TITLE:

Minority Health and Health Disparities International Research Training (MHIRT) at Howard University (RESEARCH ENHANCEMENT THROUGH INTERNATIONAL EXCHANGE)

KEY PERSONNEL:

Winston Anderson, PI
Co-PIs:
Broderick Eribo
Kebreten Manaye, M.D.
Chanda Macias, Ph.D.
Jonathan Stiles, Ph.D, Morehouse School of Medicine

OVERVIEW

Global health disparity issues are of great importance to USA in the sense that global diseases threaten US citizens who may be returning to the USA or expatriate staff and their families, military personnel, or tourists who need to be physically located in disease endemic countries. There is evidence of the seriousness of these diseases in developing countries of the tropics due to factors such as uncontrolled malaria, HIV/AIDS, TB infection, intense population movements, and the risk of worldwide spread of these diseases. The Howard University MHIRT program conducts biomedical research on major infectious diseases that are responsible for most deaths in Sub-Sahara African countries. The program has expanded to initiate and enhance more recent studies in atmospheric sciences (Morris, Chemistry) and mental health and neurosciences, Manaye).


Mali: Malaria Fighters in Mali, led by Ousmane Koita have investigated hemoglobinopathies among children with malaria in rural villages, 150-200 km from Bamako. At these sites, scientists followed over 300 children correlating infection status, HbS and GSPD deficiencies, treatment effectiveness, breeding sites and weather-relatedness of mosquito bites and infection. In the laboratory, they investigated gene expression in in vitro cultures of P. falciparum strains isolated from humans and examined the impact of malaria infection on anemia in infected children. A comprehensive mathematical model for malaria resulted from these studies Bassidy Dembele, Avner Friedman and Abdul-Aziz Yakubu, Malaria model with periodic mosquito birth and death
Ethiopia: Innovative approaches were taken to understand other parasitic diseases that are the major killers of humans in Africa. A major study involved the prevalence of intestinal parasites in children under 5 years old and mother’s awareness in the Wondo-Genet areas of Southern Ethiopia. Of the 292 study participants, 267 (91.4%) children were infected with one or more intestinal parasites. The most prevalent intestinal parasite was *T. trichiura* (79.5%), followed by *S. mansoni* (40.8%) and *A. lumbricoides* (28.4%) as detected by both Kato and formal-ether concentration methods. The high prevalence of intestinal parasites in the Wondo-Genet area calls for the implementation of de-worming programs and maternal education about enteric parasites. Other studies involved an examination of TB in cattle and its relevance to the spread of TB in humans (*J. Animal & Veterinary Advances* 5 (12): 1150-1154, 2007), use of bed nets in rural Ethiopia, and the prevalence of microbes in foods.

Nigeria: Having access to HIV/AIDS and diabetic patients at the University of Benin, MHIRT researchers respectively performed valuable and fascinating studies on antibiotic resistant bacteria in the intestines of HIV/AIDS patients and in sores of diabetic patients, ethnobotany and pharmacology at Igbinideon University (Eribo).

Dr. Anderson was the PI for the Fogarty International Center’s Minority International Research Training program (MIRT) that supported the global training of minorities in the biomedical sciences. Through MIRT, Dr. Anderson established research training sites at some of the premier universities in Europe (Karolinska, Lausanne, Rostock, Munich, Paris, Lyon, Milan and Siena), in Africa (Ghana, Yaounde, Enugu, Transkei, Mali), and in the West Indies (UWI). In seven years, MIRT and MHIRT supported the research and training of more than 300 African American and Asian students and young faculty from Howard and other universities.