Disparities in viral load and CD4 count trends among HIV infected children in South Carolina

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South Carolina (SC), a predominantly rural state, has consistently ranked in the top ten in the US in the annual - AIDS case rate for the past several years. At the end of 2011, SC ranked 8th in the nation with an annual - AIDS case rate of 13.7 per 100,000. On a population level, trends in Viral Load (VL) and CD4 cell counts can provide a marker of infectivity and an indirect measure of retention in care. Thus, observing the trend of CD4/VL over time can provide useful information on disparities in populations across the HIV care continuum when stratified by demography. South Carolina (SC) maintains electronic records of all CD4 cell counts and HIV VL measurements reported to the state health department. In the past, investigators have examined complete healthcare systems data spanning multiple medical facilities from a particular state to analyze various HIV outcomes. To our knowledge, no previous studies have examined the trends in individual VL among children’s using complete statewide data. The purpose of our investigation is to examine statewide trends in individual VL among children’s over time among persons living with HIV/- AIDS (PLWHA) and identify disparities, if any, by gender, race/ethnicity, age group, HIV risk exposure group, and current residence. We have access to the SC HIV surveillance data for all HIV infected individuals from January 2004 to June 2019. The surveillance data merged with all the claims data to help investigate comorbidities and other diseases among the HIV infected populations. This will be a unique project to learn longitudinal data analysis and modeling.