

Transforming stroke care in Africa: Early initiatives of a UK-based charity

Godwin Ogbole,¹  Rufus Akinyemi,²  Joyce S Balami,³  Gabriele De Luca,⁴  Yaria Joseph,⁵ 
Adesola Adepoju,¹  and Margaret Esiri⁴ 

Authors Affiliations:

1. Department of Radiology, College of Medicine, University College Hospital, Ibadan

2. Neuroscience and Ageing

Research Unit, Institute for Advanced Medical Research and Training, College of Medicine, University of Ibadan,

3. Acute Stroke Programme, Radcliffe

Department of Medicine, University of Oxford and Sheffield Teaching

Hospitals

4. Nuffield Department of Clinical

Neurosciences, University of Oxford

5. Department of Neurology,

University College Hospital, Ibadan,

Nigeria

Correspondence:

Godwin Ogbole

gogbole@gmail.com

Submitted: April 2024

Accepted: May 2024

Published: August 2024

Citation: Ogbole et al., Transforming stroke care in Africa: Early initiatives of a UK-based charity, *South Sudan Medical Journal*, 2024;17(3):142-145 © 2024 The Author (s) **License:** This is an open access article under [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) DOI: <https://dx.doi.org/10.4314/ssmj.v17i3.10>

Introduction

Stroke is a serious global health concern, ranking as the second-leading cause of death and the third-leading cause of death and disability combined worldwide.

^[1] Despite improvements in stroke management, the incidence of stroke among individuals under the age of 55 years is rising, leading to increased economic costs. While age-standardized stroke mortality rates have declined over the past three decades due to advancements in stroke treatments, particularly reperfusion strategies and acute rehabilitation, the global cost of stroke exceeds US\$721 billion, accounting for 0.66% of the global GDP. However, the decline in incidence and mortality rates is less pronounced in Africa, where a disproportionate burden of stroke affects individuals of African ancestry compared to other racial/ethnic groups.^[2,3]

Hypertension is a major risk factor for stroke, particularly in Africa, where over 90% of patients with haemorrhagic stroke and more than half of those with ischaemic stroke have high blood pressure.^[4] The annual incidence rate of stroke in Africa is among the highest globally, with prevalence rates notably high in Nigeria and other regions of Western Africa.^[5]

Over three-quarters of the global stroke burden is borne by low-income and middle-income countries (LMICs), with stroke occurring among individuals about ten years younger than in high-income countries (HICs). Nigeria, like many sub-Saharan African countries, is experiencing a rising epidemic of stroke. Recent reports show cardiovascular diseases as the leading cause of medical admission.^[6]

The burden of stroke is largely attributed to modifiable risk factors such as hypertension, smoking, physical inactivity, poor diet, obesity, dyslipidaemia, diabetes mellitus, psychosocial stress, depression, and cardiac causes. In West Africa, these risk factors are common in both sexes.^[7]

To address the burden of stroke, strategies for improving acute stroke care services are crucial. Stroke units have shown significant clinical benefits, including improved motor function, decreased dependency and reduced mortality. However, the implementation of evidence-based acute stroke care remains low in Africa, including Nigeria, where clinical services for stroke patients are inadequate due to resource limitations and inadequate neurodiagnostic facilities and clinical specialists.^[8] Efforts to improve stroke care in Nigeria face challenges related to socio-economic and political dynamics,^[9,10] as well as insufficient healthcare infrastructure and trained personnel. Despite these challenges, comprehensive evaluation and improvement of stroke care structures, processes, and outcomes are essential for enhancing stroke management across sub-Saharan Africa.^[10,11]

The Frederick Foundation, a UK-based charity, is leading an effort to support



Figure 1. Speakers at the Frederick Foundation Launch, February 03, 2024, L to R, Emeritus Professor Margaret Esiri, Dr Joyce Balami, Lord Charles Cecil, Professor Godwin Ogbole, Professor Gabriele DeLuca. (Courtesy: SMART Africa Network)

researchers and teams at a tertiary hospital in Nigeria. This initiative aims to provide resources and training for local experts, empowering them to develop innovative stroke treatment strategies and reduce the region's stroke burden. It includes establishing an acute stroke unit and creating educational exchange programmes with institutions like the University of Oxford. Through these efforts, the Foundation seeks to transform stroke care in Nigeria, improve health outcomes for stroke patients and reduce the stroke burden.

The creation of the Frederick Foundation (FF)

The Frederick Foundation, initiated by Emeritus Prof. Margaret Esiri in honour of her late husband, Dr Frederick Esiri, supports the University College Hospital Ibadan Acute Stroke programme, led by Prof. Rufus Akinyemi and Prof. Adesola Ogunniyi, alongside Prof. Godwin Ogbole, all renowned stroke researchers in Nigeria. FF's support aims to strengthen the UCH Stroke workforce and enhance the stroke care unit at the hospital.

FF's creation signifies a milestone in healthcare philanthropy, driven by a commitment to addressing critical health challenges in Africa. Founded to catalyse transformative change, FF emerged from dedicated individuals passionate about improving healthcare outcomes across the continent.^[12]

The foundation recognizes the pressing need for sustainable healthcare solutions in Africa and is focused on improving health outcomes and well-being in underserved communities through targeted interventions and innovative approaches.

Through investments in research, prevention, and treatment, FF aims to pioneer innovative approaches to stroke care and rehabilitation, becoming a leading advocate for stroke awareness and intervention.

As FF expands its reach, it remains steadfast in empowering communities, transforming healthcare systems, and creating a brighter, healthier future for all.

Relationship with Africa-Oxford Initiative (AfOx)

AfOx is a cross-university platform based at the University of Oxford that facilitates equitable and sustainable collaborations between researchers at the University of Oxford and African universities. It has been supporting educational programmes in Africa since its establishment in 2016.

The collaboration between the FF and the Africa-Oxford Initiative (AfOx) is a vibrant partnership aimed at tackling crucial health issues, particularly the prevalence of stroke, in Nigeria and beyond. Rooted in shared values and existing ties with African institutions like the University of Ibadan, the FF and AfOx partnership is marked by synergy, innovation, and a joint commitment to enhancing sustainable healthcare outcomes. FF and AfOx have established a strategic alliance focused on implementing effective interventions, advancing medical research, and strengthening healthcare systems to address the challenges posed by stroke.^[13]

Support for the UCH Ibadan Stroke Programme

The University College Hospital (UCH) Ibadan Stroke

Programme is a vital initiative to meet the urgent healthcare needs related to stroke in the region. UCH Ibadan was chosen as the focal point due to its status as a leading healthcare institution in Nigeria, serving a population of over 10 million for over 50 years.

Through thorough assessment, the UCH Ibadan Stroke Programme has identified significant gaps in stroke care delivery, including limited access to specialized treatment, insufficient resources for neuroimaging and rehabilitation, and low awareness about stroke prevention and management.

In response, the FF has pledged to do its best to target support to enhance the capacity of UCH Ibadan stroke care services. This support includes:

1. **Capacity Building:** FF has proposed to train healthcare professionals at UCH Ibadan in the latest stroke diagnosis, treatment, and rehabilitation techniques to empower them to provide optimal care for Nigerian patients.
2. **Infrastructure Enhancement:** FF will upgrade infrastructure and procure equipment to strengthen stroke care facilities, including consumables for advanced medical and imaging diagnostic tools.
3. **Community Outreach and Education:** FF will collaborate with UCH Ibadan to raise awareness about stroke prevention and treatment options through educational campaigns and community engagement initiatives.
4. **Research and Innovation:** FF proposes support for research projects at UCH Ibadan to advance understanding of stroke epidemiology and develop novel interventions for specific regional challenges.

By addressing these areas of need and fostering collaboration, the UCH Ibadan Stroke Programme, with FF's support, aims to significantly improve stroke care delivery and outcomes in Nigeria that could be easily replicated across sub-Saharan Africa after a few years.

Launch of FF and initial progress

The FF was launched on February 3, 2024, marking a key milestone in its mission to address healthcare challenges in Nigeria and beyond. The event gathered government

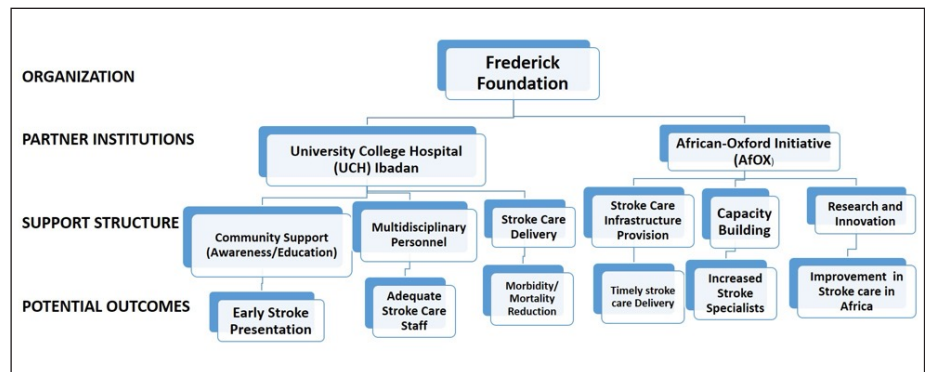


Figure 2. Frederick Foundation programme structure

officials, healthcare professionals, researchers, and community leaders to outline FF's objectives and foster collaborative efforts in healthcare improvement.

Highlights from the launch included presentations by FF leadership, outlining the Foundation's vision, mission, and strategic goals. Attendees learned about FF's commitment to enhancing stroke care services, promoting research and innovation, and fostering partnerships for positive change in healthcare delivery.

Early achievements showcased FF's dedication, including strategic partnerships with the University College Hospital (UCH) Ibadan and the Africa-Oxford Initiative (AFOX). Through these partnerships, FF hopes to accelerate progress in Nigeria's stroke care research, education, and clinical practice.

FF is advancing its mission of improving stroke care and healthcare outcomes in Nigeria by fostering partnerships, driving innovation, and engaging stakeholders. The launch event and subsequent progress demonstrated FF's commitment to addressing stroke-related health disparities and collecting data to make a meaningful difference in this Nigerian community.

Potential impact of FF in Nigeria and the 5-10 year Vision

FF's interventions extend beyond individual patient outcomes to influence healthcare systems and policies. In the next 5–10 years, FF plans to expand its reach across Nigeria, forming partnerships with healthcare institutions, academic centres, and government agencies. It aims to scale up existing programmes, launch new initiatives, and diversify funding sources for sustainability. FF envisions integrating its interventions into routine healthcare practices, leading to lasting improvements in

stroke outcomes and the general population's health. Its programmes and structure are outlined in Figure 2.

Central to FF's vision is reaching under-served populations, particularly in rural areas, using technology and innovative delivery models to bridge healthcare disparities. Supporting FF's mission offers an opportunity to contribute to meaningful healthcare transformation in this resource-challenged setting. Donations, volunteering, advocacy, and partnerships are ways individuals and organizations can support FF's initiatives.

One of FF's major targets is overcoming significant challenges faced by stroke patients, including limited access to brain scans for individuals without medical insurance, retaining trained staff who frequently leave the region for better opportunities, and obtaining visas for international trainees. Despite these challenges, FF remains committed to its mission of improving stroke care and public health outcomes in Nigeria.

In conclusion, FF's journey reflects a steadfast commitment to improving stroke care and education in Nigeria. With the collaboration of friends and donors, FF aims to make a lasting impact, transforming stroke care systems and improving the lives affected by stroke-related challenges in Nigeria.

Acknowledgement

We would like to express our gratitude to Prof. Mayowa Owolabi and Lord Charles Cecil for their invaluable guidance and support of the FF's activities and commitment to advancing stroke care and research in Africa. We extend our sincere thanks to the UCH Stroke Unit team for their dedicated assistance and collaboration to improve acute stroke care in the African region.

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