**Analysis Plan**

The primary analysis for this project will be a comparison of the proportion of participants retained on ART medication at six months after ART initiation. Retention will be measured at the individual level, using clinical record abstraction. The main predictor will be whether the individual attended a facility in the intervention region (with integration of HIV services) or the comparison region (with standard care). Our primary hypothesis is that integration of HIV services will lead to higher rates of retention on ART.

In preliminary analyses, we will evaluate clinical and sociodemographic factors to assess confounding and effect modification. For the primary comparison between groups, we will use a chi-square test to assess the unadjusted association between intervention region and retention on ART. Unadjusted associations and preliminary analyses of covariates will inform the development of multivariable models, using a dichotomous outcome (retained or not retained at each time point). In multivariable regression models, we will control for sociodemographic and clinical factors. We will account for clustering by study site in two ways. First, we will fit fixed effects models including “study site” as a covariate to help adjust for differences between sites. In separate analyses, we will fit multi-level models accounting for clustering by study site, using generalized estimating equations with a log binomial link to allow the direct estimation of adjusted relative risks. Second, we will assess heterogeneity of effects both by including factors of interest as effect modifiers in the model, and by conducting stratified analyses in specific subgroups.

In the primary analysis, we will classify individuals as “not retained on ART” if they are lost to follow-up in the study. Therefore, we will not over-sample to offset attrition, because the individuals lost to follow-up will be included in the analysis. However, to assess the impact of this assumption, we will conduct a sensitivity analysis in which individuals who were lost to follow-up are excluded. By comparing these results, we will be able to assess the robustness of the results, and will be better able to interpret the study results using all participants.

Secondary outcomes of particular interest include TB screening, FP counseling, STI screening and screening for hypertension (using blood pressure as a proxy). We will treat each of these secondary outcomes as a dichotomous outcome in a separate multivariable model, and examine group differences controlling for appropriate covariates.