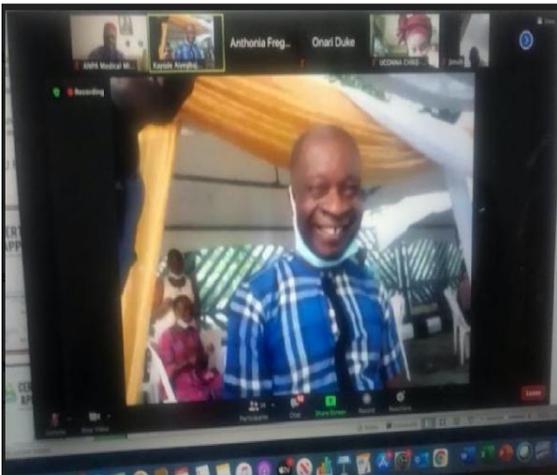




Hybrid Closing Ceremony - Live & Virtual



Hybrid Closing Ceremony - Live & Virtual



Grateful Patients/Testimonies



Numerous challenges were encountered during the entire mission from planning to execution. It was the first time for everyone to try virtual care like this, so we made decisions and adjusted on the go. Technology was not always reliable especially if there was poor internet connection or lack of electric supply. This was the first time we used EHR for the entire mission and the workflow plus charting was not easy, as the platform was quickly created and customized for the mission and donated by tele-health within four weeks. Not an easy feat but it saved the organization lots of money. The time difference of 5-8 hours between the two countries limited some concurrent activities and required the US volunteers to stay up very late or get up very early, thus leading to fatigue. In fact, it was more difficult than when we go in person. Procurement of pharmaceutical products, medicines, and supplies was also tough since most had to be bought in the host country. Finally, hands on interaction by US volunteers, especially during surgeries, was not possible.

Summary of the First ANPA/CSDON Medical Mission Accomplishments: 1,911 beneficiaries in Calabar and neighboring towns like Odukpani and Ogoja (225 were Children 0-18 years old), 100 surgical procedures performed, 689 people tested for COVID thus far (still ongoing and no true positive test yet), 211 people received Mental Health Screening and counseling, 11 people HBS trained, and 20 people BLS trained. Per the CWC Hospital Program manager, Mr. Gabriel Adim, “the mission strengthened the capacity of medical volunteers especially those who took part in the HBS and BLS training.”

To the best of our knowledge this is the first VIRTUAL medical mission of its kind in human history! It was a multidisciplinary collaboration that allowed patient care, workshops, networking, and knowledge sharing facilitated by dedicated volunteers utilizing current and emerging innovative technology. It has created the “blueprint” that can be improved to remotely take care of patients wherever they may reside, even in underserved areas of the world. Imagine the possibilities since virtual care is here to stay in the new COVID-19 environment. We were able to reach a wider audience with our educational activities and lectures than before since people could join from anywhere because of the virtual nature. Secure digitized/electronic data collection was accomplished and can be used for research and findings that can positively drive future healthcare access, decisions, and outcomes. ANPA donated remaining medications and supplies worth more than N2 million (\$4,255) to CWCH and other neighboring hospitals for Post Mission Program to assure continuity of care for patients with chronic medical conditions that cannot afford care, like the CKD4 patient described earlier.

On behalf of ANPA members I would like to thank its Board of Directors and leadership, especially President Chris Okunseri who bought into what seemed like a crazy idea at first, for providing us volunteers this opportunity to serve by giving back to our people. I would like to thank ALL the volunteers. You rock! I wish that I could mention each of your names here, but space will not permit me. Please forgive me. Just know that you are very appreciated, for without you we could not accomplish what we did. ANPA counts on you to help again on another mission or projects. Special thanks to Dr. Udo Asonye and Professor Ajovi Scott-Emuakpor, who introduced CSDON to ANPA about five years ago and were instrumental in seeing this relationship blossom. Thanks to all of you who donated generously to help ANPA buy the COVID tests and PPEs. Thanks to Her Excellency, Mrs. Onari Duke, for her selfless dedication to service and CSDON. Thanks to our Partners - CSDON, Mr. Amadou Diallo and tele-health, some NAPSSA members, Channels TV, Enyi MD Foundation, NAFDAC. Thanks to our families for their sacrifices and support that allows us to volunteer, and to God Almighty with whom all things are possible.

Respectfully Written and Submitted by Cliff C. Eke, MD, FACS, FICS
ANPA National Treasurer & Virtual Medical/Surgical Mission Director