Background: Studies on the skeletal health of HIV-infected children in resource rich settings have demonstrated lower bone mass densities and an altered bone metabolism rate compared to healthy controls. HIV-infected children have risk factors such as suboptimal dietary intake and lack of physical activity that predisposes them to poor bone health. HIV infection and the toxicities of antiretroviral drugs have also been implicated in adversely affecting bone health. There is a lack of data describing the bone health of HIV-infected children in resource poor settings. As the number of HIV-infected children growing into adulthood increases, a better understanding of the effect of HIV infection and antiretroviral therapy on bone health is imperative in order to deal with aging-related diseases such as osteoporosis and fractures. Such information will be useful in addressing fracture risks and possible osteoporosis in HIV-infected children that survive into adulthood.

Objective: The purpose of this study is to evaluate baseline vitamin D levels, serological makers of bone resorption and formation among severely malnourished HIV-infected ART naïve children and compare the difference in baseline values between the children in the immediate vs. delayed HAART group. Methods: Children will be randomized into 2 treatment arms: immediate or delayed initiation of HAART until recovery from the acute phase of malnutrition. Serum 25(OH) vitamin D levels and bone metabolism markers will also be measured at 12, 24 and 48 weeks. The project is currently in the screening phase for potential participants and patient recruitment will soon begin.