
BIOGRAPHICAL SKETCH

NAME: Aliyu, Muktar Hassan

eRA COMMONS USER NAME (agency login): MAliyu

POSITION TITLE: Tenured Associate Professor of Medicine and Health Policy

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date MM/YYYY	FIELD OF STUDY
Ahmadu Bello University, Zaria, Kaduna	MBBS	12/1993	Medicine and Surgery
George Washington University, Washington, D.C.	MPH	07/2002	Epidemiology and Biostatistics
University of Alabama at Birmingham, Birmingham, Alabama	DRPH	05/2005	Epidemiology and International Health
Meharry Medical College, Nashville, Tennessee	Resident	06/2008	Occupational Medicine
Mayo School of Graduate Medical Education, Rochester, Minnesota	Fellow	06/2009	Preventive Medicine

A. Personal Statement

I am a physician epidemiologist and have been involved in HIV/AIDS service and research for over a decade. For 5½ years I served as the program director for Vanderbilt University's comprehensive HIV program in Nigeria that was funded through the U.S. President's Plan for Emergency Relief (PEPFAR). My research has focused on the optimal approaches to delivering quality HIV/AIDS services in resource-constrained settings. My 130-plus peer-reviewed articles include work on delayed initiation of antiretroviral therapy, male participation in prevention of mother-to-child HIV transmission, suboptimal entry into early infant diagnosis, antiretroviral treatment initiation, and pioneering studies on spousal participation in perinatal care in African settings. Despite having lived in the U.S. for the past 15 years I have continued to maintain strong academic ties to West Africa, including serving as Honorary Visiting Professor of Community Medicine at Bayero University, Nigeria. I currently serve as chief technical advisor for Friends for Global Health Initiative Nigeria (FGHiN), a CDC/PEPFAR-funded HIV program in Nigeria. I am also the PI of a recently completed cluster randomized R01 focused on optimizing outcomes for HIV-infected mothers and their exposed infants using a family-focused package of PMTCT interventions. More recently I have been involved with work on stroke prevention among children with sickle cell disease. I am multi-PI, with Vanderbilt's Dr. Michael DeBaun, of a large clinical trial examining use of hydroxyurea for stroke prevention in children with sickle cell disease in Nigeria and Ghana.

I have had the privilege of mentoring successful masters, doctoral students and post-doctoral trainees in the fields of global public health, maternal and child health, and infectious disease epidemiology in the US and abroad. Examples of these mentees are: **Nigerian VECDor alumna Dr. Najibah Galadanci**, for whom we integrated a Vanderbilt MPH degree into her VECDor fellowship, to encourage her development as a key investigator in our Nigeria research team; Dr. James Ekundayo, Assistant Professor of Family and Community Medicine at Meharry Medical College, co-author of >30 articles on cardiovascular health; Dr. Deidra Parrish, **FICRS-F alumna**, Adjunct Assistant Professor with the Department of Health Policy at Vanderbilt and TB specialist at the Tennessee Department of Health; **Zubairu Iiyasu**, Professor of Public Health, Director of the Center for Infectious Disease Research at Bayero University, Nigeria, and VECDor LMIC site director for Nigeria; and Dr. Abubakar Jibo, Associate Professor of Public Health and current chair of the Department of Community Medicine at Bayero University, Nigeria. My skills in epidemiologic research, extensive links and expertise in global health work, and track record of successful mentoring in the fields of maternal and child health, HIV/AIDS, sickle cell disease and public health will be beneficial to the successful do-direction of VECDor with Dr Heimburger and our colleagues at Emory, Cornell, and Duke.

1. **Aliyu MH**, Blevins M, Megazzini KM, Audet CM, Dunlap J, Sodangi IS, Gebi UI, Shepherd BE, Wester CW, Vermund SH. Correlates of suboptimal entry into early infant diagnosis in rural north central Nigeria. *J Acquir Immune Defic Syndr*. 2014 Sep 1;67(1):e19-26. PMID: PMC4134378.
2. **Aliyu MH**, Blevins M, Arinze F, Megazzini KM, Bussell S, Dunlap J, Odoh C, Gebi UI, Muhammad MY, Shepherd BE, Audet CM, Vermund SH, Wester CW. Enrolment trends in a comprehensive HIV

programme in rural north-central Nigeria: improved care indices, but declining quality of clinical data over time. *Pathog Glob Health*. 2015 Mar;109(2):75-83. PMID: PMC4571821.

3. **Aliyu MH**, Blevins M, Megazzini KM, Parrish DD, Audet CM, Chan N, Odoh C, Gebi UI, Muhammad MY, Shepherd BE, Wester CW, Vermund SH. Pregnant women with HIV in rural Nigeria have higher rates of antiretroviral treatment initiation, but similar loss to follow-up as non-pregnant women and men. *Int Health*. 2015 Nov; 7(6):405-11. PMID: 26012740. PMID: PMC4654753 [Available 11/1/2016].
4. **Aliyu MH**, Blevins M, Audet CM, Kalish M, Gebi UI, Onwujekwe O, Lindegren ML, Shepherd BE, Wester CW, Vermund SH. Integrated prevention of mother-to-child HIV transmission services, antiretroviral therapy initiation, and maternal and infant retention in care in rural north-central Nigeria: a cluster-randomised controlled trial. *Lancet HIV*. 2016 May;3(5):e202-11. doi: 10.1016/S2352-3018(16)00018-7. Epub 2016 Feb 24. PMID: 27126487; PMID: PMC4852280.[Available 5/1/2017].

B. Positions and Honors

Positions and Employment

2008 - 2009	Assistant Professor of Preventive Medicine, Mayo Clinic College of Medicine, Rochester, MN
2009 - 2013	Assistant Professor of Preventive Medicine and Medicine, Vanderbilt Institute for Global Health, Nashville, TN
2009 - 2014	Assistant Professor of Family & Community Medicine, Meharry Medical College, Nashville, TN
2013 -	Tenured Associate Professor of Medicine & Health Policy, Vanderbilt Institute for Global Health, Nashville, TN
2014 -	Associate Professor of Family & Community Medicine, Meharry Medical College, Nashville, TN
2014 -	Associate Director for Research, Vanderbilt Institute for Global Health, Nashville, TN

Other Experience and Professional Memberships

2009 -	Member, International AIDS Society
2012 -	Fellow, American College of Occupational and Environmental Medicine
2012 -	Fellow, American College of Preventive Medicine
2015 - 2016	Member, Board of Directors, American College of Occupational and Environmental Medicine
2015 - 2016	President, Tennessee College of Occupational and Environmental Medicine

Honors

1993	Ransome Kuti Prize in Community Medicine, Ahmadu Bello University
2001	Academic Merit Scholarship, George Washington University
2002	Dean's List, George Washington University
2002	Cooperative Education Achievement Award, George Washington University
2004	Member, Phi Beta Delta Honor Society for International Scholars
2005	Outstanding Doctoral Student Award, University of Alabama at Birmingham
2005	Member, Delta Omega Honorary Society in Public Health
2008	Resident Research Award, American College of Occupational and Environmental Medicine
2008	Resident Research Award, Meharry Medical College, Department of Family and Community Medicine
2008	Chief Resident Award, Meharry Medical College, Department of Family and Community Medicine
2008	Dean's Award for Excellence in Teaching, Meharry Medical College, School of Graduate Studies and Research
2009	William H.J. Summerskill Award for Outstanding Achievement in Research, Mayo Foundation for Medical Education and Research
2014	William Kane 'Rising Star' Award, American College of Preventive Medicine
2014	Alumni Award for Scientific Excellence, University of Alabama at Birmingham
2015	Chancellor Faculty Fellow, Vanderbilt University

C. Contribution to Science

1. My recent work has focused on implementation science research, analyzing factors that impact optimal delivery of HIV/AIDS services (including services for prevention of mother-child HIV transmission) in resource-limited settings. My work has highlighted the complexities of implementing effective HIV/AIDS programs in rural Nigeria, and individual and health system factors that could explain the poor outcomes often seen in such settings.
 - a. **Aliyu MH**, Blevins M, Parrish DD, Megazzini KM, Gebi UI, Muhammad MY, Ahmed ML, Hassan A, Shepherd BE, **Vermund SH**, Wester CW. Risk factors for delayed initiation of combination antiretroviral therapy in rural north central Nigeria. *J Acquir Immune Defic Syndr*. 2014 Feb 1;65(2):e41-9. PMID: PMC3818360.
 - b. **Aliyu MH**, Blevins M, Megazzini KM, Audet CM, Dunlap J, Sodangi IS, Gebi UI, Shepherd BE, Wester CW, **Vermund SH**. Correlates of suboptimal entry into early infant diagnosis in rural north central Nigeria. *J Acquir Immune Defic Syndr*. 2014 Sep 1;67(1):e19-26. PMID: PMC4134378.
 - c. **Aliyu MH**, Blevins M, Arinze F, Megazzini KM, Bussell S, Dunlap J, Odoh C, Gebi UI, Muhammad MY, Shepherd BE, Audet CM, **Vermund SH**, Wester CW. Enrolment trends in a comprehensive HIV programme in rural north-central Nigeria: improved care indices, but declining quality of clinical data over time. *Pathog Glob Health*. 2015 Mar;109(2):75-83. PMID: PMC4571821.
 - d. **Aliyu MH**, Blevins M, Megazzini KM, Parrish DD, Audet CM, Chan N, Odoh C, Gebi UI, Muhammad MY, Shepherd BE, Wester CW, **Vermund SH**. Pregnant women with HIV in rural Nigeria have higher rates of antiretroviral treatment initiation, but similar loss to follow-up as non-pregnant women and men. *Int Health*. 2015 Nov; 7(6): 405-11. PMID: 26012740; PMID: PMC4654753 [Available 11/1/2016].
2. Among my earlier contributions to science are a recognized series of studies that address issues of high fertility and infant outcomes. These studies highlight the adverse impact of high parity on fetal survival and morbidity, and resulted in a reclassification of the concept of parity that permits more exact comparisons across discrete, clinically relevant groups for assessment of maternal and fetal outcomes.
 - a. **Aliyu MH**, Jolly PE, Ehiri JE, Salihu HM. High parity and adverse birth outcomes: exploring the maze. *Birth*. 2005 Mar;32(1):45-59. PMID: 15725205.
 - b. **Aliyu MH**, Salihu HM, Keith LG, Ehiri JE, Islam MA, Jolly PE. High parity and fetal morbidity outcomes. *Obstet Gynecol*. 2005 May;105(5 Pt 1):1045-51. PMID: 15863543.
 - c. **Aliyu MH**, Salihu HM, Keith LG, Ehiri JE, Islam MA, Jolly PE. Trends in birth across high-parity groups by race/ethnicity and maternal age. *J Natl Med Assoc*. 2005 Jun;97(6):799-804. PMID: PMC2569492.
 - d. **Aliyu MH**, Salihu HM, Keith LG, Ehiri JE, Islam MA, Jolly PE. Extreme parity and the risk of stillbirth. *Obstet Gynecol*. 2005 Sep;106(3):446-53. PMID: 16135572.
3. Another body of work that I performed surrounds cigarette smoking and pregnancy outcomes, especially among women with pre-existing high risk conditions. That work covered the interaction of maternal smoking and comorbidities such as HIV/AIDS, and emphasizes the importance of the modifying effect of maternal age on birth outcomes associated with cigarette smoking.
 - a. **Aliyu MH**, Salihu HM, Wilson RE, Alio AP, Kirby RS. The risk of intrapartum stillbirth among smokers of advanced maternal age. *Arch Gynecol Obstet*. 2008 Jul;278(1):39-45. PMID: 18236064.
 - b. **Aliyu MH**, Salihu HM, Alio AP, Wilson RE, Chakrabarty S, Clayton HB. Prenatal smoking among adolescents and risk of fetal demise before and during labor. *J Pediatr Adolesc Gynecol*. 2010 Jun;23(3):129-35. PMID: 20149977.
 - c. **Iliyasu Z**, Gajida AU, Abubakar IS, Shittu O, Babashani M, **Aliyu MH**. Patterns and predictors of cigarette smoking among HIV-infected patients in northern Nigeria. *Int J STD AIDS*. 2012 Dec;23(12):849-52. PMID: 23258822.
 - d. **Aliyu MH**, Weldeselasse H, August EM, Keith LG, Salihu HM. Cigarette smoking and fetal morbidity outcomes in a large cohort of HIV-infected mothers. *Nicotine Tob Res*. 2013 Jan;15(1):177-84. PMID: 22573724.

A full list of my published articles is available through the following URL:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/muktar.aliyu.1/bibliography/44058473/public/?sort=date&direction=ascending>

D. Research Support

Ongoing Research Support

R01 NS094041-02, (DeBaun, Aliyu, Galadanci, MPIs) 06/01/2015-05/31/2020

National Institute of Neurological Disorders and Stroke (NINDS)

Primary prevention of stroke in children with SCD in Sub-Saharan Africa II

This dual-center randomized Phase III clinical trial is a continuation of our successful feasibility trial (NCT01801423; 1R21NS080639-NCE), with a goal of determining the efficacy of moderate (20 mg/kg/day) vs. low dose (10 mg/kg/day) hydroxyurea therapy for primary stroke prevention in children with sickle cell anemia in Ghana and Nigeria.

Role: MPI

U2GGH00922-04, (Gebi, PI)

11/01/2013-09/29/2018

U.S. Centers for Disease Control and Prevention (CDC)/Global AIDS Program (GAP)/U.S. President's Emergency Plan for AIDS Relief (PEPFAR)

Engaging Indigenous Organizations to Sustain HIV/AIDS Programs in Nigeria

This service program supports the provision of sustainable, high quality HIV/AIDS services to target populations in Kano, Kaduna, Gombe and Kogi states of Nigeria in the most cost effective manner with the active involvement of government, civil society and host communities.

Role: Investigator

No number (DeBaun, PI)

07/01/2016 – 06/30/2019

E.W. "Al" Thrasher Award

Hydroxyurea for Stroke Prevention in Children with Sickle Cell Disease in Sub-Saharan Africa

Our goals are: 1) to assess the efficacy of moderate dose HU therapy for secondary stroke prevention when compared to low dose HU therapy among children with SCA; and 2) to determine whether moderate HU therapy decreases the rate of all-cause hospitalizations when compared to low dose HU therapy.

Role: Co-investigator

VUMC55996 (200-2015-63553) (Yarbrough, PI)

09/01/2015 - 08/31/2018

U.S. Centers For Disease Control and Prevention (CDC)

Monitoring and Coordinating Personal Protective Equipment (PPE) in Healthcare to Enhance Domestic Preparedness for Ebola Response

The PRO project seeks to develop a prototype for a national surveillance system to monitor Personal Protective Equipment (PPE) supply and effective use in preparation for pandemic pathogen events or a bioterrorist attack.

Role: Investigator

Completed Research Support

R01 HD075075, (Aliyu, MH PI)

2012/09/28-2016/06/30 NCE

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

Optimizing integrated PMTCT services in rural North-Central Nigeria

This parallel, cluster randomized trial evaluates the impact of a family-focused PMTCT package that includes: 1) task-shifting to lower-cadre providers at PMTCT sites; 2) Point of care CD4+ cell count testing; (3) Integrated mother-infant care; and (4) a prominent role for influential family members (male partners), working in close partnership with community-based health workers/volunteers.

R21 NS080639, (DeBaun, Aliyu, Jordan (MPIs)

2012/09/30-2015/08/31

National Institute of Neurological Disorders and Stroke (NINDS)

Primary Prevention of Strokes in Nigerian Children with Sickle Cell Disease

The purpose of this feasibility study is to determine the acceptability of randomization to hydroxyurea vs.

placebo for primary prevention of strokes in Nigerian children with sickle cell anemia in preparation for a NIH-sponsored multicenter, phase III Trial.

Role: Multi-PI

No Grant number, (Vermund, PI)

2012/09/01-2013/12/31

The World Health Organization (WHO), Africa Regional Office

Factors Influencing Changes in Child Survival in sub-Saharan Africa from 1990 to 2010

Tremendous progress in reducing under-five mortality rates has occurred across sub-Saharan Africa in the past 20 years, but these changes have varied across the 46 countries in the region. This study analyzes the key factors contributing to the decline in child mortality in the region and formulates recommendations for public health planners thereby accelerating the attainment of Millennium Development Goal #4 across the continent.

Role: Investigator

1U2GPS001063, (Vermund, PI)

2008/08/01-2013/10/31

CDC-GAP/PEPFAR

Vanderbilt Institute for Global Health Team Program for HIV Prevention & Care in Nigeria

This service program supports the provision of sustainable, high quality HIV/AIDS services to target populations in rural north-central Nigeria in the most cost effective manner with the active involvement of government, civil society and host communities.

Role: Program Director

No Grant number, (DeBaun, PI)

2013/01/01-2015/12/31

DDCF, Doris Duke Charitable Foundation

Clinical and Translational Research Training in Northern Nigeria

This career development training program for physicians and medical students will nurture the next generation of leaders in clinical and translational research in sickle cell disease in northern Nigeria

Role: Multi-PI