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ADDRESSING NEUROLOGIC NEEDS IN SUB-SAHARAN AFRICA: AN OPPORTUNITY FOR MULTISOCIETY COOPERATION

Approximately 26,000,000 people live in sub-Saharan African (SSA) nations where there are no neurologists. A total of 270,000,000 live in nations where there are fewer than 5 neurologists per country.¹ There are neurologic societies in fewer than 50% of SSA countries.² The WHO recommends a ratio of 1 neurologist:100,000 people. In those SSA nations where there are neurologists, the ratio is up to 175 times that recommended by the WHO.¹

It is evident from these numbers that correcting these ratios will not be accomplished soon. Meeting the immediate needs of people with neurologic disease in SSA requires a model of care beyond that practiced in Western countries. In 2007, Aarli et al.³ outlined several suggestions for immediate improvements in neurologic care. One is the increased training of local neurologists, preferably in an African setting. There have been regional training centers for French-speaking Africans since 1972 in Senegal, Tunisia, Morocco, and more recently the Ivory Coast. English-speaking Africans have trained in South Africa, Nigeria, and Ethiopia. The training of African neurologists in Western countries (predominantly in prior colonizing nations) is also practiced but is not ideal, as their training is sometimes ill-suited for the diseases and resources they will face in their home country. Furthermore, some of these trainees do not return to their country of origin, contributing to the brain drain experienced by many developing nations. One good solution is predominantly local African training supplemented by short-term (3–6 months) rotations in Western countries. One other method has been through local initiatives such as “Neuro-Caravans” developed in Senegal, where capital city-based neurologists travel to rural areas to train local health personnel in the care of neurologic disease, provide specialized consultations, and give radio talk shows on neurologic disease, especially on epilepsy and stroke.

The fact remains that the number of local neurologists in SSA will remain inadequate for many years.

The European Federation of Neurological Societies (EFNS) began giving continuing medical education courses in SSA in 2008. The courses have always been free of charge so as to allow as many participants from SSA to attend as possible. This is an ideal opportunity for neurologic societies across the world to cooperate in the education of medical colleagues in Africa so that they can better care for their patients with neurologic disease.

History of the EFNS regional teaching course. In June 2008, the first regional teaching course (RTC) in SSA was organized by the EFNS with cooperation from the World Federation of Neurology (WFN), the International Brain Research Organization (IBRO), and the University of Dakar, Senegal. This course was organized by Professor Amadou Gallo Diop of the University of Dakar and Professor Jean-Michel Vallat, Chair of the EFNS Task Force “Neurology & Africa.” The University supplied free use of the premises and the faculty came from both Europe and Africa. Approximately 120 participants from 13 African nations, mostly neurologists in training, attended this 3-day course, with 2 half-days of lectures on neurodegenerative disorders and peripheral neuropathy, 2 half-days of interactive clinical case discussions, and 1 final day as an open discussion with the faculty.

Professor Zenebe Melaku helped to organize the second RTC in Addis Ababa, Ethiopia, in June 2009. This course was hosted by the Neurology Department of Addis Ababa University and the Association of Neurologic Sciences of Ethiopia. In addition to representatives from the EFNS, WFN, and IBRO, members from the Pan-African Association of Neurologic Sciences (PAANS) also took part. Nine attendees from other SSA nations were sponsored so they could join approximately 110 Ethiopian neurology trainees, neurosurgery trainees, psychiatrists, and general practitioners to attend this 3-day course on the selected topics of stroke and epilepsy.

Professor Beugre Kouassi helped organize the third EFNS-sponsored RTC in Abidjan, Ivory Coast,

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Figure Faculty and attendees: Dakar, July 2013 regional teaching course



at the University of Cocody in July 2010. Representatives from the EFNS, WFN, PAANS, IBRO, the Society of Ivorian Neurologists, and the University of Cocody took part in this 3-day course on infectious disease and dementia. Twelve sponsored trainees from across SSA attended this course with over 100 neurology and neurosurgery trainees, psychiatrists, and general practitioners.

Professor Alfred K. Njamnshi of the University of Yaounde organized the fourth RTC in Yaounde, Cameroon, in July 2011. Several societies combined to help organize this event: the EFNS, WFN, IBRO, and the University of Yaounde. Twenty-two trainees representing 16 sub-Saharan countries were sponsored to attend this course on spinal cord pathologies and stroke in the young.

The fifth EFNS RTC was held on July 10–13, 2013, in Dakar, Senegal. Six major neurologic organizations—the EFNS/European Neurological Society, IBRO, WFN, World Stroke Organization, Movement Disorders Society, and American Academy of Neurology (AAN)—cooperated with the local Cheikh Anta Diop University of Dakar to organize this course. Several of the organizations contributed funds so that 17 countries in SSA had the opportunity to send 1 trainee in neurology or a related field to the course. These participants had their airfare and lodging covered so that they could attend this course on stroke and movement disorders. Fifty-three participants from 23 nations across all regions of Africa attended (figure).

An opportunity for cooperation. The medical needs in SSA are daunting. The Global Burden of Disease Study 2010 estimated that neurologic disorders only make up approximately 3.0% of the burden of disease in eastern SSA.⁴ However, their classification system

excluded stroke, meningitis, brain tumors, low back pain, and neurologic complications from HIV, tuberculosis, and diabetes as being labeled “neurologic.” Other systematic studies have reported that patients with primary neurologic disease make up >10% of all hospital admissions in rural eastern Africa.⁵ There is no need to create silos of medical specialties—the fact remains that there are large numbers of people with neurologic diseases or complications in SSA, and there are few well-trained professionals to care for them.

It is sometimes difficult for people in the West to understand how a conference of 100 people can have a significant impact on an entire continent. When a nation has no neurologists, or only a handful of them, the medical school curriculum in that nation suffers. By exposing one physician from that country to training from world experts on an annual basis, that knowledge is spread to the actual caregivers in an exponential manner. Although Internet-based learning gives us an opportunity to help our African colleagues that we did not have a generation ago, there is no replacement for a continuing medical education conference, where handshakes are made, faces are attached to names, meals are shared, and the gulf between Western and African physicians is narrowed. It will take many years for the number of trained African neurologists to reach an adequate level. In the meantime, they require the help of the international community.

The expenses of this course are difficult for one society to maintain. We propose that the AAN, the WFN, the IBRO, and the newly formed European Academy of Neurology combine forces annually to support this course. Depending on the topics that year, the subspecialty international societies can also be invited. If each society would contribute a relatively nominal fee (this year it was €10,000), physicians from each SSA nation could be sponsored to attend. Millions of African patients need neurologic care now; let us not let this opportunity pass.

AUTHOR CONTRIBUTIONS

Dr. Bower: initial draft and critical revision of the manuscript for important intellectual content. Dr. Diop: critical revision of the manuscript for important intellectual content. Dr. Gouider: critical revision of the manuscript for important intellectual content. Dr. Schmutzhard: critical revision of the manuscript for important intellectual content.

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