

KBNF Annual Report



**Korle-Bu
Neuroscience
Foundation**

2021



Thank You!



None of this would have been possible without our family of donors and volunteers!

Letter from the President

In 2021, we laid the groundwork for expansion.

While humanitarian aid was restricted across the globe, urgent health care needs continued to accelerate in low-middle income West African nations reliant on tangible support from abroad. KBNF rose to the task: we shipped and distributed eight containers of donated medical equipment and supplies to regional teaching hospitals and clinics in Nigeria, Liberia, and Ghana – in the middle of a global shipping crisis no less. Operating room tables, anesthesia monitors and ventilators, hospital beds, consumables, and much more are now in service.

We conducted a multinational mission to Ghana and Liberia in November. Specialized neuroscience critical care nurses are urgently needed at teaching hospitals and universities across Ghana. Neurosurgery tool sets will enable neurosurgeons to conduct surgery in their communities while easing the challenge of managing surgeries without adequate tools in national hospitals. Our Liberian neurosurgery mission at John F. Kennedy Memorial Medical Center (JFK) in Monrovia comprised six neurosurgeons from the United States, Ghana, Nigeria, and Liberia, along with a comprehensive seven-nation neurosurgery team. Thirty-nine patients had surgery, while another 150, including Sierra Leoneans, are awaiting our return. In addition, more than 100 doctors, nurses, and medics attended weeklong acute emergency care training sessions taught by our accredited ACLS [Advanced Cardiovascular Life Support] and ATLS [Advanced Trauma Life Support] educators.

Back in the Lower Mainland, our team creatively managed 10,000 sq. ft. of warehousing, using it to its full potential as donations came and went. We also grew our volunteer base and raised more awareness across the region. Fundraising took on a whole new meaning as our 10th Annual Walk for the Bu fundraising event also became Trot for the Bu when energetic canines joined in, walking daily on behalf of KBNF's mission. Your support enabled us to raise a historic \$76,093.

The establishment of a non-profit corporation in Liberia reinforced the certainty that sustainable advancement in neurosurgery depends upon launching a systems approach to health care delivery. Warehouse operations are growing as we help expand Liberia and neighbouring Sierra Leone's capacity for health care delivery.

Our accomplishments are solely achievable because of you. You are part of building an incredible international family. With your support, we are expanding the capacity for sustainable health and neurological care in West Africa and training a community of specialized doctors and nurses who will grow contemporary neurosurgery in the region for years to come.

Thank you.
Marj

QUALITY NEUROSURGICAL CARE IS AN URGENT NEED.

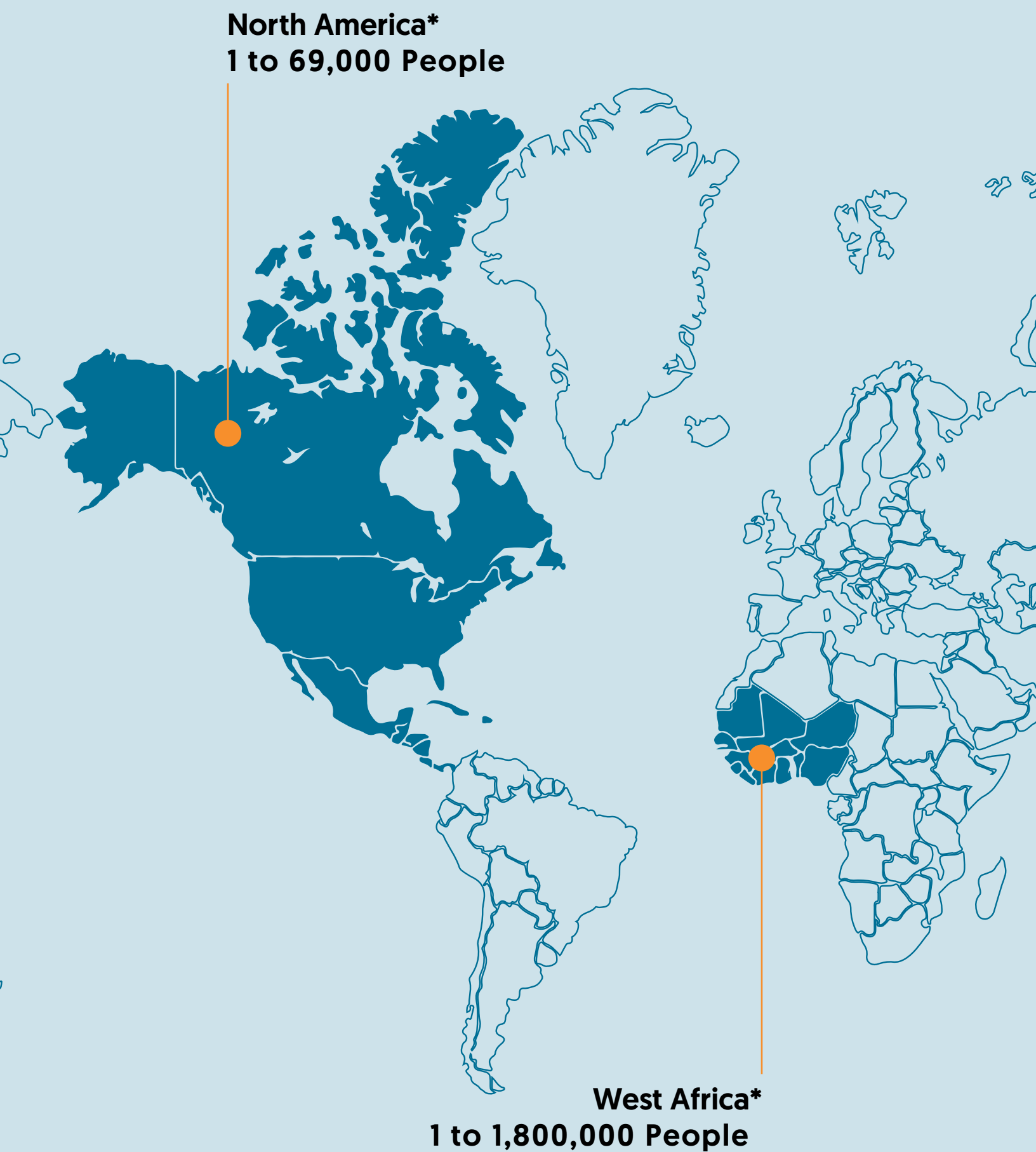


5 **MILLION:**
NEUROLOGICAL
CASES AROUND
THE WORLD DO
NOT RECEIVE
ADEQUATE CARE
EACH YEAR.

West Africa is home to approximately 389.4 million people but only has 221 neurosurgeons. The region would need an additional 1,571 neurosurgeons to meet the ideal neurosurgeon-to-population ratio suggested by the World Health Organization.

This means every year thousands of people in West Africa:

- have no surgical recourse for otherwise operable brain tumours and spinal injuries
- lack of support for common brain diseases like hydrocephalus and epilepsy
- have no access to life-saving medical intervention after a serious stroke.



KORLE-BU NEUROSCIENCE FOUNDATION WORKS WITH NATIONAL GOVERNMENTS AND LOCAL PARTNERS TO DEVELOP NEUROSURGICAL CARE IN WEST AFRICA.

We provide medical supplies and services that would otherwise be unavailable.

Our purpose is to enhance the delivery and quality of healthcare in West Africa.

Our focus is to develop fully equipped, staffed, and self-sustaining neurosurgery programs and facilities.

Neurosurgeons per country:		Healthcare spending per capita:	
339	Canada	\$5,048	Canada
81	Nigeria	\$71	
24	Ghana	\$75	
1	Liberia	\$53	
0	Sierra Leone	\$46	

WHERE WE WORK



WHERE WE WORK

In 2021, we partnered with individuals and organizations in Ghana, Liberia, Nigeria, and Sierra Leone.

SIERRA LEONE

In a country with no neurosurgeons, we supported the healthcare system with supplies, collaborated with doctors to remotely support neurosurgery cases, and explored ways we can build our partnerships in the country to create a foundation for neurosurgery there.

LIBERIA

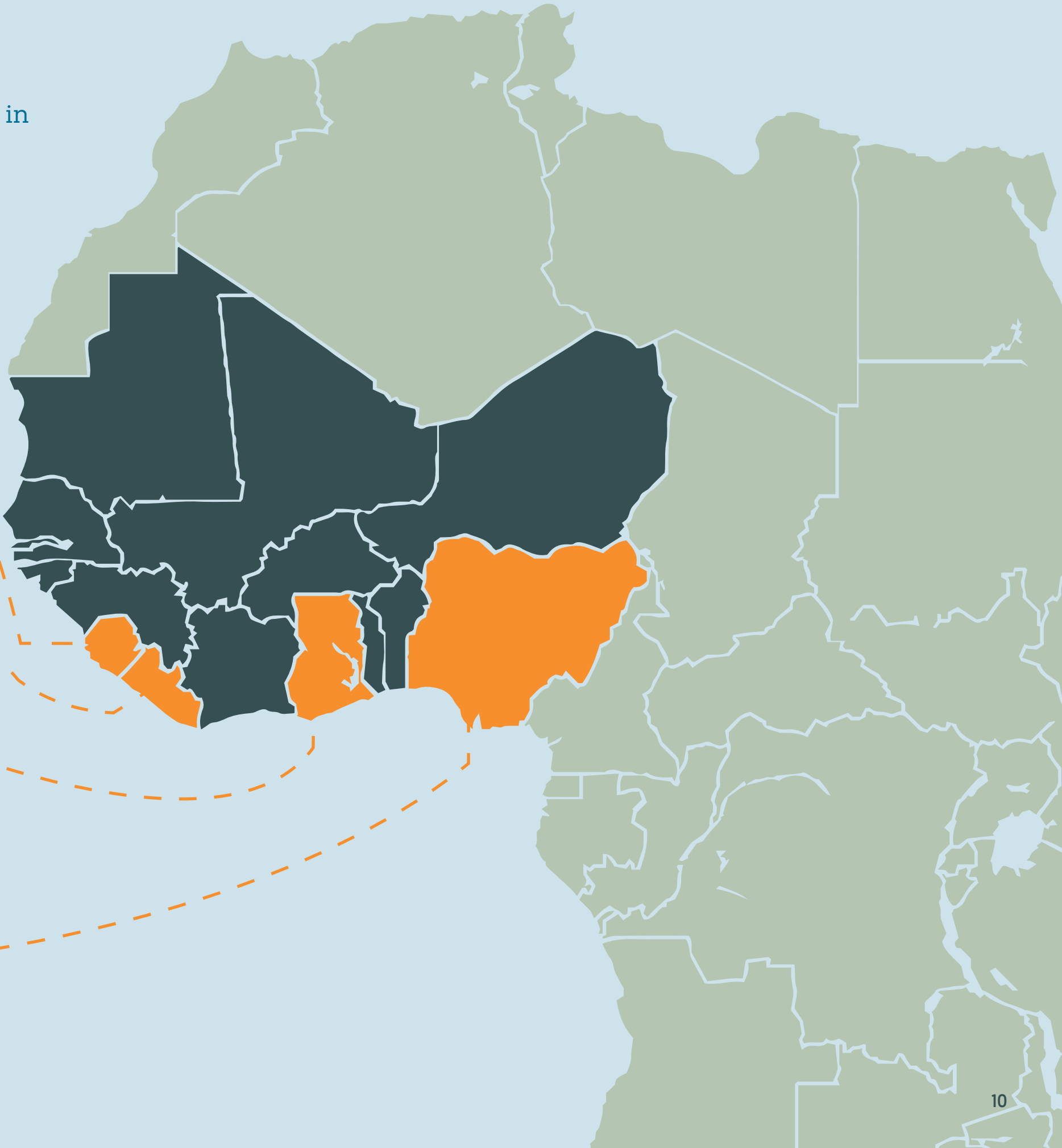
Our current location for KBNF surgical missions, Liberia is also home to our distribution warehouse, from which supplies and equipment are thoughtfully sent to clinics and hospitals across the country. Here we have a strong base of collaboration with Liberia’s Ministry of Health, as well as a thriving relationship with first responder services.

GHANA

Ghana received three container shipments of much-needed supplies and hosted us for partnership visits with dedicated doctors and hospitals that wish to strengthen their capacity to serve neurological patients. We also began to collaborate on a joint vision to develop certified critical care nursing education. Our Ghanaian partners are dedicated to supporting neurological access across the region through mentorship and training.

NIGERIA

Lagos University Teaching Hospital received a container shipment with hospital beds, wheelchairs, and more than 200 boxes of medical supplies. Nigeria has one of West Africa’s most advanced neurosurgery programs. The Nigeria neurosurgery community is committed to helping KBNF develop neurosurgery capacity across West Africa and 7 Nigerians joined the 2021 mission team.



SIERRA LEONE

Population: **7.9 million**
Healthcare spending per capita: **\$46**
Neurosurgeons: **0**
Neurosurgeons needed to meet population need: **34**

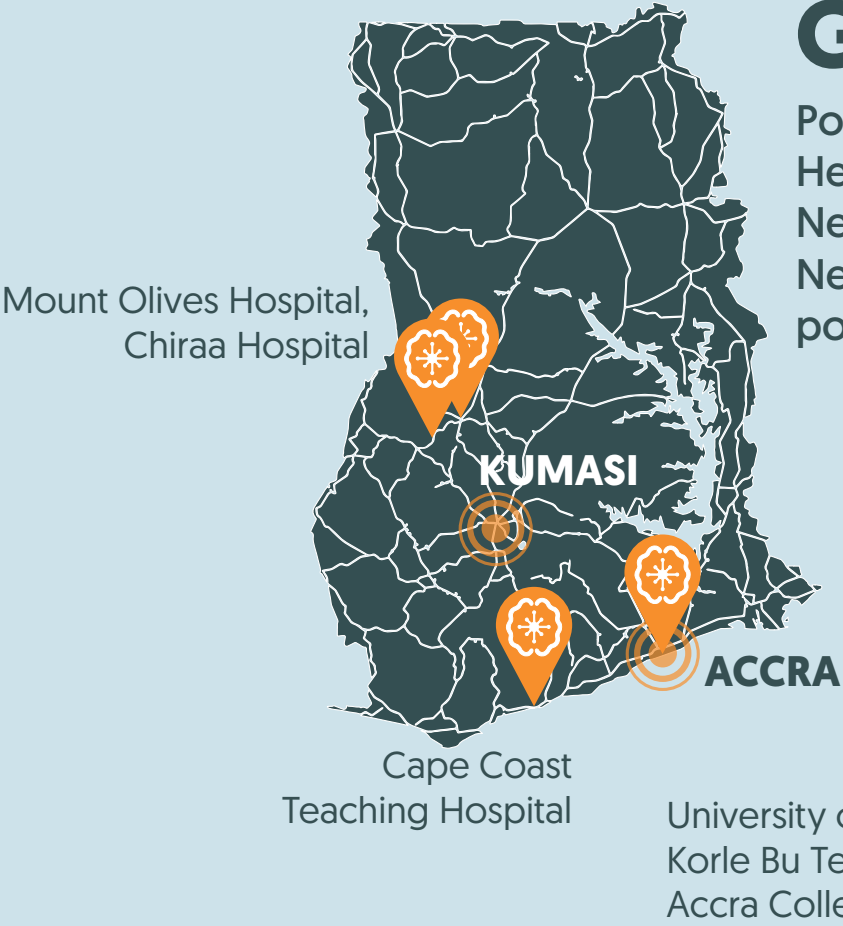


LIBERIA

Population: **5 million**
Healthcare spending per capita: **\$53**
Neurosurgeons: **1**
Neurosurgeons needed to meet population need: **22**

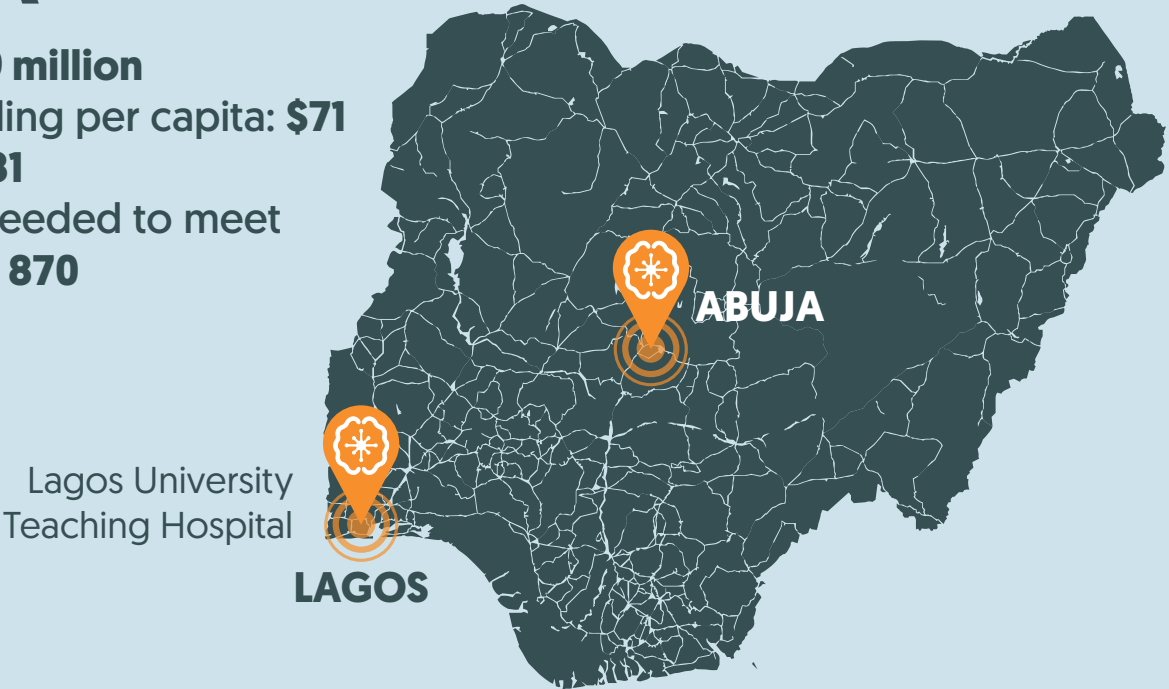
GHANA

Population: **30.1 million**
Healthcare spending per capita: **\$75**
Neurosurgeons: **24**
Neurosurgeons needed to meet population need: **131**



NIGERIA

Population: **200.9 million**
Healthcare spending per capita: **\$71**
Neurosurgeons: **81**
Neurosurgeons needed to meet population need: **870**



WHAT WE DO



what we do

SURGICAL MISSIONS

Our surgical missions bring in experts in neurosurgical care to support local health care teams in the short term, and provide equipment, supplies, training, and mentorship that build local capacity for the long term.

The 2021 Liberia mission

In November 2021, a team of surgeons, anesthesiologists, nurses, a biomedical engineer, a critical care doctor, and allied health professionals traveled to Liberia for a two-week surgical mission at JFK Medical Center in Monrovia. KBNF performed surgeries, mentored new physicians, and provided training on specialized equipment. The most common intervention was for degenerative diseases of the spine, but we also encountered brain abscesses, congenital hydrocephalus, subdural hematomas, and

hydrocephalus, subdural hematomas, and many more cases requiring immediate attention.

We set up two full operating rooms with KBNF-donated equipment and supplies to do surgeries. Some of the most critically needed were a c-arm, an operating room table, an anesthesia machine, and neuro microscopes. Nurses were trained in essential skills, including post operative positioning and patient neurological assessment.

“I consider this a grand opportunity to have different [specialists working] at the same time, showcasing their knowledge to help patients. I’m totally blessed to be part of this experience.”

- Dr. Godfred Gyimah, recent Ghanaian medical doctor graduate, with the goal to specialize in neurosurgery, and 2021 surgical mission participant



medical professionals representing 7 countries.



surgeries performed.



patients examined in the out-patients clinic.



additional patients awaiting surgery on our next mission to Liberia.



newly graduated physicians joined to receive training in neurosurgery.

*results of the 2021 surgical mission to Liberia.

Amelia's Story

Amelia is a young, passionate nurse in Liberia who developed a life-threatening brain abscess. The abscess began to impact her balance, vision, and cognitive thinking. During the KBNF mission, Amelia underwent a craniotomy to drain the abscess, relieving the pressure on her brain, and to aggressively treat the source of the infection.

While attending a follow-up appointment, Amelia shared her optimism for her continued recovery. Thanks to the surgery, she also shared that she will soon go back to work! It was a privilege to help Amelia find medical relief – and enable her to continue providing critical medical care to her community.

Surgical mission 2021

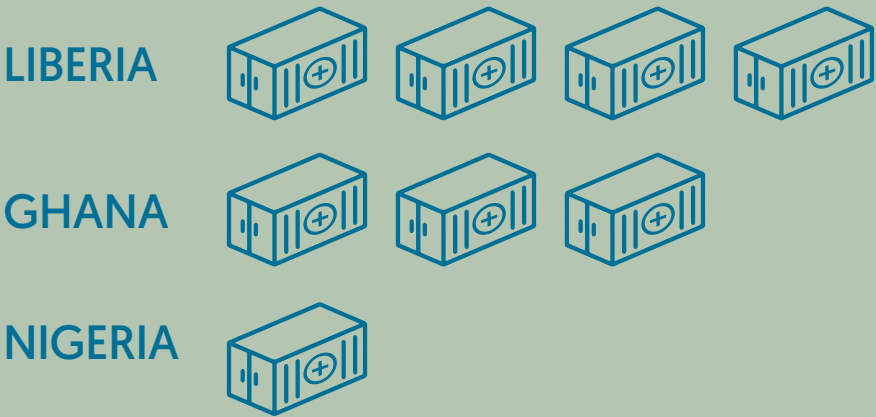


what we do

SHIP MEDICAL SUPPLIES AND EQUIPMENT

We collect, coordinate, and distribute life-saving equipment and supplies to hospitals, clinics, and medical facilities to prepare for neurological missions and outfit local facilities to provide life-saving care.

In 2021, we donated 11,297 medical items in eight tightly packed containers to help support self-sustaining neuroscience and health care infrastructure. The estimated retail value of donated decommissioned items sent is **\$2,400,000!**



*Countries receiving containers in 2021.

“[A highlight] was seeing the distributions heading out to sites for use. We heard that one microscope was used for 20 cataract surgeries – the next day.”

Our 2021 containers included operating room tables, anesthesia machines with patient monitors, ventilators, microscopes, ultrasound machines, rehab equipment, protective gear, hospital beds, and hospital linens. Here are some highlights our 2021 mission participants shared about distributing supplies.

“[I loved] seeing the pure joy on one of the nurses’ faces when they were given a box of pediatric supplies for their patients. I am honoured to have had the opportunity to give some of my time to help KBNF reach their goal in Liberia.”

Outfitting a new neuro wing in Nigeria

In Nigeria, skilled neurosurgeons are eager to take care of patients. But they don't always have the tools to do so effectively. After receiving previous KBNF shipments of essential equipment and supplies, the Lagos University Teaching Hospital (LUTH) was given a neurology ward under the leadership of Dr. Femi Bankole – a huge benefit for patients in need and the physicians and nurses training to care for them. Despite the supplies that had already been sent, something important was still missing: beds.

In 2021, KBNF sent 57 hospital beds to Dr. Bankole and LUTH to furnish the wing, making the new ward functional. Providing equipment and supplies does more than fill a room. It uplifts the healthcare system and expands a country's capacity to do neurosurgery and train new generations of health care providers.

Photo: Loading a container with hospital beds and other medical supplies.



what we do

Training, Education, and Mentorship

We provide education and training for surgeons, doctors, nurses, technicians, and first responders to support an ecosystem of self-sustaining neurosurgical care.

Education and mentorship are essential for developing a strong neuroscience foundation in West Africa. KBNF focuses on:

Side-by-side mentorship: From the OR to bedside nursing to rehabilitation, in 2021 visiting and host health care professionals worked and learned alongside each other.

Horizontal collaboration: We coordinated mutually supportive relationships among health care professionals in West Africa.

Vertical collaboration: We connected established neurosurgeons and centres in North America with frontline health care providers in West Africa to provide advanced support on clinical cases and operations throughout the year.

“The training section that was held during the course of four days was so inspiring.”

- West African attendee of the
Acute Medical Management Conference

130

healthcare professionals, including physicians, nurses, physician assistants, medical students, paramedics, firefighters, and midwives, attended an Acute Medical Management Conference, covering topics such as advanced cardiovascular life support and advanced trauma life support.

2021 Highlights

The KBNF team provided nursing mentorship, giving local nurses the skills to do neuro-assessments on post-op and critical care patients.

We created training videos on how to use specialized equipment.

“As a nurse anesthetist, I am grateful to [the team who] helped me to understand the function of the anesthetist machines in detail. They also taught me new techniques and approaches to patients.”

- West African Nurse Anesthetist



“[I learned] the impact of traumatic injuries [and how they] differ in people of various body sizes, how to identify presenting signs and symptoms of traumatic brain injuries, and what action to take in saving the victims. The discovery of many visual problems with the help of the occupational therapist was a great experience.”

- Liberian Physical Therapist





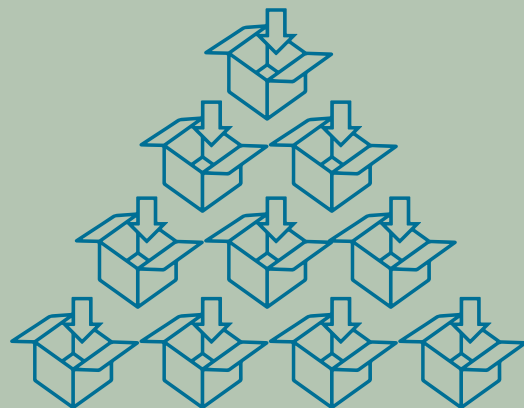
**PROVIDING CARE FROM
THE BEGINNING.**

Perinatal Care Program

Perinatal care for pregnant women leads to healthier babies and healthier moms, particularly when it comes to preventable but life-altering neurological conditions that can affect infants. For example, some common diagnoses, such as spina bifida, can be easily prevented if mothers take folic acid during their pregnancy – something they may not know if they don’t have access to prenatal care.

To support both maternal and infant health, KBNF has begun encouraging women to seek prenatal care, supporting access to education, and providing tangible assistance through our Perinatal Care Boxes.

311
boxes sent to
Liberia and
Ghana in 2021.



These boxes, sent in our shipping containers among the operating tables and microscopes, contain gifts for babies and mothers who attend prenatal clinics and deliver their babies at the hospital. Made with care by volunteers, the boxes include two sets of clothing for a baby, a receiving blanket, soap, a comb, reusable diapers and sanitary pads, wash cloths, and a carrying bag.

“[The boxes] have led to improved attendance at antenatal clinics thereby contributing to a drop in maternal mortality and head injury/ birth asphyxia in some communities in Liberia,”

- Dr. Bennedict Kolee, Chief Pathologist, Republic of Liberia, and KBNF Executive Committee Member

Access to perinatal care, education, and hospital births can also lower maternal mortality.

Maternal deaths per 100,000 live births:

Liberia: 661
Ghana: 308
Canada: 8.3





View from Mount Olives Hospital, Techiman, Ghana



Partner Highlight:

Dr. Harry Akoto

Dr. Harry Akoto is a deputy director at the Korle Bu Teaching Hospital in Ghana, and secretary to the surgery faculty of the Ghana College of Physicians and Surgeons. He is a KBNF Executive Committee member and is a continuous source of inspiration to our team. He shared his experience as a neurosurgeon in an under-resourced hospital on our visit to Ghana in October 2021. He also joined our 2021 November mission to Liberia.

“Seeing [the patients’] faces and smiles makes my day. I believe we are made to give to and fulfill the aspirations of others if we are in a good position. I can share what I have. Like the biblical story, silver and gold I have none, but compassion, skill, and love for humanity I can afford to share.

The needs here [in Liberia] are massive. The fact you do not see our patients, does not mean they don’t exist. Very often when people don’t have the resources to get help, they remain hidden because they know there’s no hope for them. Even if there was something for them, they don’t have the financial capability to get help.

Even in Ghana, where we have a fair amount of neurosurgeons, we are inundated with cases and we are never able to do enough. But if I can reduce that gap in any way possible, I will.

It will take a multi-pronged approach to improve neurosurgery and neuroscience in West Africa. First, we need basic tools, some of which are really expensive, and which our governments are either unable, or refuse, to provide. Second, we do not have the human resources, so we need to train doctors, nurses, and technicians. Finally, we need the infrastructure, which barely exists. This is where KBNF comes in: they can help provide the equipment and tools and help train the available human resources across the region to meet these needs.”

KBNF is committed to working with Dr. Akoto and neurosurgeons across West Africa to support systems where these “hidden” patients have access to the neurological care they need, regardless of their resources.





Momoh's Story

Momoh is a 14-year-old from Sierra Leone. He was born with occipital encephalocele, a rare congenital condition. He has lived with a massive conglomeration of blood vessels and fluid contained by a debilitating growth on the back of his head.

Momoh hadn't attended school in years, because of bullying and rumours that he was a witch with two heads. When we met Momoh, he was ostracized from his community and no longer felt safe at home.

Dr. Peter Bangura, a physician from Sierra Leone, learned about Momoh when someone posted about him online, pleading for help after the teen had attempted suicide. Dr. Bangura reached out to the family and eventually brought Momoh to his hospital, where he was able to give Momoh a CAT scan and finally diagnose his condition.

Dr. Bangura is a talented and compassionate physician, but he isn't trained to do neurosurgery – few in Sierra Leone are. After a telemedicine call with the critical care team in Liberia, the doctors there invited him to come to JFK Hospital during KBNF's mission to discuss cases. He arrived after an eight-hour drive with a cell phone in hand. On that phone were pictures of four cases from his country that needed specialized treatment, including Momoh's.

Could the visiting neurosurgeons help? The answer was yes – if he could get Momoh to the hospital. Dr. Bangura hopped back into his car. After 16 more hours of travel, Momoh arrived at JFK. Dr. Akoto, who had come from Ghana on the KBNF mission, was able to safely remove 70% of the occipital encephalocele. A second surgery is planned for 2022, once Momoh is completely healed from the first one. When Momoh woke up, he had a smile from ear to ear and could not believe the transformation that had happened.

"I want to appreciate KBNF and its donors for their desire to save lives," said Dr. Bangura. "If it hadn't been for KBNF intervention, Momoh wouldn't have got a better life."

Momoh is far from the only Sierra Leonean in need of specialized neurological care. KBNF is committed to reviewing additional cases from Sierra Leone in 2022.

Our Volunteers

Volunteers are the hands and feet of KBNF. Their faithful service in our warehouse makes it possible to send out containers to West Africa. In addition, volunteers help run our Canadian operations and staff our medical missions. To all our volunteers in 2021: Thank you!

This year:

- KBNF volunteers clocked **5,202 volunteer hours** at the warehouse
- We hosted **9 large volunteer groups**, representing churches, baseball teams, university students, and high schools
- We welcomed **163 volunteers** over the course of the year

Gwen and Paul's story

Gwen and Paul Odermatt, of Langley, BC, first learned of KBNF because of a Singer treadle sewing machine Gwen inherited from her uncle. Made in Scotland in 1905, the machine had been brought by her ancestors to the "new country." Although the sewing machine still worked, it was used for many years as a plant stand, which left the wooden cabinet stained and buckled. The couple eventually brought it to an antique shop to see if it might have a future elsewhere. The antique dealer said no – but she knew someone who would refurbish it and send it to Africa to be used in a home-based business. That's how they met Marj.

When the Odermatts dropped off the sewing machine in July 2018, Marj showed Gwen and Paul our

warehouse where all supply and equipment donations are processed and explained KBNF's medical mission. They were immediately intrigued.

"We decided to volunteer because we knew we would be able to serve those in need and have a tangible way of 'loving our neighbour,' especially those whose need is so great," they said.

Gwen was so moved by her KBNF experience that when invited, she was eager to go to Liberia with the next mission. She worked with the gardener at the Tappita Hospital to develop a peaceful, healing garden for patients. Many patients even wanted to help as she worked to restore, repair, paint, and map-out new directions for the garden.



Marj said more than once that KBNF's connection with the Odermatts was not a chance meeting, but one that was meant to be – and she was right. The couple continues to volunteer in our warehouse: they fold linens, pack boxes, sort items, and work wherever help is needed. Paul is also the KBNF photographer; his pictures appear on the website and in many other places.

"We consider ourselves blessed to be able to volunteer this way," they shared. "Our blessings and love are multiplied as the containers are unloaded in West Africa."

With Thanks to Our Partners

KBNF relies on our dedicated partners to make our mission possible. In 2021, partners donated critical medical supplies, coordinated logistics, provided medical training and expertise, and gave financial gifts that elevated our ability to enhance the delivery and quality of health care in West Africa.

Medical Equipment and Supplies

Continuum Medical Care Ltd.
Fraser Health Authority
Interior Health Authority
Island Health Authority
K-Bro Linen Systems Inc.
Meditek
Providence Health Care
Provincial Health Services Authority
Vancouver Coastal Health

Corporate Partners

Canadian Western Bank
Charlie's IGA
Code Electric Products Ltd.
CVN Medical
Diamond Delivery
First Canadian Logistics
John Volken Foundation
Nicola Wealth
Rick's Heart Foundation

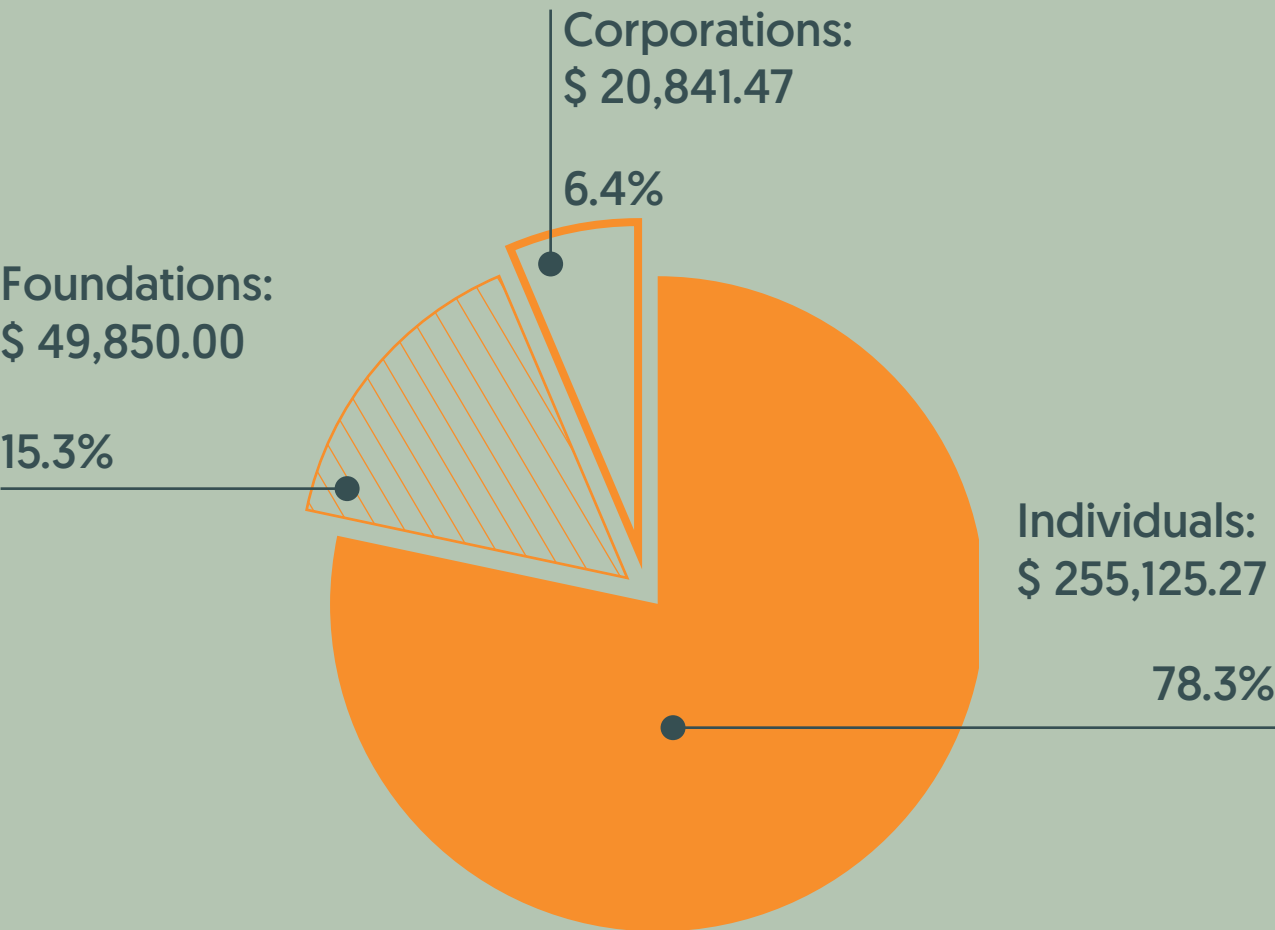
Partnerships

Compassion Resource Warehouse
The Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care (The G4 Alliance)
Institute of Global Perioperative Care
Helping Those in Need



Financial Report

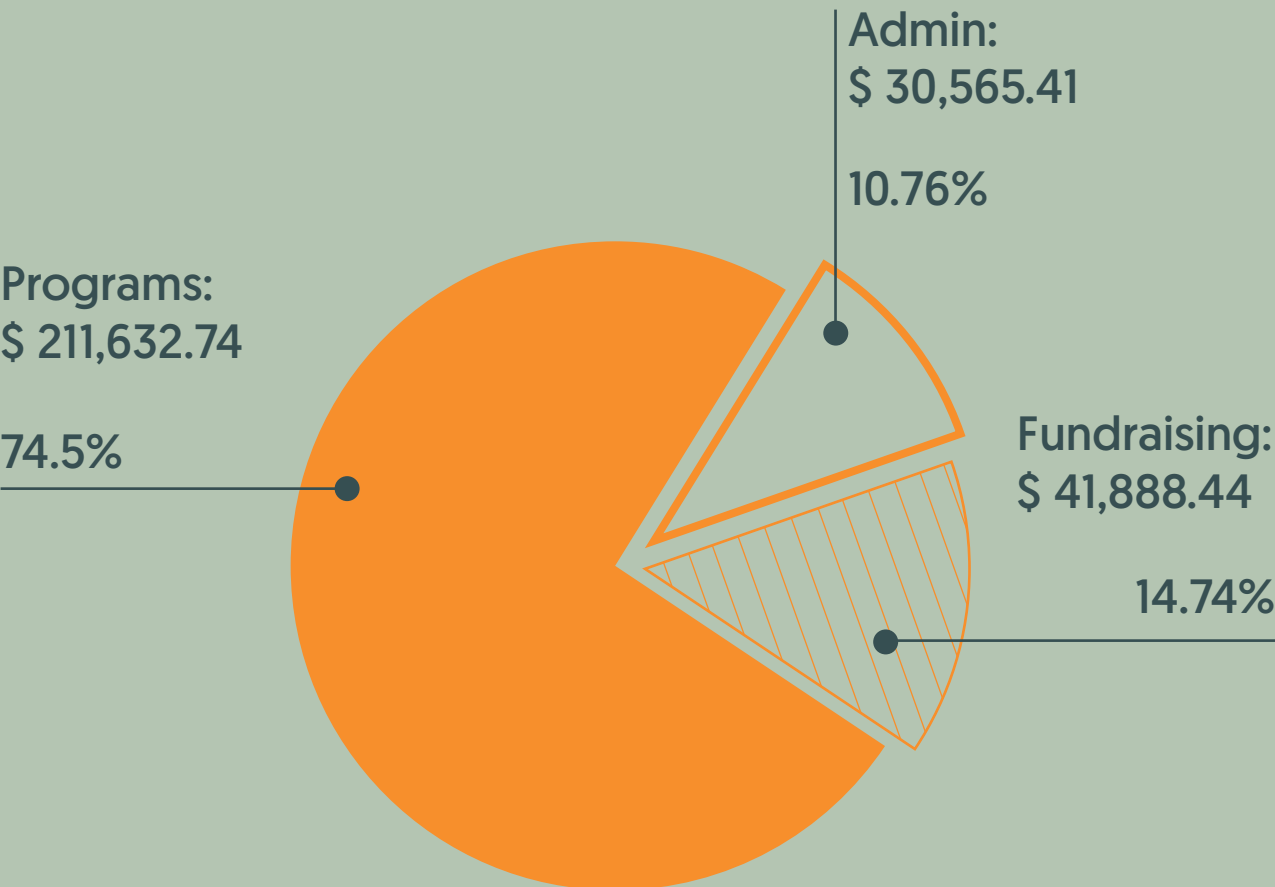
Donations



Total Revenue:

\$325,816.74

Fund Stewardship



Total Expenditures:

\$284,086.59

Note: Based on unaudited 2021 financials. For more detailed financial information, please email us at hello@kbnf.org.

Looking Ahead

Here's a snapshot of what's ahead for KBNF in 2022:

Surgical Missions

We will host one major international neurosurgery mission in Fall 2022. In addition, KBNF will sponsor West African teams to attend as needed short-term missions.

Medic Training in Liberia

In addition to continuing training for ambulance workers in Liberia, a Canadian paramedic team will be joining a KBNF mission this year. We also plan to ship another ambulance – the third! – to Liberia in 2022.

Eight Container Shipments

We will be sending eight shipping containers of critical medical supplies from Canada to various sites in West Africa.

Improved Critical Care Nursing Training

We will establish the groundwork for improving critical care nursing training and explore new opportunities to expand on training opportunities.

A New Warehouse in Canada

In 2022, we are launching a campaign for a new, long-term warehouse for KBNF in the Lower Mainland. This facility will allow us to customize a space perfectly suited to the execution of our mission – so we can enhance health care in West Africa more effectively and efficiently.

Get Involved

Volunteer

Warehouse volunteers (Metro Vancouver): We invite you to join our hard working crew of volunteers who load and unload shipments; sort, fold, and pack donated supplies; and keep our warehouse running smoothly.

Other North American opportunities (Anywhere): Looking to use your professional skills to advance life-saving neurological care? We're looking for help with communications, design, storytelling, tech/IT, building projects, logistics, and more to support our Canada-based operations.

"I am excited to be part of a group that works diligently to improve the lives of the people of West Africa. When I see lives saved and changed by the equipment, supplies, surgeries, and the training of health care staff, it is worthwhile."

Join a Surgical Mission

Our medical missions require neurosurgeons, anesthesiologists, nurses, respiratory therapists, rehabilitation professionals, allied healthcare specialists, biomedical engineers, carpenters, handy-people, coordinators, and other big-hearted people with a variety of expertise. We invite you to apply today to join one of our upcoming missions.

Support Financially

Donors provide the vital support we need to provide life-saving surgeries, train health care personnel, and ship critically needed medical supplies to West Africa.

>>> For more information or to learn about how you can support any of these 2022 initiatives, please contact hello@kbnf.org. <<<

“KBNF works with partners in West Africa and Canada, dedicated volunteers from BC’s Lower Mainland and beyond, and donors from around the world to execute our mission. The result? Patients are getting life-saving neurosurgeries, more local doctors and nurses are being trained in specialized care, and the overall quality of health care in West Africa is improving.

To all our supporters, donors, and volunteers: Thank you for the role you’ve played in making KBNF’s work possible!”

— Rose Woller, Executive Director, KBNF





**Korle-Bu
Neuroscience
Foundation**

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