Background: In 1993, CDC expanded AIDS surveillance case definition to include all HIV-infected persons who have invasive cervical cancer – a disease whose necessary cause is persistent infection with high risk types of human papillomavirus (hrHPV).[1, 2] Most data on hrHPV and cervical cancer are from developed countries where HIV treatment coverage is high and there is well-established and effective cervical cancer screening programs in the community in contrast with the situation in most African countries.[3, 4] In a recent North American AIDS Cohort study, HIV-infected women had 2.3 to 7.7 times increase in cervical cancer incidence [5] while in our recent IeDEA West Africa Consortium study, we found HIV infection was significantly associated with cervical cancer (aOR 5.3 [CI 2.3 – 9.5]). As more HIV-positive individuals enjoy prolonged survival on account of modern combination anti-retroviral treatment (cART), this association is expected to grow. A focused response to the growing burden of cervical cancer among HIV positive women is therefore required.

In Nigeria, from 2010, as part of our PEPFAR funded ActionPlusUp program (CDC 1U2G000557-01 PI-Dakum), we started a cervical cancer “see and treat” program for women living with HIV (PLWH). This program served as clinical enrolment sites for our hrHPV among PLWH research at the African Collaborative Center for Microbiome and Genomics Research (ACCME NHGRI/NIH 1U54HG006947-01A1; PI-Adebamowo). [6, 7]

Identification of barriers to use of self-sampling and attendance at cervical cancer screening programs will contribute to development of strategic responses that better links cervical cancer prevention services to HIV care and improve the uptake of cervical cancer screening among women living with HIV/AIDS. Uptake of cervical cancer screening in low- and middle-income countries remains poor due to several factors affecting ability and desire to participate in prevention programs.[8, 9] These range from society’s perception of cervical cancer as a disease, cancer associated stigma, prudishness about gynecological examinations, concerns about spouse’s reaction, and about violation of religious and cultural injunctions regarding chastity and modesty.[10-12] In the HIV positive population, fear of stigmatization and discrimination due to HIV status compounds these problems.[12] Health worker attitude to work and to PLWH may also prove to be critical barriers to provision of clinical care. [13, 14] Furthermore adequacy of resources including clinical facilities, availability of consumables and the ambient work environment may impact the delivery of care.[15-17] It is therefore very important for cervical cancer prevention designed for PLWH to eliminate these critical barriers and promote conditions that improve uptake of services.
**Project goals:**
1. Complete a review of the literature on barriers to cervical cancer screening, expanding upon the ideas above, which can be focused on low and middle-income countries or can be global. This can be published.
2. Travel to Nigeria and observe a study site where women are being enrolled in cervical cancer screening programs.
3. Conduct a qualitative study of the barriers to cervical cancer screening among women living with HIV/AIDS.

**Methods:** The project will include constructing a review of the literature on barriers to cervical cancer screening, which may focus on only low- and middle-income countries or can be focused globally. This can be published. Students will travel to the Institute of Human Virology Nigeria (IHVN) in Abuja, Nigeria and visit study sites where women are being enrolled in cervical cancer screening programs. We will conduct site visits to clinics where cervical cancer screening services are being provided and analyze the flow of clients through the clinic. We use the Essential of Magnetism (EOM) tool to measure eight characteristics of a productive and satisfying work environment that are essential to delivering quality patient care.[18] The EOM items are based on grounded theory and are used to measure attributes of the work environment as functional processes. They will conduct a qualitative study of the barriers to cervical cancer screening. Using in-depth interviews and site inspections, we determine the critical health professionals, institutional and client related barriers to uptake of self-sampling and health professionals’ sampling for cervical cancer screening in HIV positive Nigerian women. Students will have the opportunity to meet the OB/GYN and nurses providing cervical cancer care.

**Logistics:** Students will be housed in the IHVN Guest House during their stay and most of the in-country transportation will be provided by IHVN. The students will be in Abuja for 4-6 weeks. Drs. Clement Adebamowo and Eileen Dareng will act as an on-site mentors to oversee their project. Dr. Adebamowo will be in Nigeria for much of the duration of the students’ stay in Nigeria under the same logistics, accommodation and travel arrangements.

**Pre-departure:** Students will meet with Dr. Adebamowo in March. Student will be expected to conduct a comprehensive review of the literature of barriers to cervical cancer screening in low and middle-income countries. Before leaving for Nigeria, Dr. Adebamowo will review and discuss cultural issues, safety, and other pertinent information with respect to Nigeria and the patients with whom student will interact. Additionally, students will be required to attend two orientation sessions held by the Center for Global Education Initiatives.