

1.0 PERSONAL INFORMATION

NAME: Samson Awili Gwer
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NATIONALITY: Kenyan
DATE OF BIRTH: 9th September 1979

2.0 QUALIFICATIONS

2.1 Academic Qualifications

1. Doctor of Medicine
Institution: University of Amsterdam, Netherlands
Child Neurology
Cerebral Haemodynamics in Non-Traumatic Encephalopathies
Period: 2008 – 2012
2. Paediatrics and Child Health
Fellow (FRCPCH) - from 2021
Member (MRCPCH) - from 2010
Institution: Royal College of Paediatrics and Child Health (UK)
Period: 2007 – 2010
3. Bachelor of Medicine and Surgery (MBChB)
Institution: University of Nairobi
Period: 1998- 2003

2.2 Professional Awards

- Sheila Wallace Award, International Child Neurology Association, Adelaide, Australia May 2012
- International Scholarship Award, American Academy of Neurology, San Diego - March 2013
- Benard D'Souza Award, Child Neurological Society, Texas, USA, November 2013

3.0 EMPLOYMENT HISTORY

1. 2019 - Current: Paediatric Neurology Consultant, Gertrude's Children's Hospital, Nairobi, Kenya
2. 2012 – Current: Senior Lecturer (Lecturer), Neurophysiology, School of Medicine, Kenyatta University, Nairobi, Kenya
3. 2009 - Current: Executive Director/Clinical Lead - Rural Epilepsy Outreach Programme, Afya Research Africa, Nairobi, Kenya
4. 2011- 2012: Research Paediatrician, Gertrude's Children's Hospital, Nairobi, Kenya
5. 2008-2010: Department of Child Neurology, Evelina Children's Hospital, Guys and St. Thomas NHS Trust; Neurophysiology Dept, Great Ormond Street Hospital for Children, London; Department of Child Neurology, Southampton General Hospital

6. 2004- 2009: Paediatrics (Medical) Research Officer, Kenya Medical Research Institute, Kilifi, Kenya
7. 2003-2004: Medical Officer Intern, Ministry of Health, New Nyanza Provincial Hospital, Kisumu, Kenya

Other Professional Roles

2019 - Current: Co-Initiator/Supervisor, Kenya Child Neurology Fellowship Programme

2018 – Current: Associate Editor, BMC Neurology

2014 – Current: Supervisor, BPNA Distance Learning Programme

4.0 FELLOWSHIPS

- ✓ Visiting Fellow, Royal College of Paediatrics and Child Health 2009
- ✓ Fellow, Royal Society of Tropical Medicine and Hygiene, 2010

5.0 POST-GRADUATE SUPERVISION

5.1. PhD and Fellowships

2020 (Ongoing)

Shem Ochieng: Cerebral Function and Neuro-Cognitive Profile of Children Living With HIV/AIDS

2020 (Ongoing)

Nicholas Odero: Factors Associated with Successful Withdrawal of Anti-Seizure medications in Children with Epilepsy at Aga Khan University Hospital, Nairobi.

2020 (Ongoing)

Maureen Njoroge: Broad Spectrum Micronutrient Supplementation in the Management Of ADHD Symptoms: A Clinical Trial

2020 (Ongoing)

Barack Ongulo: Evaluation of Bacteriological Factors, Vitamin D and Neutrophil Extracellular Traps in Recurrent Tonsillitis.

2020 (Ongoing)

George Morara Moturi: Investigation of Placental Microparticles, Neutrophil Extracellular Traps and Endothelial Biomarkers in the Prediction and Prognosis of Cardiorenal Complications of Gestational Hypertension

2019 (Ongoing)

Charlotte Midiwo: Determination of Erythrocyte Microparticles in Relation to Apoptosis and Autophagy in Children with Sickled Erythrocytes During Crisis and Steady State

2016 (Complete)

Dr. Gordon Ogweno (P97/12743/2009): The Effects of Crystalloid Solutions on The Human Coagulation System

2015 (Complete)

Dr. Florence Okwara (P97/13283/2009): Effectiveness of Isoniazid Prophylaxis Therapy in Preventing Tuberculosis in Children in Household Contact with Adults with Tuberculosis in Nairobi County, Kenya.

Thesis Chapter Published in BMC Infectious Diseases

Correlates of Isoniazid Prophylaxis Failure for Tuberculosis Prevention Among Child Household Contacts with Infectious Tuberculosis in High Burden Settings in Nairobi, Kenya Okwara FN, Oyore JP, Were FN, Gwer S.

5.2 Masters Supervision - Complete

2016

Charlotte Midiwo (I56/CTY/PT/23314/2012) Carbonic Anhydrase 2 Levels in Erythrocytes of Patients with Sickle Cell Disease and Healthy Controls in Nairobi County, Kenya

Thesis Manuscript Published in Archives of Paediatric and Developmental Pathology Carbonic Anhydrase II level is increased in children with sickle cell anemia compared to healthy controls Charlotte Midiwo, Okun D, Gwer S, Ogweno G

6.0 RESEARCH AND PUBLICATIONS

6.1 Articles in Peer Reviewed International Journals

Research priorities in the management of severe Plasmodium Falciparum malaria in children Ann Trop Med Parasitol. 2006 Mar; 100(2):95-108. Review
Idro R, Akech S, **Gwer S**, Newton CR, Maitland K.

Volume Expansion with Albumin Compared to Gelofusine in Children with Severe Malaria: Results of a Controlled Trial PLoS Clin Trials. 2006 Sep 15;1 (5)
Akech S, **Gwer S**, Idro R, Fegan G, Eziefula AC, Newton CR, Levin M, Maitland K.

Over-diagnosis and co-morbidity of severe malaria in children: a guide for clinicians AMJTH 77 (Sup 6) 2007 pages 6 – 13
Samson Gwer, Charles RJC Newton, James A Berkley

CR Phase III Trials Required to Resolve Clinical Equipose over Optimal Fluid Management in Children with Severe Malaria PLoS Clin Trials. 2007 Feb 9;2(2)
Maitland K, Akech S, **Gwer S**, Idro R, Fegan G, Eziefula A C, Levin M, Newton CR

The incidence, etiology and outcome of acute seizures in children admitted to a rural Kenyan district hospital BMC pediatrics Feb 2008
Richard Idro, **Samson Gwer**, Hellen Gatakaa, Moses Ndiritu, Michael Kahindi, Tony Kazungu, Kathryn Maitland, Brian GR Neville, Piet A Kager and Charles RJC Newton

Biphasic Clinical Course in Kenyan Children with Cerebral Malaria

African Journal of Neurological Sciences June 2008

Samson Gwer, Jeanine Punt, Richard Idro, Isaac Mwamuye, Hellen Gatakaa, Charles Newton, Kevin Marsh

Haptoglobin HP2-2 genotype, alpha-thalassaemia and acute seizures in children living in a malaria-endemic area. *Epilepsy Res.* 2008 October 81(2-3)

Idro R, Williams TN, **Gwer S**, Uyoga S, Macharia A, Opi H, Atkinson S, Maitland K, Kager PA, Kwiatkowski D, Neville BG, Newton CR

High levels of erythropoietin are associated with protection against neurological sequelae in African children with cerebral malaria. *Proc Natl Acad Sci U S A.* 2008 Feb 19;105(7):2634-9. Epub 2008 Feb 8.

Casals-Pascual C, Idro R, Gicheru N, **Gwer S**, Kitsao B, Gitau E, Mwakesi R, Roberts DJ, Newton CR.

HIV infection, malnutrition, and invasive bacterial infection among children with severe malaria. *Clin Infect Dis.* 2009 Aug 1;49(3):336-43.

Berkley JA, Bejon P, Mwangi T, **Gwer S**, Maitland K, Williams TN, Mohammed S, Osier F, Kinyanjui S, Fegan G, Lowe BS, English M, Peshu N, Marsh K, Newton CR.

The Role of Osmotic Agents in Children with Acute Encephalopathy: A Systematic Review

Joanna Briggs Library of Evidence Based Health care/BMC Paediatrics 17 April 2010

Samson Gwer, Hellen Gatakaa, Leah Mwai, Richard Idro, Charles Newton

Neonatal seizures in a rural Kenyan District Hospital: aetiology, incidence and outcome of hospitalization *BMC Medicine* 17 March 2010

Michael Mwaniki, Ali Mathenge, **Samson Gwer**, Neema Mturi, Evasius Bauni, Charles RJC Newton, James Berkley, Richard Idro

Clinical Considerations for Antibiotic Choices in the Treatment of Severe Malaria *Trends Parasitol.* 2010 Jun 25

Anna Farnert, **Samson Gwer**, Jay Berkley

Evaluating a Non-invasive Intracranial Pressure Monitoring Technique in Comatose Children at a Rural Kenyan Hospital In preparation

Samson Gwer, Michael Kazungu, Eddie Chengo, Eric Ohuma, Richard Idro, Tony Birch, Robert Marchbanks, Piet Kager, Fenella J. Kirkham, Charles R. Newton

Continuous EEG Monitoring in Kenyan Children with Acute Non-Traumatic Coma ADC – Accepted for Publication February 2012

Samson Gwer, Richard Idro, Gregory Fegan, Edwin Chengo, Godfrey Otieno, Harrun Garrash, Steve White, Fenella J Kirkham, Charles R Newton

Changing Trends in The Aetiology of Childhood Coma in A Rural African Hospital *BMJ Open* April 2012

Samson Gwer, Nahashon Thuo, Mwanamvua Boga, Charles R Newton, Richard Idro, Fenella Kirkham

Clinical stroke scores for distinguishing stroke subtypes: a systematic review of diagnostic test accuracy *JBI Library of Systematic Review* 02 Apr 2013; 11(3): 191-226

Mwita C, Kajja D, **Gwer S**, Etyang A, Newton C

The tympanic membrane displacement analyser for monitoring intracranial pressure in children Childs Nerv Syst. 2013 Jun;29(6):927-33

Gwer S, Sheward V, Birch A, Marchbanks R, Idro R, Newton CR, Kirkham FJ, Lin JP, Lim M

Childhood Acute Non-Traumatic Coma: Aetiology and Challenges in Management in Resource Poor Countries of Africa and Asia Paediatrics and International Child Health

2013 Aug;33(3):129-38

Samson Gwer, Clifford Chacha, Charles R. Newton, Richard Idro

Unexpected Relationship between Tympanometry and Mortality in Children with Acute Non-Traumatic Coma Pediatrics 2013 Sep;132(3):

Samson Gwer, Eddie Chengo, Charles RJC Newton, Fenella J Kirkham

Fosphenytoin for Seizure Prevention in Childhood Coma in Africa: A Randomized Clinical Trial Journal of Critical Care 2013 Dec; 28(6): 1086-92

Gwer SA, Idro R.I., Fegan G, Chengo EM, Mpoya A, Kivaya E, Crawley J, Muchohi SN, Kihara MN, Ogutu BR, Kirkham FJ, Newton CR

Value of Plasmodium falciparum histidine-rich protein 2 level and malaria retinopathy in distinguishing cerebral malaria from other acute encephalopathies in Kenyan children.

Journal of Infectious Diseases 2014 Feb 15;209(4):600-9

Kariuki SM, Gitau E, Gwer S, Karanja HK, Chengo E, Kazungu M, Urban BC, Newton CR

Accuracy of clinical stroke scores for distinguishing stroke subtypes in resource poor settings: A systematic review of diagnostic test accuracy. Journal of Neuroscience in Rural Practice 2014 Oct;5(4):330-9

Mwita CC, Kajja D, Gwer S, Etyang A, Newton CR

Abnormal intra-aural pressure waves associated with death in African children with acute nontraumatic coma Pediatric Research 2015 Jul;78(1):38-43

Gwer S, Kazungu M, Chengo E, Ohuma EO, Idro R, Birch T, Marchbanks R, Kirkham FJ, Newton CR

Early management of traumatic brain injury in a Tertiary hospital in Central Kenya: A clinical audit.

Journal of Neurosciences in Rural Practice 2016 Jan-Mar;7(1):97-101

Mwita CC, Muthoka J, Maina S, Mulingwa P, Gwer S

Effective treatment of Madura foot: a systematic review protocol. JBI Database of Systematic Review and Implementation Reports 2016 Nov. 14(11):91-98

Salim AO, Mwita CC, Gwer S

Family Planning Services in Kenya During a Transition: Utilization Trends Across Counties Measure Evaluation April 2017

Moses Ndiritu, Ruth Anyango, Elizabeth Ombech, Clifford C Mwita, Samson Gwer

Antimalarial drugs and the prevalence of mental and neurological manifestations: A systematic review and meta-analysis Wellcome Open Research 2017 June; 2 2:13

Bitta MA, Kariuki SM, Mwita C, Gwer S, Mwai L, Newton CRJC

Correlates of Isoniazid Prophylaxis Failure for Tuberculosis Prevention Among Child Household Contacts with Infectious Tuberculosis in High Burden Settings in Nairobi, Kenya BMC Infectious Diseases 2017 Sep 16;17(1):623 Okwara FN, Oyore JP, Were FN, **Gwer S**.

Carbonic Anhydrase II level is increased in children with sickle cell anemia compared to healthy controls Archives of Paediatric and Developmental Pathology 1(3): 1013 Charlotte Midiwo, Okun D, **Gwer S**, Ogwenyo G

Expanding Access to Maternal, Newborn and Primary Healthcare Services through Private Community-Government Partnership Clinic Models in Rural Kenya: The Ubuntu-Afya Kiosk Model Hellen Gatakaa, Elizabeth Ombech, Rogers Omondi, James Otiato, Vincent Waringa, Gordon Okomo, Richard Muga, Moses Ndiritu, Samson Gwer (In Press BMC Health Research)

Effectiveness of Cloud and Biometric Supported Digital Health Information System in Improving Maternal and Newborn Health in Turkana County Elizabeth Ombech, Hellen Gatakaa, Peter Etee, Gilchrist Lokoel, Sarah Lokol, Samson Gwer, Moses Ndiritu (In Press BMC Digital Health)

Magnetic Resonance Imaging Findings in Childhood Epilepsy at a Tertiary Hospital in Kenya. Samia P, Odero N, Njoroge M, Ochieng S, Mavuti J, Waa S, Gwer S. Front Neurol. 2021 Feb 12;12:623960. doi: 10.3389/fneur.2021.623960. eCollection 2021.

7.0 GRANTS

Rehabilitation, Clinical Care and Socio-Economic Support for Youth with Disability in Rural Communities 2021/2022
Funder: World Bank & Government of Kenya - KES 30,000,000

Supporting Access to Medicines and Improved Livelihoods for People with Epilepsy 2016/2021
Funder: Cheshire Disability Services/Liliane Fonds - KES 2,500,000

Supporting Access to Integrated Healthcare Services by Rural Communities: Ubuntu-Afya Kiosks 2015 - 2022
Funder: Global Health Innovation Grant, Pfizer Foundation - USD 600,000

Solar for STONE: Supporting Digital Health Information Systems for Better Rural Health Outcomes 2019/2021
Funder: UKAID Transforming Energy Access Programme - GBP 226,000

Ubuntu-Afya Pilot for Small-Holder Tea Farmers 2020/2021
Funder: USAID Sub-Award through ABT Associates, and Twinings Tea- USD 82,856

Scaling Integrated RMNCH, NCD and HIV Care in Primary Health-Care: Ubuntu -Afya Kiosks 2018/2020
Funder: Grand Challenges Canada – 765,219 US Dollars (CAD 1 Million)

Ubuntu Digital Collaboration: Connecting Maternal and Newborn Health Providers with Young Mothers (Leveraging Cloud Computing and Biometrics Technology) – 2017/2019

Funder: UKAID County Innovation Challenge Fund – 520,000 US Dollars (GBP 400,000)

Ubuntu-Afya Kiosk Project: Implementing Scale-up in Homabay County – 2016/2019
Funder: County Innovation Challenge Fund. Total Funding – 1.16 Million US Dollars (GBP 940,320)

Ubuntu-Afya Kiosk Project: Scaling RMNCH and NCD Care Across Ubuntu-Afya Kiosks Network – 2015/2019
Funder: Pfizer Foundation. Total Funding – 300,000 US Dollars

Trend Analysis for Mortality and Natality Data – Ongoing - 2014- MEASURE Evaluation PIMA small grants for supporting civil registry departments
Funder - MEASURE. Total Funding – 24,500 US Dollars

M-Afya Kiosk Project – 2014 – Kibera Soweto East M-Afya Kiosk Project
Funder - UN-HABITAT. Total Funding – 43,297 US Dollars

M-Afya kiosk project – 2013 – Devolving healthcare using community kiosks
Funder - Groot Haspels Foundation. Total Funding - 9,200 Euros

M-Afya kiosk project – 2013 – Devolving healthcare using community kiosks
Funder - USAID through ABT associates. Total Funding - 155,659 US Dollars

Tele-Afya Project – 2014 - Collaborative venture between Kenyatta University, Gertrude's Children's Hospital, CISCO systems and Orange Telkoms on use of telemedicine for healthcare devolution in Kenya – Principal applicant through GCH Funder – CISCO Foundation and Orange Telkoms Total Funding 1 million US Dollars

Improving Access to Medicines by People with Epilepsy – 2011 – 2013 - 3 consecutive funding awards ; Funder - Groot Haspels Foundation Total Funding – KES. 2 Million

Clinical audit fellowships for 8 Kenyan health workers at the University of Adelaide – 2012-2013; Funder - Australian Aid Agency through Joanna Brigg's Institute. Total funding – KES.6 million

Non-invasive Monitoring on Intracranial Pressure using the Tympanic Membrane Displacement Analyser: Funder - Royal Society of Tropical Medicine and Hygiene Funding – 2010. Total funding – 11,000 GBP

8.0 LOCAL, REGIONAL AND INTERNATIONAL APPOINTMENTS

8.1 External Examiner/Reviewer in other Universities

2020: External Reviewer, Aga Khan University MMED Paediatrics Program

Dec 2019 - 2020: External Reviewer, University of Adelaide, Australia
MSc Clinical Science

July 2017: External Reviewer, Wellcome Trust Liverpool Clinical PhD Programme

Pathogenesis and Outcome of Infectious Paediatric Encephalopathies in Malawi - The 'PIPE' study

February 2014: External Examiner, University of Adelaide, Australia
MSc Clinical Science

8.2 Editorial Roles and Review of Professional Periodicals

2018 – To Date: Associate Editor, BMC Neurology

Reviewer, Multiple Journals

8.3 Appointment to Boards

2011- To Date: Board Secretary, Afya Research Africa

2009 – 2015: Board Member, Foundation for People with Epilepsy

2010 – 2015: Founding secretary, National Epilepsy Coordination Committee

2013-2014: Board Vice Chair, Youth on the Move

9.0 COMMUNITY OUTREACH

Patron, Omboye Community Dispensary and Kirkham Community Library, Omboye, Rarieda

Founding Secretary, National Epilepsy Coordination Committee