**ABSTRACT**

This is a renewal application for a D43 titled, HIV Clinical Pharmacology and Therapeutics Research Training (HIVRT) program led by the University at Buffalo (UB) and the University of Zimbabwe (UZ). Optimizing HIV prevention of transmission with HIV PReP and treatment as prevention (TasP) to meet 95-95-95 and “ending the epidemic” strategies. However, successful use of these approaches requires that continued research be conducted to guide implementation in low-middle income countries. The HIVRT will increase the number of qualified investigators to seek external funding for this research effort. With the introduction of tenofovir, lamivudine and dolutegravir, long-acting ARVs (e.g., cabotegravir, rilpivirine), new ARVs (e.g., lenacapavir, islatravir) and HIV-1 broadly neutralizing antibodies (bNABs), clinical and translational research related to these new therapeutic agents is needed to examine the optimal pharmacokinetics-pharmacodynamics parameters that will prevent transmission and/or sustain viral load suppression as well as safety in the context of co-morbidities. Training of clinician-scientists and translational scientists will utilize the foundation that has been built by the prior UB-UZ HIVRT and transition to the newly designed research training program. Specific Aims: 1) Provide a HIVRT for pre-doctoral (5) and post-doctoral (5) trainees that increases the number of researchers with independent, funded programs with a focus on HIV clinical pharmacology and therapeutics and regional public health priorities including COVID-19, 2) Mentor HIVRT trainees in team science and that include others with expertise in pharmaceutical bioanalysis, biomedical informatics, data sciences, genomics, and microbiome, 3) Foster community support group engagement to participate in innovative research to study novel HIV clinical pharmacology and therapeutics strategies for prevention and treatment and investigate long-acting antiretrovirals and monoclonal antibodies and traditional medicines, and 4) Provide an HIVRT that fosters smart academic-public-private partnerships aimed at addressing sustainable developmental goals. Trainees will have intensive training at UB during which new knowledge and skills will allow formulation of a research project that will be conducted under continued supervision for 18 months at UZ for a total of two years of training. The program will build on our prior Fogarty International Center HIV Research Training program, and an earlier AITRP. These research training programs provide the foundation for this D43 renewal that includes an outstanding group of UZ and UB mentors who will provide mentoring and collaboration utilizing the HIV Clinical Pharmacology and Therapeutics foundation that has been built for HIV clinical and translational research. The curriculum will be organized and provided through an established Research and Education Training Core. The D43 has an outstanding external Training Advisory Committee that will contribute to a highly productive, efficient HIV Clinical Pharmacology and Therapeutics research training initiative in Zimbabwe.