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Supplementary appendix

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Global, regional and national incidence and death for HIV, tuberculosis and malaria during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013

This appendix provides more methodological detail on the HIV, TB, and malaria morbidity and mortality estimation process,

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1. HIV

1.1 Additional methods for calculation mortality off ART

Data

We reviewed the literature of HIV mortality in the absence of ART using the PubMed search terms *(((((HIV) AND (mortality OR survival OR death) AND (seroconverters OR seroconversion OR seropositive OR seropositivity)))* and also screened the references of articles discovered by the search. These terms identified 2809 studies. These titles were screened and 145 abstracts were flagged for review. Studies were considered if they contained all-cause adult survival curves from time of sero-conversion. In total, we included 13 studies (Appendix Table 1). All pooled, age, and sex-specific survival data was extracted at one-year intervals up to 12 years since sero-conversion, after which data availability was sparse.

Calculating HIV Relative Survival

To estimate HIV relative mortality, we calculated conditional mortality rates and subtracted estimates of age, sex, country, and year-specific background mortality rates.[1] Since this was calculated for each data point, we set the conditional HIV relative mortality rate to zero when the background mortality exceeded the all-cause conditional mortality for that study-year.

Statistical Model

We developed a regression model to estimate the range of survival curves extracted in our analysis. Logit-transformed one year conditional probabilities of death were regressed on age group and year since sero-conversion indicator variables with a study-level random effect. To be consistent with UNAIDS Spectrum compartmental model, we used four age groups: 15-24, 25-34, 35-44, and 45+. The model's uncertainty was estimated using standard simulation methods by drawing 1000 times for each age group from the variance-covariance matrix of the regression coefficients and the standard deviation of the study level random effect.

Compartmental Model

The AIDS Impact Model (AIM) component of Spectrum takes age and CD4-specific mortality and progression probabilities as inputs for epidemic estimates. These parameters are determined by optimizing a compartmental model such that the output matches Weibull-distribution fitted to survival data from three East African cohorts and a South African miners cohort.[2] We programmed a version of the UNAIDS compartmental model into R in order to quickly cycle through survival curve draws from our statistical model.[3] For each of these survival curves, we use the UNAIDS optimization framework, which assumes exponentially increasing mortality hazards and linearly increasing progression hazards across CD4 bins. We calculated loss as the sum of the squared errors between the predicted survival curve and the survival draw from the statistical model. This loss function was optimized using the optim package in R.

Appendix Figure 1a, 1b, and 1c show 1000 survival curves for each age group that capture the systematic variation in survival across the available studies for ages 15 to 24, 35 to 45, and 45+.

1.2 Additional methods for calculating mortality on ART

Data

A PubMed search was conducted using the terms: *("hiv"[MeSH Terms] OR "hiv"[All Fields]) AND ("mortality"[Subheading] OR "mortality"[All Fields] OR "mortality"[MeSH Terms]) AND antiretroviral[All Fields] AND ("therapy"[Subheading] OR "therapy"[All Fields] OR "therapeutics"[MeSH Terms] OR "therapeutics"[All Fields])*. The articles identified by this search were considered for inclusion in three separate meta-analyses: (1) probability of death by initial CD4 count; (2) age hazard ratios for mortality; and (3) sex hazard ratios for mortality. Studies were eligible for inclusion in the probability of death analysis if they reported data on both mortality and LTFU. Studies that traced patients through vital registration or other efforts were assumed to have 0 LTFU. Age and sex hazard ratios were only eligible if they were adjusted for the other factors of interest (age, sex and initial CD4, as applicable). Exclusion criteria for all studies included non-ART-naïve populations, children, and special populations such as hospitalized patients. For probability of death, 39 articles were included, contributing data for 80 distinct cohorts. For sex hazard ratios, 78 articles were included, contributing data for 86 cohorts. For age hazard ratios, 40 articles and cohorts were included. Appendix Table 2 shows the data sources included in these analyses.

Modelling

We identified 17 studies that identified the true outcomes of lost to follow-up patients (LTFU) patients; 14 of which were included in a prior LTFU analysis[4] as well as 3 recently published studies. The results from these studies were used to adjust the extracted mortality estimates. Our methods built on previous work,[4–6] which exploits the observed relationship between total proportion LTFU in tracking studies and the proportion of those that had died. The relationship was estimated using the following equation:

$$ln\left(\frac{M_{LTFU}}{1-M_{LTFU}}\right) = \beta_0 + \beta_1 ln\left(\frac{P_{LTFU}}{1-P_{LTFU}}\right) + \varepsilon$$

Where M_{LTFU} is the proportion dying among those LTFU and P_{LTFU} is the proportion of the study LTFU.

A separate DisMod-MR 2.0 model (see below in the section on tuberculosis for a more detailed description of the parameterization of DisMod-MR 2.0) was used to synthesize adjusted CD4-specific conditional probabilities of death (0-6, 7-12, 12-24 months on ART) for each region. Age hazard ratios were referenced to the youngest age group for that study before being synthesized by DisMod-MR 2.0, including a study-level random effect. The posterior hazard ratio estimate for each age group was referenced to the hazard for the average age from the mortality studies. A random effects meta-analysis was run on the natural log of the sex hazard ratios, using the metan command in Stata.

The mortality rate estimates were multiplied by the age hazard ratios to generate age-specific estimates. The sex hazard ratios were applied using the following equations:

$$M_f = \left(\frac{M_{all}}{HR * p_m - p_m + 1}\right)$$

$$M_m = M_f * HR$$

Where M_f is the female mortality rate, M_{all} is the overall mortality rate found in the mortality studies, HR is the hazard for males compared to females, p_m is the proportion male, and M_m is the male mortality rate.

Background mortality rates excluding HIV were subtracted to obtain estimates of the excess mortality. All steps of this process were conducted at the 1000-draw level. Appendix Tables 3a, 3b and 3c show 1000 draws from the posterior distribution for each age, sex and CD4 category in sub-Saharan African sites (3a), low-middle-income countries outside of sub-Saharan Africa (3b), and high income countries (3c) for conditional mortality rates for 0-6 months, 6-12 months and 13-24 months as inputs to Spectrum.

1.3 HIV mortality in countries with vital registration systems

Garbage code redistribution

Garbage codes are causes of death that should not be identified as underlying causes of death but have been entered as the underlying cause of death on death certificates. Classic examples of garbage codes for HIV and malaria are Acute Febrile Illness, Fever with unknown origin, Septicemia and Kaposi's sarcoma. We can see these type of garbage codes in different death registry system, verbal autopsy studies and surveillance data. For each garbage code, the potential underlying causes of death have been identified based on pathophysiology bases. For example, the target codes for Kaposi's sarcoma include "other viral related cancer" and HIV or for Acute Febrile Illness target can be malaria, HIV, meningitis, respiratory infection and other different causes based on age and sex.

As part of the GBD, different types of algorithms have been developed to redistribute garbage codes. Some redistribution is proportional, some is based on statistical methods, and some is based on evidence and studies we have found in the literature. In the main body of the paper, two examples are given the effect of redistribution on HIV deaths.

Misclassification

We used the method developed by Birnbaum et al[7] to identify potentially misclassified HIV deaths. In principle, for each cause in each country, we compute the death rate at each age relative to the death rate at age 40. We also use all the pooled vital registration data in countries with HIV prevalence less than 0.1% to produce a standard relative age pattern of death. By computing the relative age pattern, differences in the level of mortality for a cause are removed from the comparison. For all diseases, the relative age pattern tends to be highly preserved. Injury relative age patterns are somewhat more variable across populations and overtime. We identify potentially misclassified deaths from HIV when the relative rates of death change over the time period during the HIV epidemic. Where the relative age pattern shows an increase in the age-groups 15-49 compared with the global standard relative age pattern and finally when there is no other explanation for the shift in the relative age pattern. All deaths that meet these criteria are transferred to HIV up until the relative age pattern reaches the global age pattern.

Appendix Table 4 shows HIV vital registration sources that were corrected for garbage codes and misclassified HIV deaths.

Imputation of missing years for a complete time series of mortality

To use the time series of causes of death from vital registration to adjust incidence curves for the modified Spectrum analysis, we needed a complete time series. We used spatio-temporal Gaussian Process Regression (ST-GPR) to generate a complete time series from countries data. ST-GPR has been widely used for global health estimation studies.[1,8–10] Gaussian Process Regression (GPR) was applied to data for each country-age-sex group to derive a complete time series for HIV death rate. GPR is a stochastic modeling technique that is designed to detect signals amidst noisy data. It also serves as a powerful tool for interpolating non-linear trends.[11,12] Unlike classical linear models that assume that the trend underlying data follows a definitive functional form, GPR assumes that the specific trend of interest follows a Gaussian Process, which is defined by a mean function $m(\cdot)$ and a Materne covariance function $Cov(\cdot)$.

Random draws of 1,000 samples were obtained from the distributions above for every country, age, and sex group. The final estimated death rate for each country, age, and sex group was the mean of the draws. In addition, uncertainty intervals were obtained by taking the 2.5 and 97.5 percentiles of the samples. Note that the entire process was conducted in natural log scale, all values were back-transformed to the original scale. The analysis was implemented using the PyMC package in Python.

2. Tuberculosis

2.1 CODEm

Following Lozano et al and the GBD 2010, we use CODEm to model tuberculosis mortality.[13,14] The Cause of Death Ensemble Model (CODEm) is based on five general principles: identifying all available data, maximizing the comparability and quality of the dataset, developing a diverse set of plausible models, assessing the predictive validity of each plausible individual model and of ensemble models, and choosing the model or ensemble model with the best performance in out-of-sample predictive analysis.[14] Specifically, CODEm explores a large variety of possible models to estimate trends in causes of death. Possible models are identified using a covariate selection algorithm that yields many plausible combinations of covariates which are then run through four model classes. The model classes include mixed effects linear models and spatiotemporal GPR models for cause fractions and death rates. All models for each cause of death are then assessed using out-of-sample predictive validity and combined into an ensemble with optimal out-of-sample predictive performance.

We first identified a range of plausible covariates for tuberculosis based on the published literature. We divided these covariates into three groups based on the strength of epidemiological evidence: 1) class 1 covariates for which there is strong evidence and a biologically plausible pathway, 2) class 2 covariates for which there is some evidence but with a less direct causal pathway, and 3) class 3 covariates where there is general correlation evidence for a relationship as observed in previous time series or cross-sectional studies. Appendix Table 5 lists the candidate covariates, priors, and levels for the CODEm model based on physician judgment and literature review of risk factors related to tuberculosis.

For a covariate to be included, we needed to have a comparable, complete time series for 1980-2010. Transformations were performed based on the observed relationship between rates or cause fractions

and the covariate of interest untransformed or transformed – if the relationship between the transformed covariate and the rate or cause fraction was more linear than the relationship between the untransformed covariate, the transformation was included. We used the natural log transformation of lag distributed income (LDI) per capita, the logit transformation of malnutrition in children under 5 (proportion less than two standard deviations below mean weight for age),[15] cumulative cigarettes (5 years), smoking prevalence,[16] diabetes fasting plasma glucose (mmol/L),[17] indoor air pollution (all cooking fuels),[18] alcohol (liters per capita),[19] population density (500-1,000 ppl/sqkm, proportion), population density (over 1,000 ppl/sqkm, proportion), education (years per capita) and health system access (an aggregate measure of hospital beds per capita, in-facility deliveries, vaccination coverage, and other health system indicators produced by IHME).[20,21]

In the first step, we ran regressions for all possible combinations of category 1 covariates. We ran regressions for models where the dependent variable is the rate in logarithmic scale by age and models where the dependent variable is logit cause fraction by age. For each type of model, we assessed a possible universe of 64 combinations of level 1 covariates for males and females. All models, where the signs for all covariates in that model are in the expected direction and the coefficient is significant at the $p<0{\cdot}05$ level, are retained. At levels two or three, category two and three covariates are added to these models using a forward stepwise technique which is not order dependent. This is achieved by starting the forward stepwise evaluation for each base model over for each category two covariate. Models which are subsets of other models at levels two or three were dropped. A total of 105 and 77 unique combinations of covariates for males and females respectively were kept where the prediction was significant at the $p<0.05$ level and in the predicted direction. Counting the covariates being run as both simple mixed effects and spatiotemporal models, this resulted in a total pool of 420 and 308 component models for males and females respectively.

As per Lozano et al, the ability of each of these models to make accurate predictions was formally evaluated.[22] We created 20 train-test-test splits. For each of these datasets, we randomly assign 70% of the data to the train set, 15% to the test 1 set, and the last 15% to test 2. The assignment of the data to train and test is implemented so that the pattern of holding out the data for the test datasets mimics the pattern of missingness in the full dataset. For each train dataset, we re-estimated each of the proposed models including both the linear model and the spatial-temporal model. We used the results of the models estimated on the training data alone to predict for the first test set. The test data have not been included in the model estimation; the performance of each model was therefore being evaluated out-of-sample. In this way, the out-of-sample predictions for the test set are a fair test of how each model will perform for tuberculosis mortality where the data are sparse or missing.

Predictive validity is evaluated using three metrics. First, we evaluate how well each model predicts age-specific death rates using the RMSE of the natural log of the death rate. Log death rates are comparable across age groups so that we can pool results from model performance across age groups with quite different underlying rates. Second, we also want models that predict accurate trends. To do this, for the test data, we compared the predicted slope for every time interval from 1 to 7 years and compare it to the slope from the held out data. We computed the RMSE for the predicted slope. Finally, we also want models that generate plausible prediction intervals so we computed the percent of the data in the test set included in the 95% data prediction interval. The prediction interval is based both on the uncertainty in the predicted death rate and the data variance for each observation.

Following Lozano et al, the best overall results in terms of RMSE and trend were yielded by the ensemble model with a Psi value of 1·1.[22] This value of Psi results in draws ranging from 91 for the top performing model to 0 for the worst performer in both males and females, as detailed in Appendix Tables 6a and 6b**.** For comparison it also shows the results for the best single model. The best component model for males was a spatiotemporal model on the logit of the cause fractions, with health system access, logit transformed malnutrition (proportion less than two standard deviations below mean weight for age), indoor air pollution (all cooking fuels), smoking prevalence, alcohol (liters per capita), education (years per capita), and log transformed lag distributed income (LDI) per capita. While the best component model for females was a spatiotemporal model on the logit of the cause fractions, with logit transformed malnutrition (proportion less than two standard deviations below mean weight for age), indoor air pollution (all cooking fuels), smoking prevalence, alcohol (liters per capita) and education (years per capita).

Appendix Table 7 shows TB mortality sources used in GBD 2013.

Appendix Table 8 shows CODEm covariates for both males and females.

2.2 Excess mortality estimates

Predicted death to incidence ratios were transformed into excess mortality hazards using the following logic. First, the relationship between incidence and prevalence is a function of remission and excess mortality:

$$\frac{i}{p} = r + m$$

Second, the population death rate from tuberculosis occurs fully among prevalent cases and hence:

$$m = \frac{d}{p}$$

Third, using these two equations we can express remission as:

$$r = ip1 + di1 - di$$

and excess mortality as:

$$m = dir1 - di$$

where *i* is incidence, *p* is prevalence, *r* is the remission hazard, *m* the excess mortality hazard and *d* the population mortality rate from tuberculosis.

2.3 DisMod-MR 2.0 data sources

Appendix Table 9 shows tuberculosis data sources used in DisMod-MR 2.0

2.4 DisMod-MR 2.0 description and implementation

DisMod-MR was developed for the GBD2010 study to deal with the many challenges in estimating the prevalence of non-fatal health outcomes and risk factor exposures. The information gathered by systematic reviews of published studies, grey literature sources and survey data varied tremendously for

each outcome of interest in terms of the volume of data, methods used to collect the data, geographical and temporal coverage, and the type of epidemiological parameter. The goal was to find the true variation in the occurrence of diseases and risk factors for every country and over time.

Estimates of prevalence (or any of the other epidemiological parameters of interest: incidence, remission, duration and risk of mortality) for the same populations often varied by much more than would be expected based on sampling error. Differences in data collection methods such as sampling design, case definitions, measurement instruments and implementation issues, contributed to large non-sampling error. There are two approaches to deal with this heterogeneity. One could set criteria for the optimal measurement of each disease parameter of interest and include only those studies that meet that high standard. This would make measurements comparable but would leave out the vast majority of information available. In GBD, the preferred approach is to make use of all available data that meets a minimum standard of acceptable quality and address major differences in measurement methods by adjusting data for any systematic bias introduced by a study quality characteristic relative to a chosen reference value. This was done by identifying for each disease or risk factor exposure the important study characteristics that can help explain the variation in measurements and flag data points that deviate from the chosen, optimal, reference value with a covariate. DisMod-MR then estimated a coefficient for each chosen study covariate and adjusted the data accordingly.

To help make estimates for countries and time periods for which little or no data were available, DisMod-MR would predict based on country characteristics and random effects on super-region, region and country. For this purpose a database of country covariates for 84 topic areas and 179 variants thereof was created. Missing data were filled in using Gaussian process or space-time regression methods to ensure a complete set of values for each covariate for every country and every year from 1980 to present. If no country covariates were specified and no data were available, a country estimate would revert to the average of a region, super-region or the world.

DisMod-MR dealt with any specification of age ranges by which data were available to produce estimates by the 20 standard GBD age groups. It also allowed the user to add strong prior knowledge on the age at onset or age pattern of prevalence or incidence such as restricting the occurrence of pre-menstrual syndrome to fertile ages or stipulating that there are no cases of Parkinson's disease before age 30. All these functions were new in DisMod-MR compared to earlier DisMod version used in previous GBD studies which required an analyst to choose one particular data source for a given disease parameter rather than being able to evaluate all available data. Hence the tool was renamed DisMod-MR, the suffix indicating the important meta-regression component. DisMod-MR also accommodated the main functionality of the earlier DisMod tools, i.e. confronting the data from different disease parameters and forcing consistency between these based on differential equations that determine the flow of cases in a stable population between those disease-free and prevalent cases of disease (through incidence or remission) and those in either category that die from other causes (other-cause mortality) and the disease of interest (cause-specific mortality).

To accommodate all functions, DisMod-MR was designed as a Bayesian meta-regression tool using a generalized negative binomial model with fixed effects on age, study and country level covariates as well

as random intercepts for country, region and super-region. Greater detail on DisMod-MR has been published in a web-appendix to the paper on non-fatal health outcomes in GBD2010.[24]

While DisMod-MR successfully addressed many of the major challenges in the estimation of non-fatal health outcomes and risk factor exposures it had a number of drawbacks which we have tried to solve for GBD 2013 by creating an updated version of the tool, DisMod-MR 2.0. The biggest drawback was the computing time required. Each disease model needed to run between 4 and 24 hours on a large computer cluster to produce results for all countries and three time periods (1990, 2005 and 2010). Moreover because of computational constraints a decision had to be made to restrict the consistency checks at the level of 21 regions only. To make country estimates, the relevant fixed effects on study and country covariates and the random effects for each country were applied. While this produced defensible estimates of prevalence it did not guarantee coherence between prevalence and other disease parameters such as incidence and excess mortality rates at the country level.

The code for DisMod-MR 2.0 was rewritten and optimized to run up to 50 times faster than DisMod-MR. A decision was also made to shift to an offset log-normal rather than a negative binomial model as this is easier to implement and because predictive validity tests carried out in DisMod-MR indicated that the statistical properties the two types of models were at least equivalent.

The much faster running time of the core computational engine in DisMod-MR 2.0 allows us to better evaluate all the data through a geographical cascade of four levels. At first, all the world's data are evaluated to estimate the fixed effects on age, sex, study level and country level covariates as well as a first pass at estimating the random effects for countries, regions and super-regions. The outputs of the global level are then used as prior information for the next, super-region level of the cascade. A single age pattern for both sexes and all years of interest is created with uncertainty bounds. All data points that are marked as pertaining to both sexes or flagged with a covariate for a study characteristic (e.g. a less than optimal case definition or a low response rate) are adjusted at this stage to reflect what the likely value would have been if the study had specified sex and/or used the reference study characteristic. The data are also split up between super-regions and, optionally, by time period and sex. Using the global prior and the adjusted data values for each super-region are re-estimated using the same core computational engine. While there is flexibility whether to re-assess fixed effects on sex or study level covariates at this level, the default option is to adjust the data by the sex and study-level covariates after the global level fit, only. At each successive level of the cascade the fixed effects on country-level covariates are re-evaluated and centered on the average of values for the countries that make up a super-region or region. Similarly, random effects are re-evaluated for just the countries in a given geography. It logically follows that no fixed or random effects are re-evaluated at country level. After fitting the model to each of the super-regions, the results are fed as priors to the region-specific fits and finally, region fits are used as a prior when modelling a country's results for a particular time period.

A new interface was created to draw relevant data for each disease, sequela or risk factor to be modelled, to apply all the default and optional settings and to visualize results. The analyst has a lot of choice to set model parameters to suit any given disease or risk factor of interest. There is a setting to

define the age mesh point at which DisMod-MR 2.0 does its calculations. The default setting is to use 21 age mesh points that define the 20 GBD standard age groups. For each study-level and country-level covariate the analyst can set a reference value and upper and lower values for the coefficients. The inclusion of cause-specific mortality rates by age and sex from GBD's mortality estimates is optional. An alternative method of informing a model with mortality data is by using the log of the age-standardised mortality rate as a country-level covariate. Other examples of the basic settings include a value for the parameter that determines the amount of smoothing over the age curve and is denoted by Greek letter 'xi' (ξ); the value of the offset for the lognormal ('eta' or η) for which the default setting is at one per cent of the median of available data values for a parameter or 0.0001 in case there are no data for that parameter; and a range of values for the parameter 'zeta' (ζ) that determines how much 'noise' the analyst allows DisMod-MR 2.0 to estimate for a parameter. The latter function is useful to the analyst. When DisMod-MR 2.0 estimates zeta close to the upper threshold it indicates there is a lot of noise in the data or it may be an indication that there are data entry errors that deserve attention.

Analysts have the choice of using a Gaussian, log-Gaussian, Laplace or Log-Laplace likelihood function in Dismod-MR 2.0. The default log-Gaussian equation for the data likelihood is:

$$-log\left[p\left(y_j\middle|\Phi\right)\right] = \log\left(\sqrt{2\pi}\right) + \log\left(\delta_j + s_j\right) + \frac{1}{2}\left(\frac{\log\left(a_j + \eta_j\right) - \log\left(m_j + \eta_j\right)}{\delta_j + s_j}\right)^2$$

where, y_j is a 'measurement value' (i.e. data point); Φ denotes all model random variables; η_j is the offset value, eta, for a particular 'integrand' (prevalence, incidence, remission, excess mortality rate, with-condition mortality rate, cause-specific mortality rate, relative risk or standardized mortality ratio) and a_j is the adjusted measurement for data point j, defined by:

$$a_j = e^{(-u_j - c_j)} y_j$$

where u_j is the total 'area effect' (i.e. the sum of the random effects at three levels of the cascade: super-region, region and country) and c_j is the total covariate effect (i.e. the mean combined fixed effects for sex, study level and country level covariates), defined by:

$$c_j = \sum_{k=0}^{K[I(j)]-1} \beta_{I(j),k} \hat{X}_{k,j}$$

with standard deviation

$$s_j = \sum_{l=0}^{L[I(j)]-1} \zeta_{I(j),l} \hat{Z}_{k,j}$$

where *k* denotes the mean value of each data point in relation to a covariate (also called x-covariate); *I(j)* denotes a data point for a particular integrand, *j*; $\beta_{I(j),k}$ is the multiplier of the k^{th} x-covariate for the I^{th} integrand; $\hat{X}_{k,j}$ is the covariate value corresponding to the data point *j* for covariate *k*; *l* denotes the standard deviation of each data point in relation to a covariate (also called z-covariate); $\zeta_{I(j),k}$ is the

multiplier of the l^{th} z-covariate for the i^{th} integrand; and δ_j is the standard deviation for adjusted measurement *j,* defined by:

$$\delta_j = log\left[y_j + e^{(-u_j - c_j)}\eta_j + c_j\right] - log\left[y_j + e^{(-u_j - c_j)}\eta_j\right]$$

Where m_j denotes the model for the j^{th} measurement, not counting effects or measurement noise and defined by:

$$m_j = \frac{1}{B(j) - A(j)} \int_{A(j)}^{B(j)} I_j(\text{a})\ \text{da}$$

where A(j) is the lower bound of the age range for a data point; B(j) is the upper bound of the age range for a data point; and I(j) denotes the function of age corresponding to the integrand for data point *j*.

2.5 Incidence, Prevalence, and Mortality for TB with HIV

Appendix Table 10 shows the age-standardized incidence, prevalence, and mortality for TB with HIV.

3. Malaria

Appendix Table 11 lists the malaria non-fatal data sources used in DisMod-MR 2.0 for the GBD 2013.

3.1 Explanation of malaria covariates

We tested the following time-series variables: rainfall, health-system access, first-line antimalarial drug resistance, insecticide-treated bednet coverage, indoor residual spraying coverage, income per head, and educational attainment.[24] First-line antimalarial drug resistance is a weighted average by country and year of the treatment efficacy of chloroquine, sulfadoxinepyrimethamine, and artemisinin-combination therapy with weights based on the frequency of drug use. Treatment efficacy was estimated with a spatio-temporal model of in-vivo efficacy studies and WHO antimalarial drug resistance database reports.[25,26] Frequency of drug use was estimated with a spatio-temporal model of survey data for antimalarial drug use in children with fever, which was supplemented by program data for supply of artemisinin-combination therapy, correcting for bias with survey data as the benchmark. Updated estimates of household bednet coverage and estimates for outside of Africa were produced with a previously described Bayesian statistical model.[27] Coverage of indoor residual spraying was based on a spatio-temporal model of survey data for reported household spraying in the previous 12 months and program data reported to WHO, correcting for bias with survey data as the benchmark.

3.2 CODEm Results

Appendix Table 12 lists the malaria mortality data sources used in the GBD 2013.

Appendix Table 13 lists the covariates used in CODEm

Appendix Tables 14a-h show the ensemble performance, for males and females, over and under 5 years, inside and outside Africa.

3.3 Sensitivity analysis

We developed a method to adjust cause-specific mortality fractions (CSMFs) to account for sensitivity and specificity of verbal autopsy when diagnosing malaria. Using constrained non-linear optimization techniques,[28] we back-calculated the malaria and non-malaria CSMFs subject to the constraints that both CSMFs must sum to one, and that no CSMF can be negative. Back-calculation was tested on both the input verbal autopsy data and the modeled estimates. Because the estimated sensitivity in adults and children was much lower than specificity, most malaria CSMFs were found to be higher after adjustment than before. This is illustrated in the global number of deaths by category from 1990 to 2013 in Appendix Figure 3.

3.4 Country groupings for malaria incidence data

Countries were divided into three categories based on the quality and availability of their malaria incidence data. Within each of these categories, malaria incidence cases were estimated. Appendix Table 15 shows the country groupings for each of the three categories.

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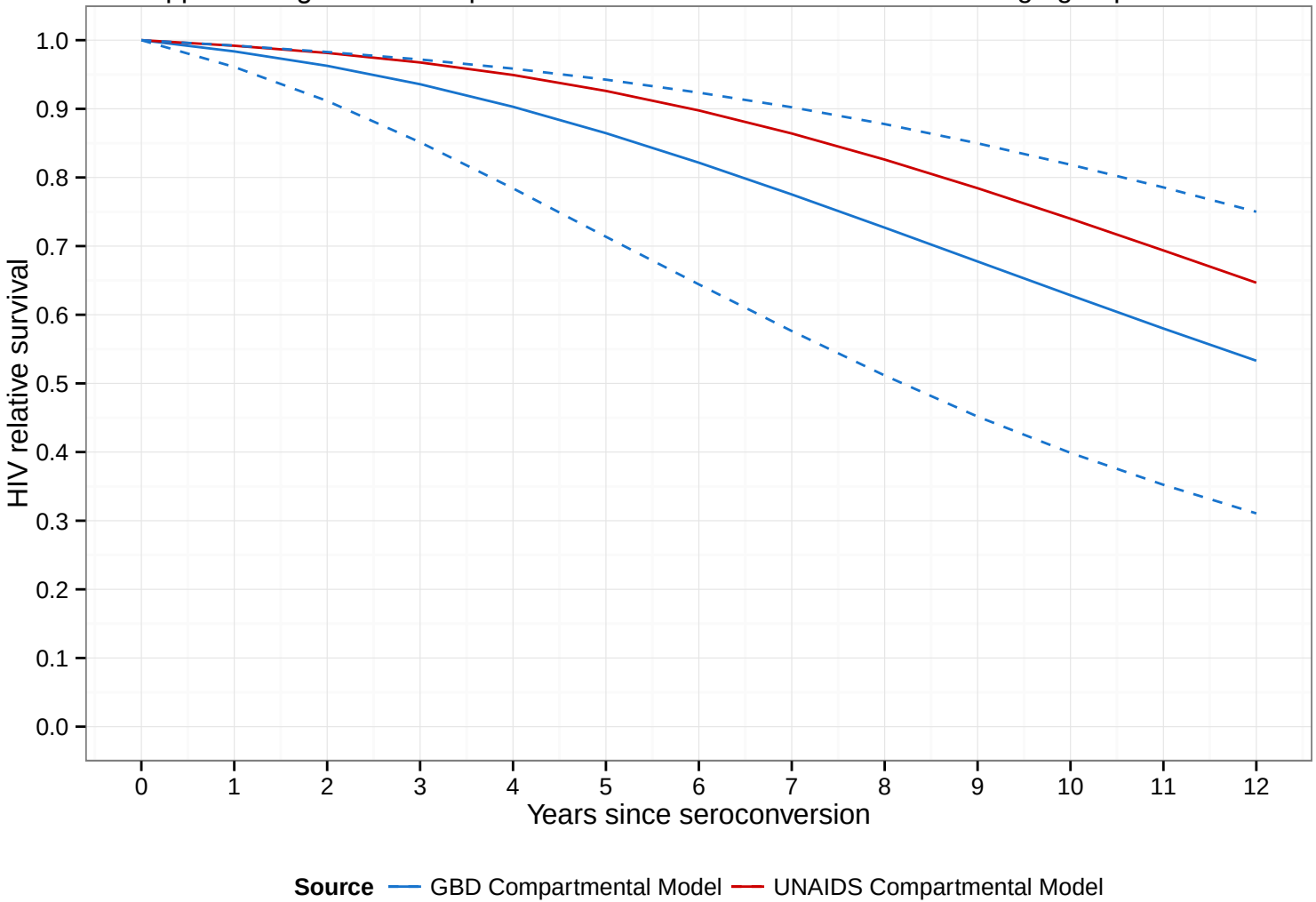
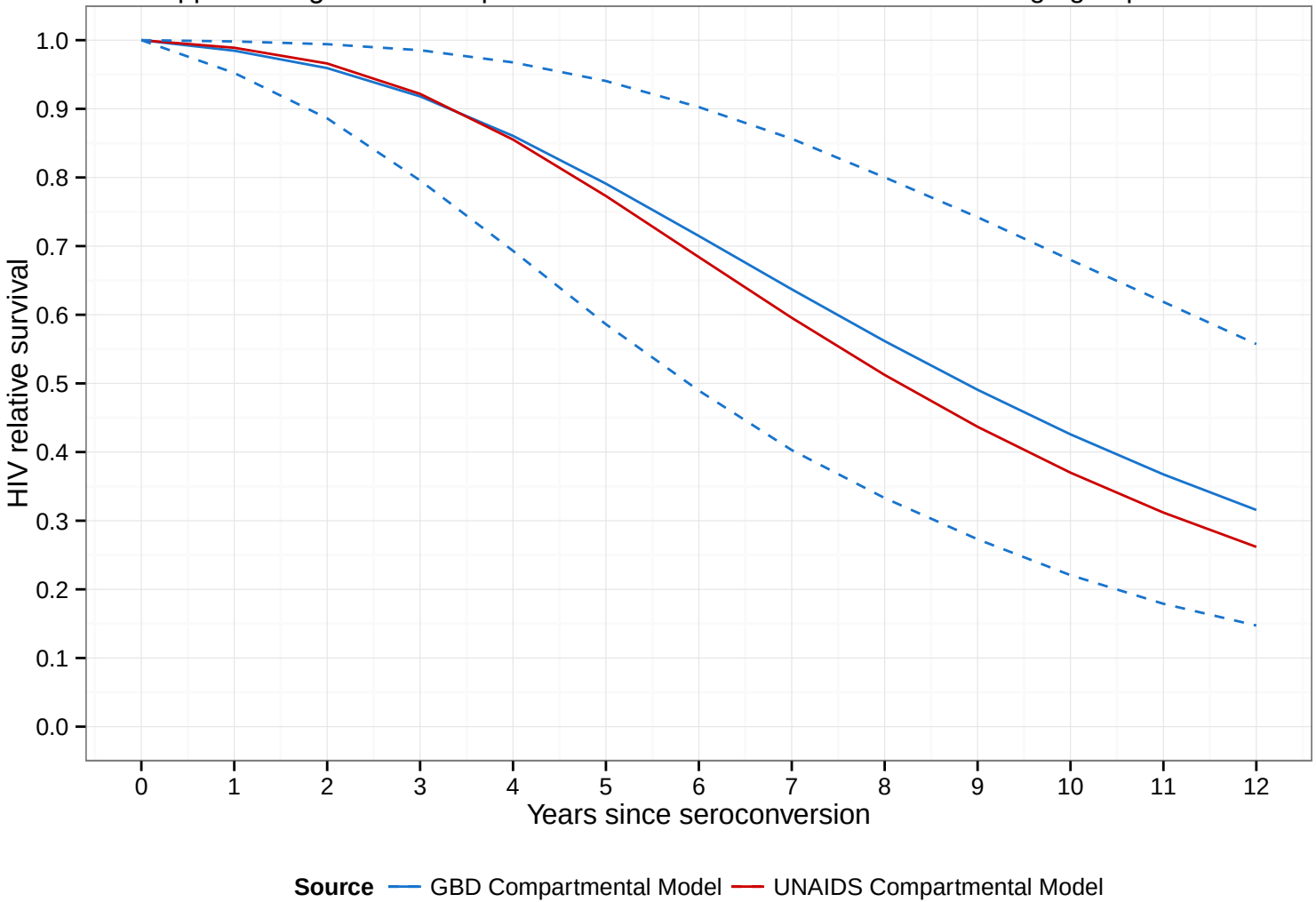
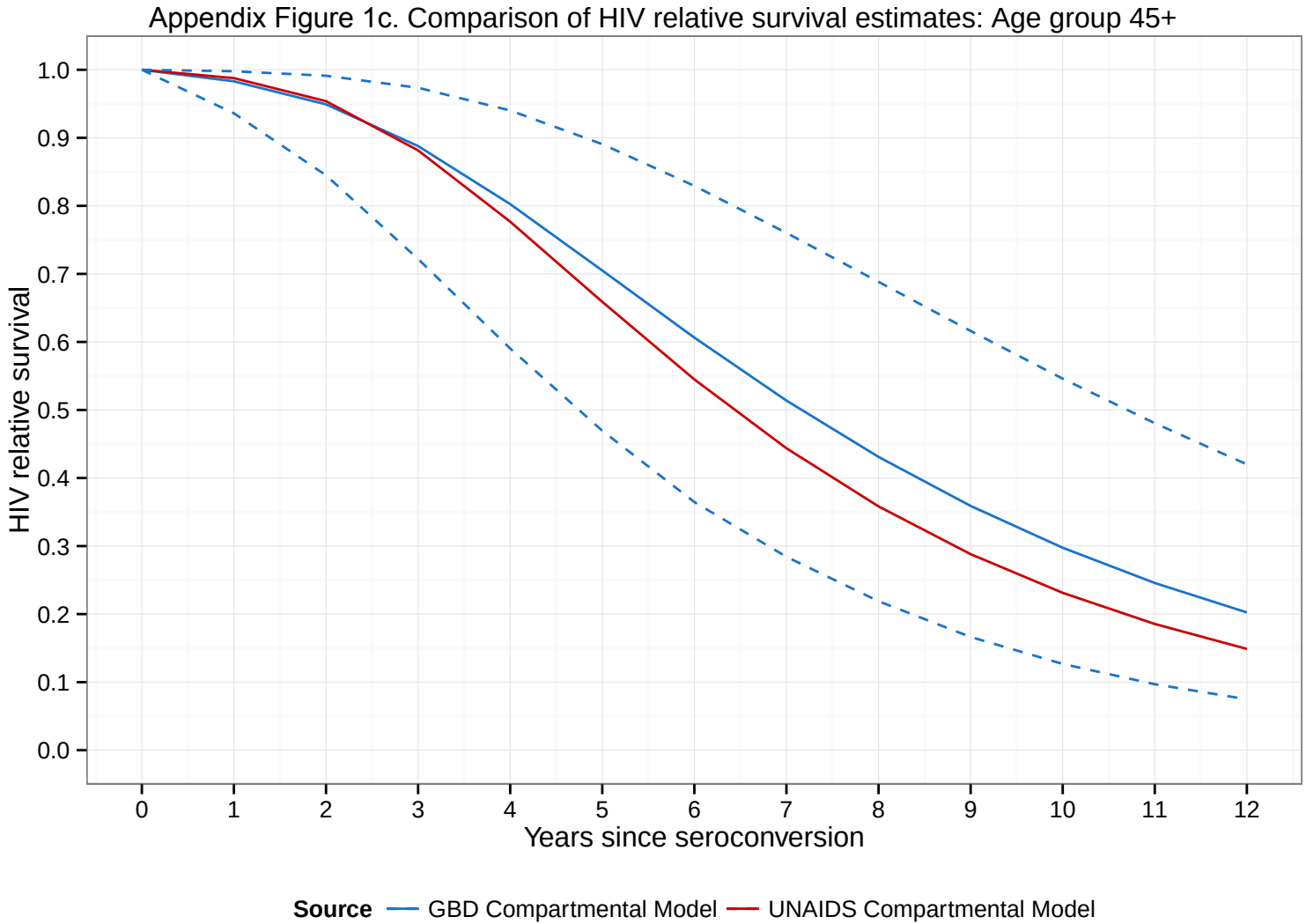
5. Supplementary Tables and Figures

Appendix Figure 1a. Comparison of HIV relative survival estimates: Age group 15−24

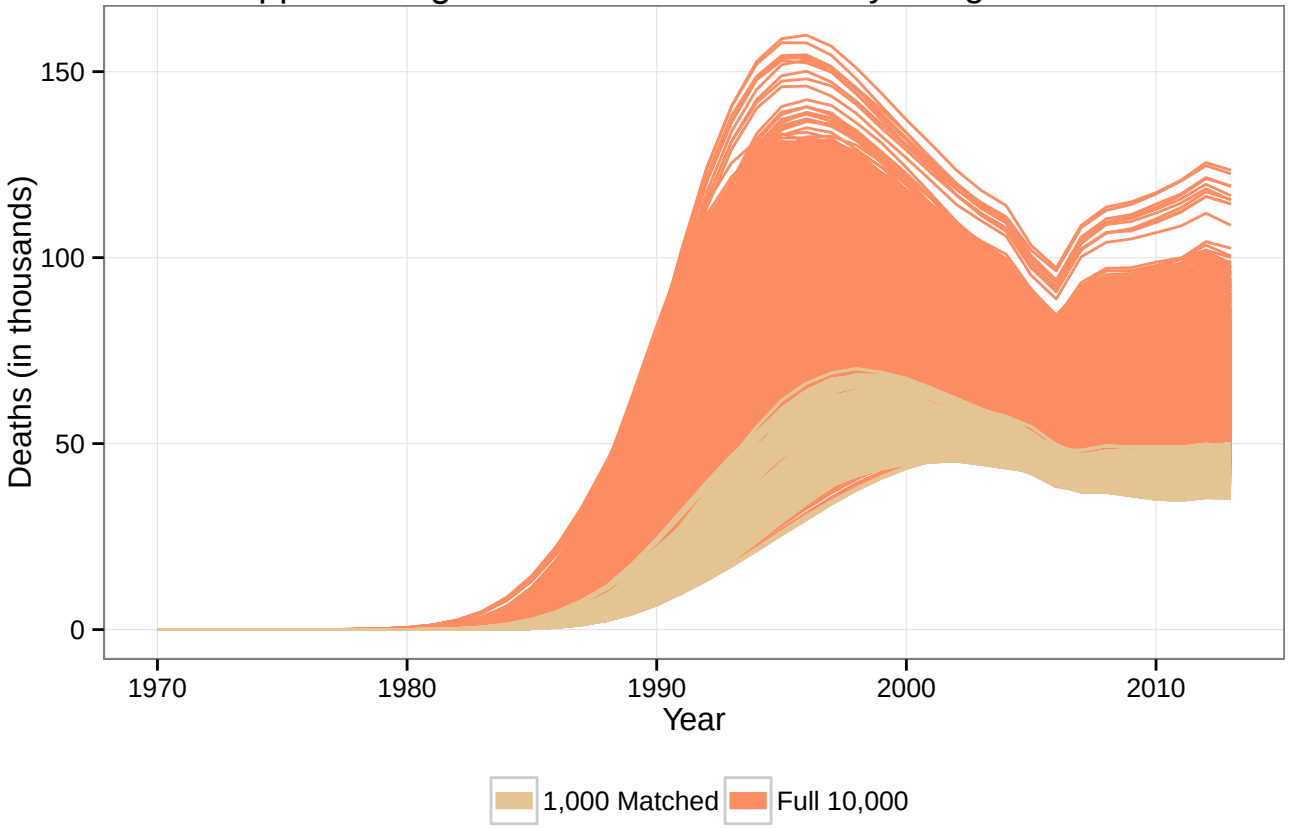


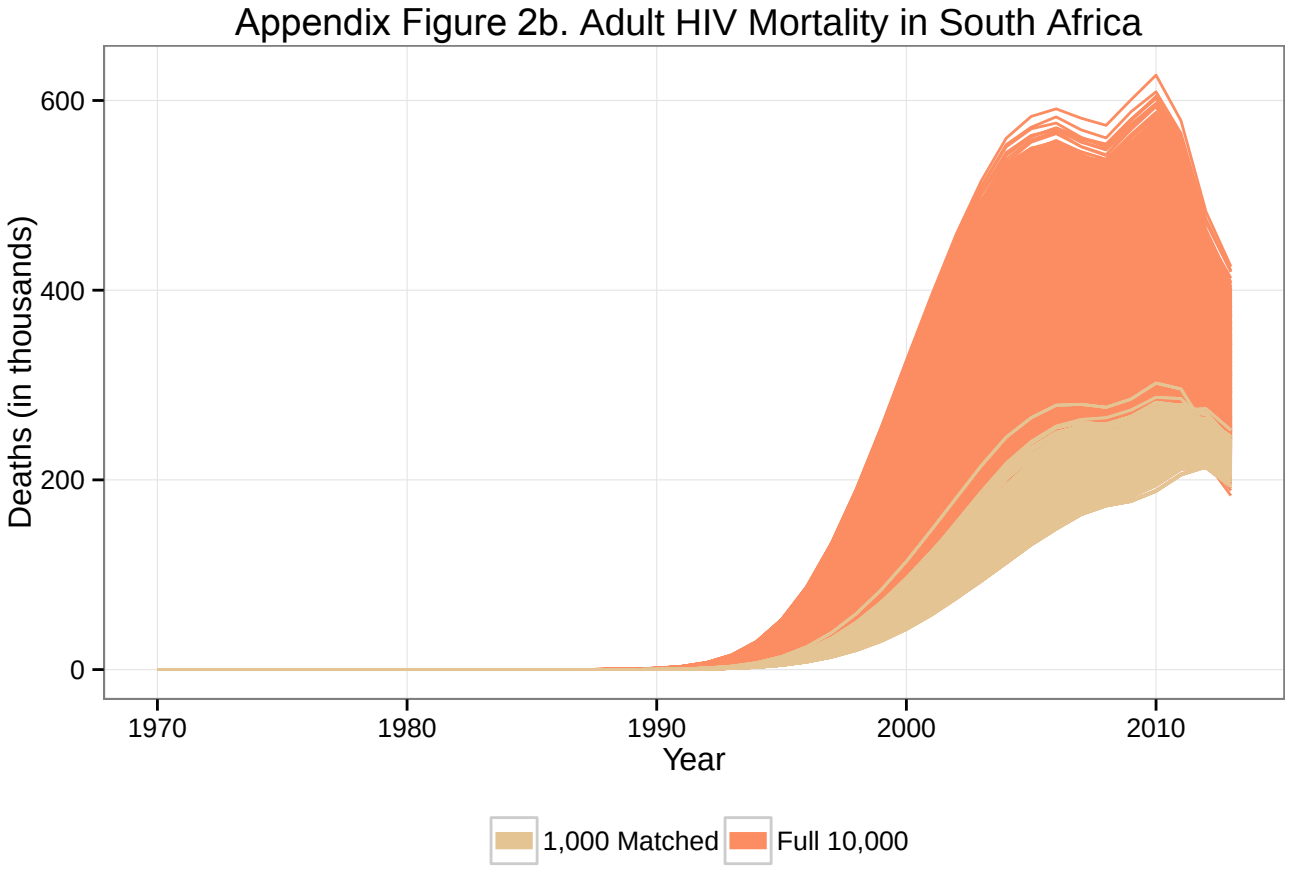
Appendix Figure 1b. Comparison of HIV relative survival estimates: Age group 35−44

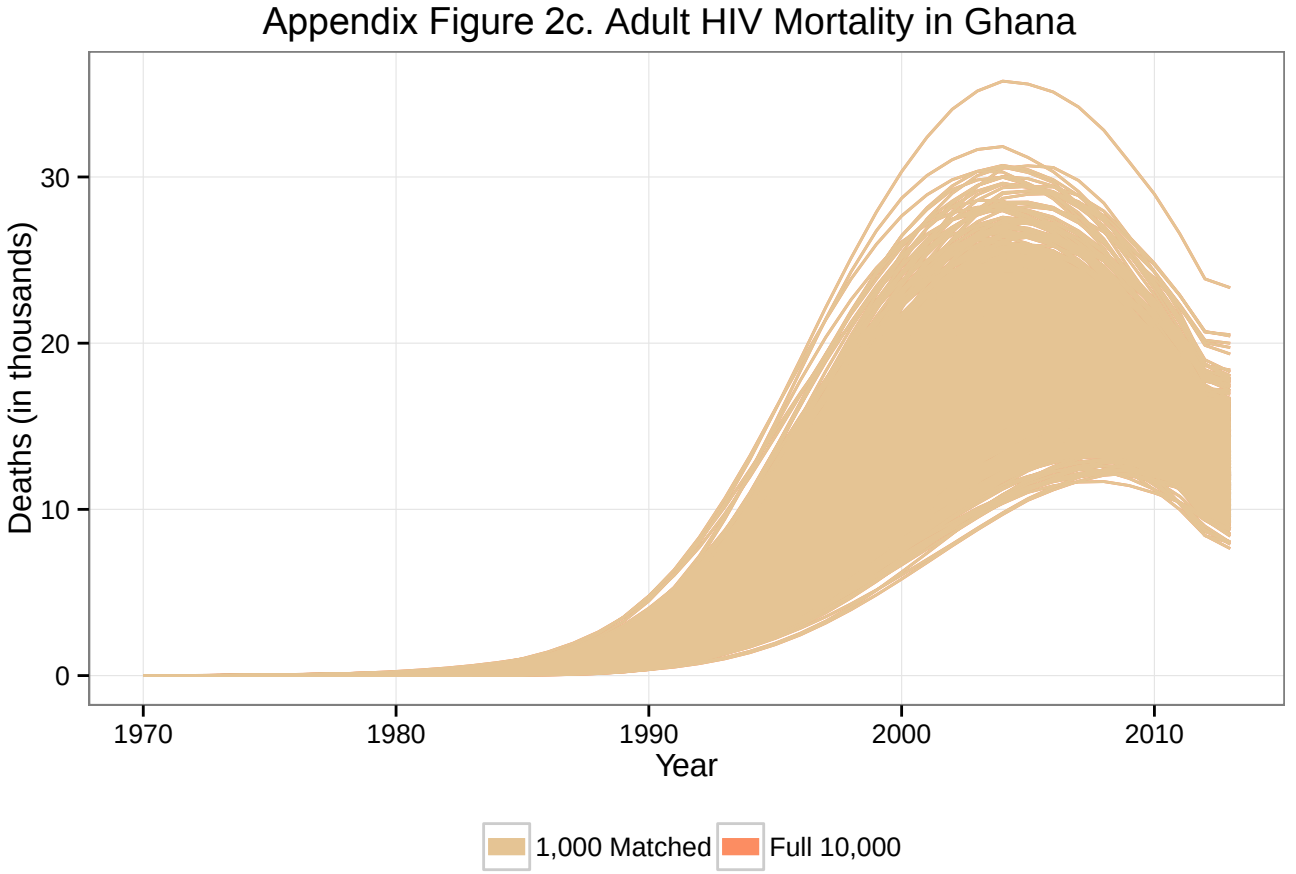



Appendix Figure 1c. Comparison of HIV relative survival estimates: Age group 45+
HIV relative survival
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
1
2
3
4
5
6
7
8
9
10
11
12
Years since seroconversion
Source
GBD Compartmental Model
UNAIDS Compartmental Model

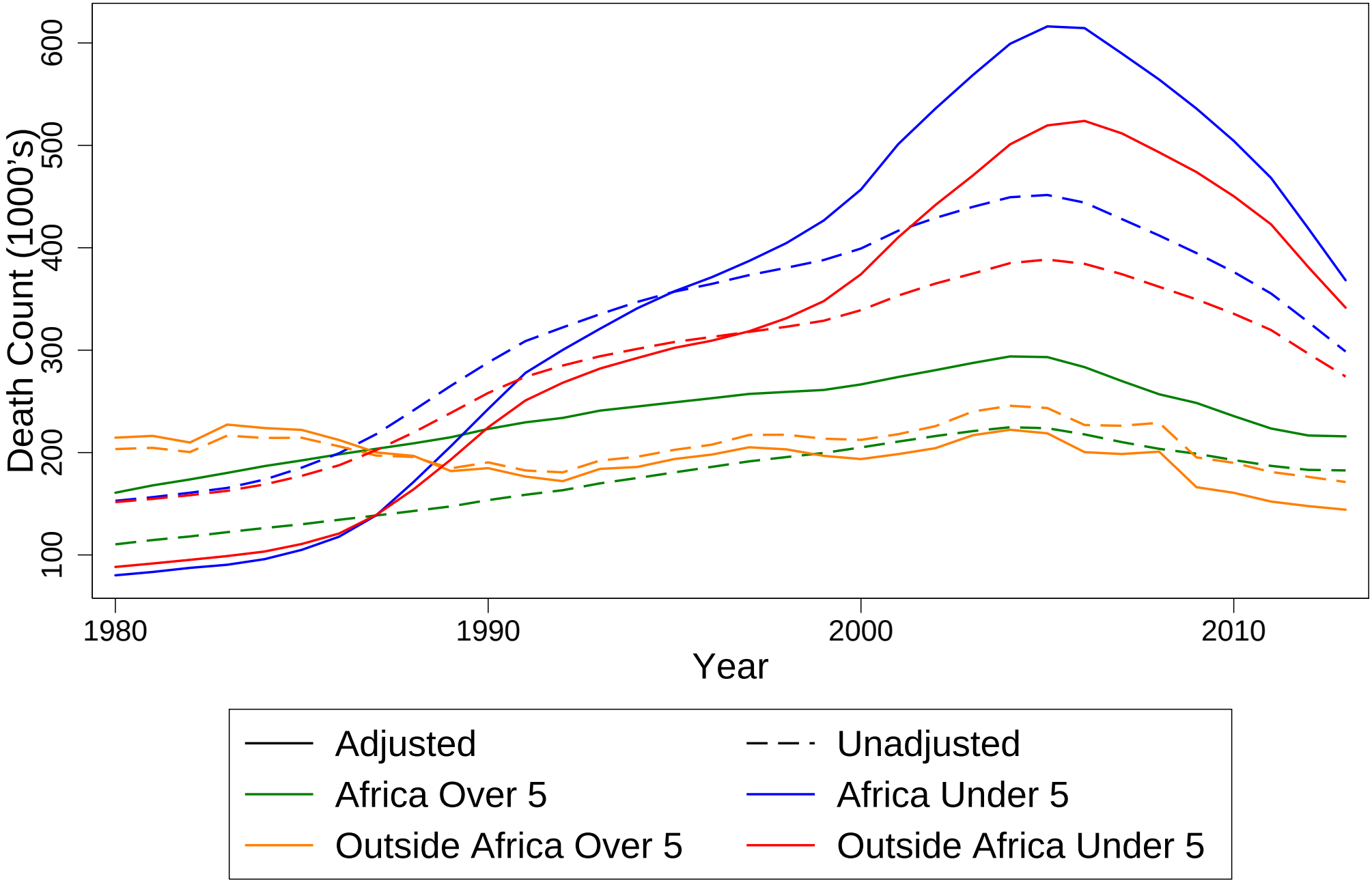
Appendix Figure 2a. Adult HIV Mortality in Uganda




Appendix Figure 2b. Adult HIV Mortality in South Africa
Deaths (in thousands)
600
400
200
0
1970
1980
1990
2000
2010
Year
1,000 Matched
Full 10,000

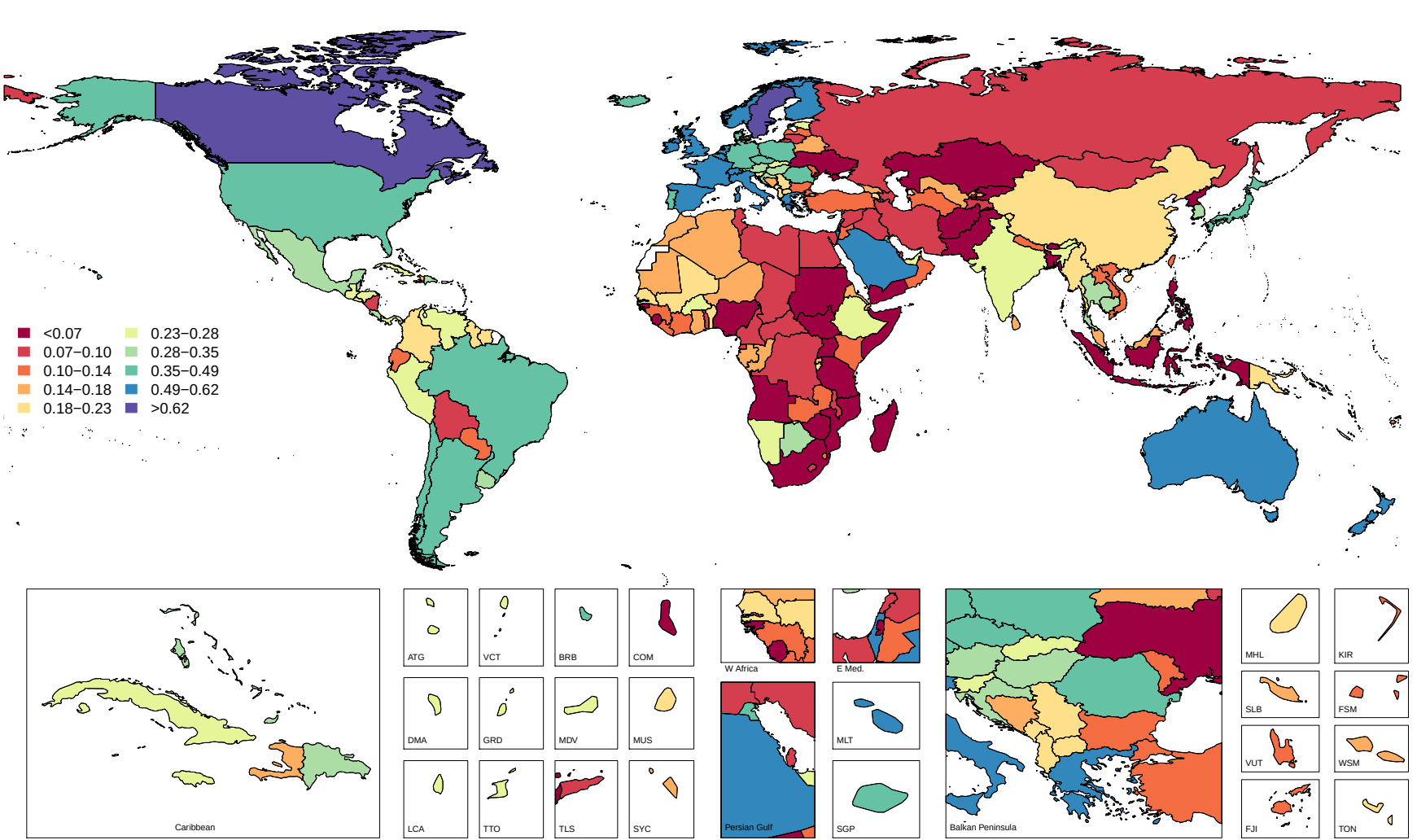

Appendix Figure 2c. Adult HIV Mortality in Ghana
Deaths (in thousands)
30
20
10
0
1970
1980
1990
2000
2010
Year
1,000 Matched
Full 10,000

Appendix Figure 3. Effect of back−calculation on estimated malaria deaths

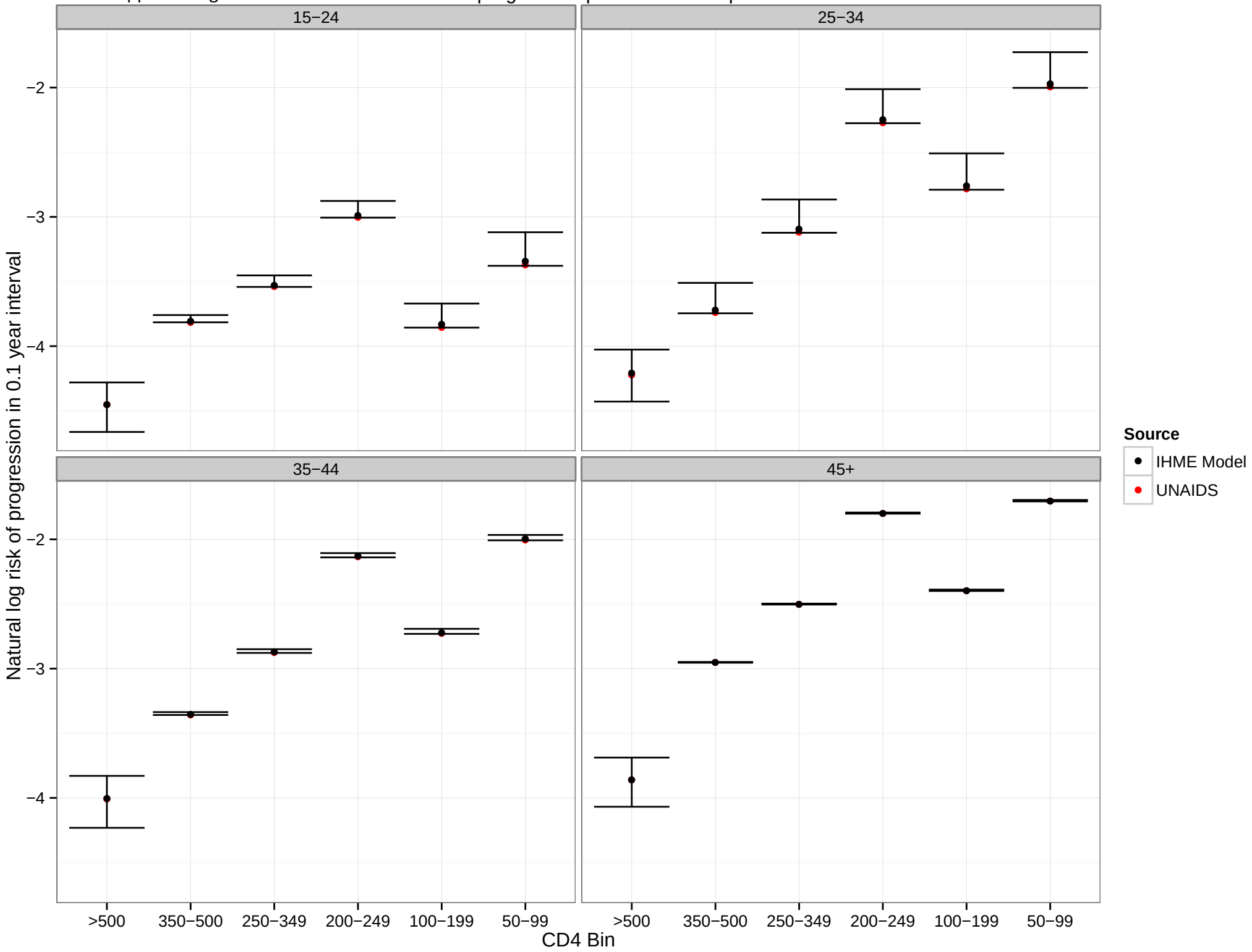


VR Countries Not Adjusted

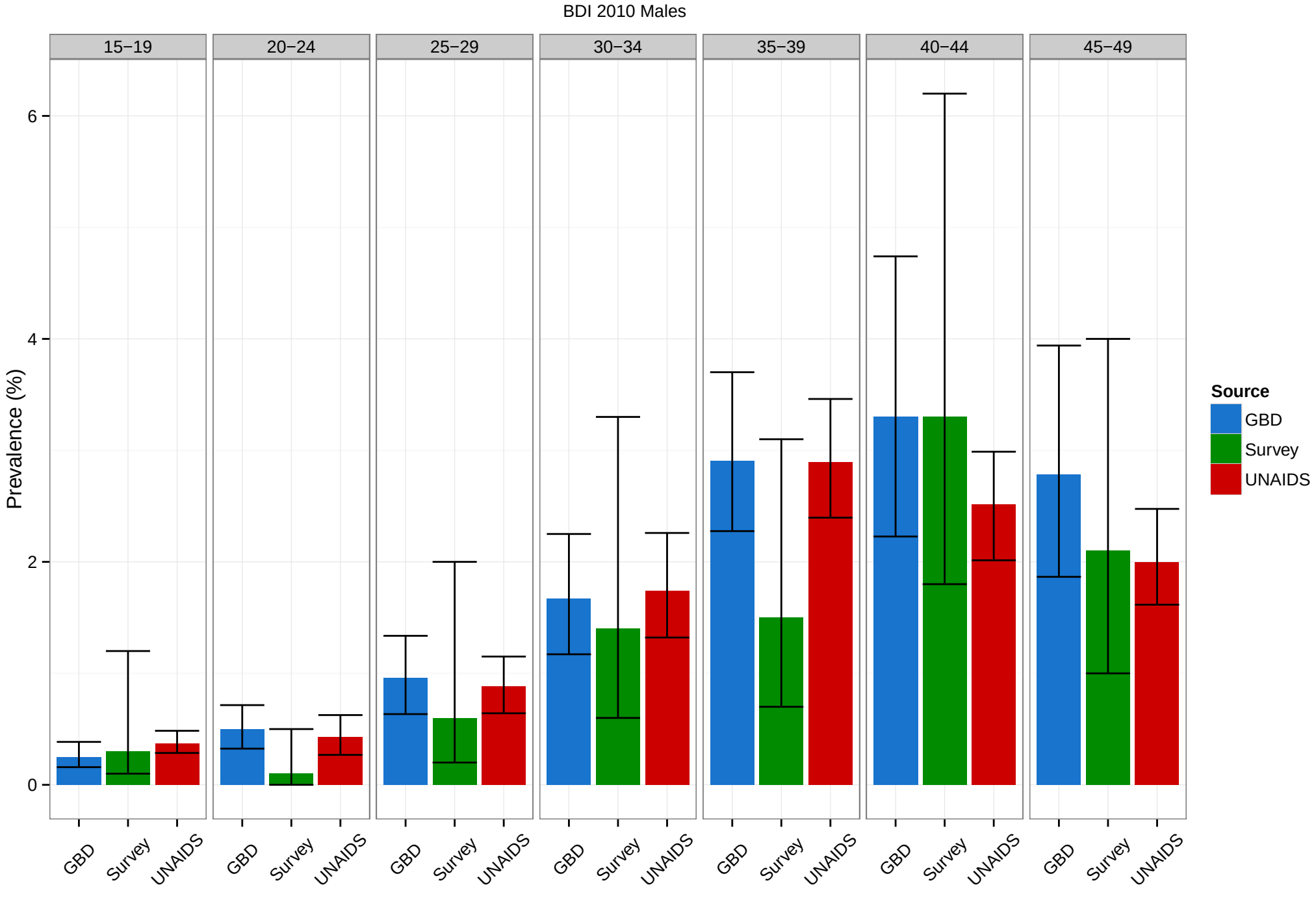
Appendix Figure 4. Ratio of years of life saved through intervention to prevalent cases in adults over 15 in 2013.

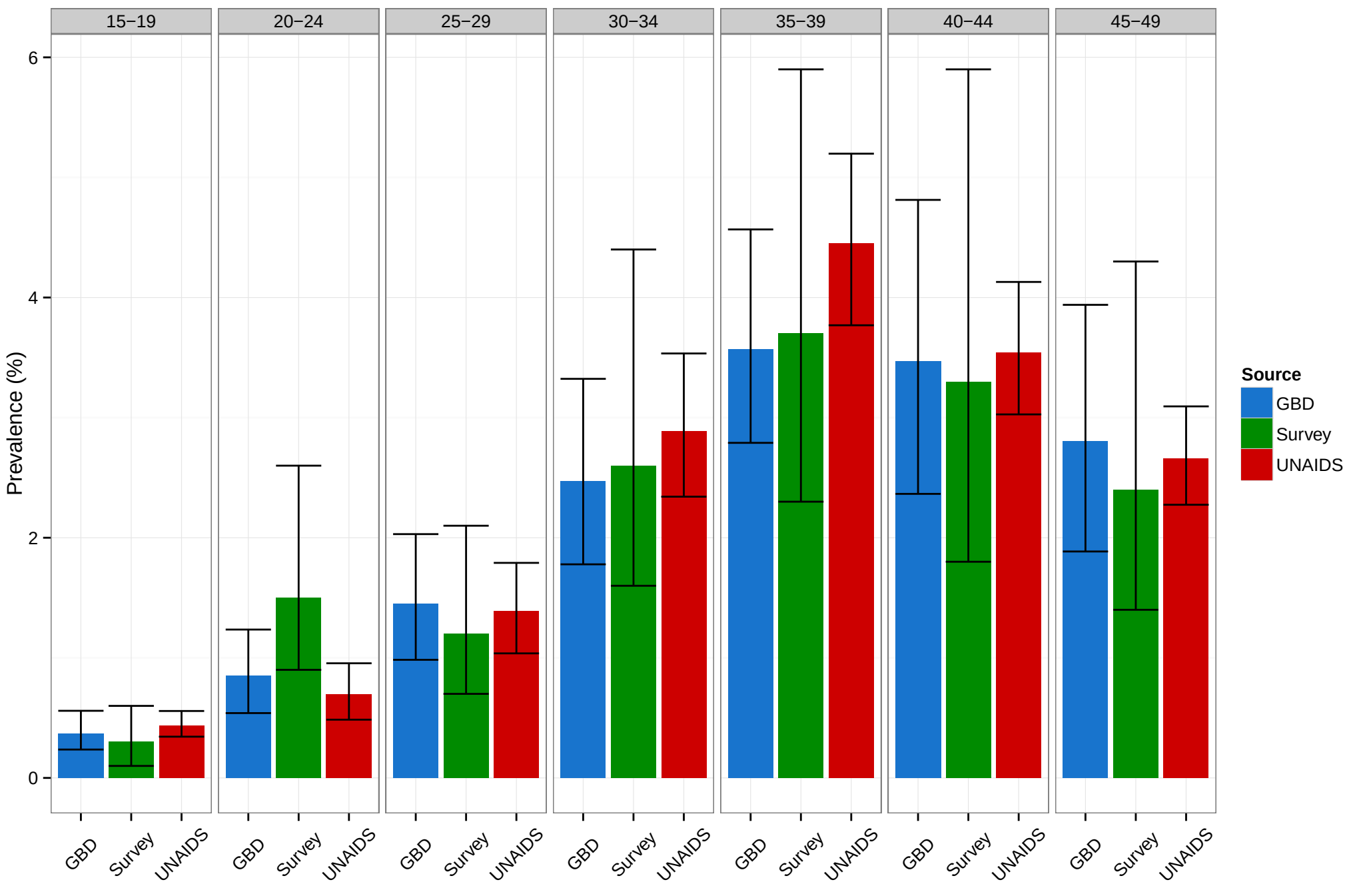


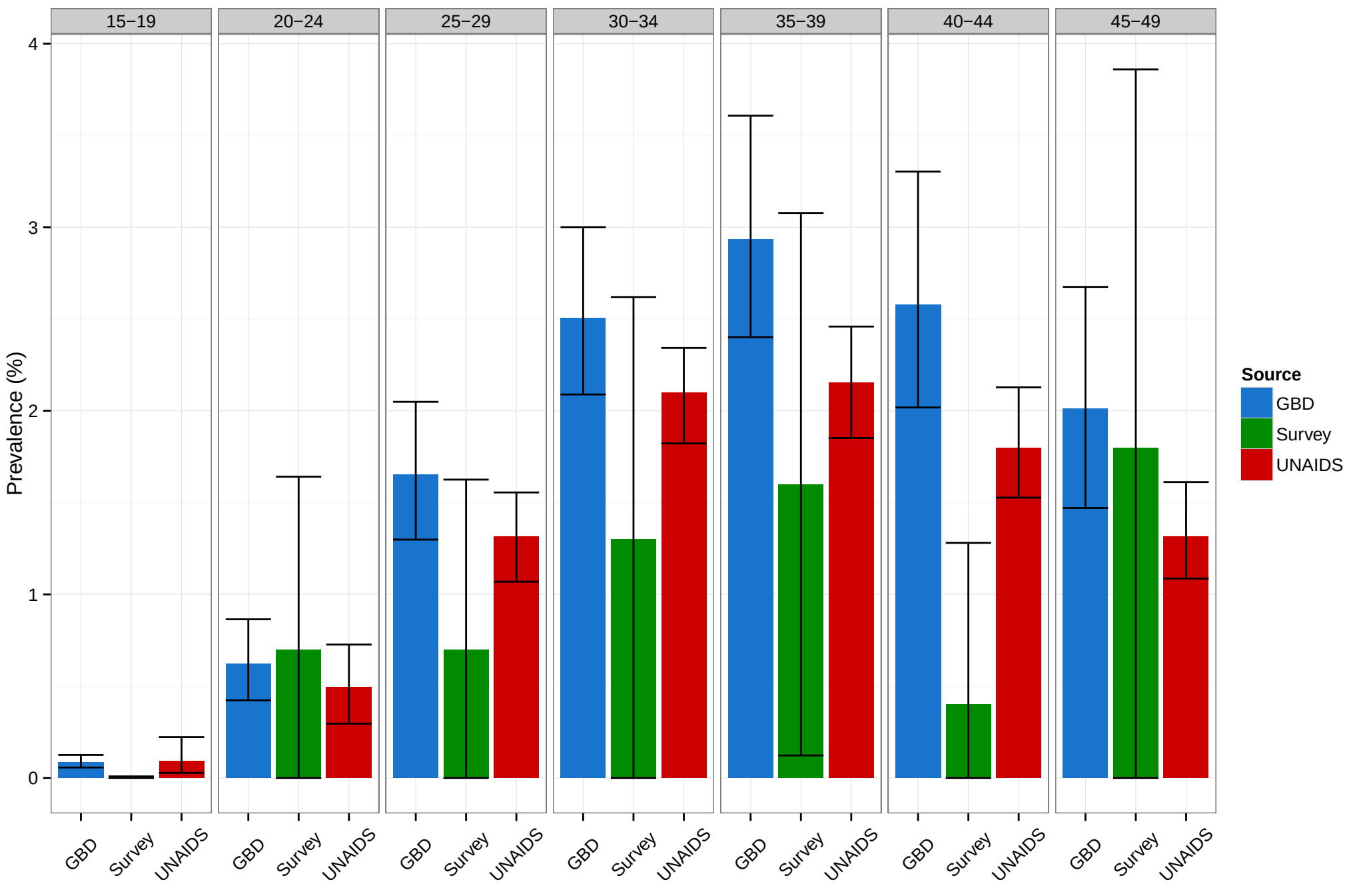
Appendix Figure 5. 95% CIs for GBD CD4 progression parameters compared to UNAIDS

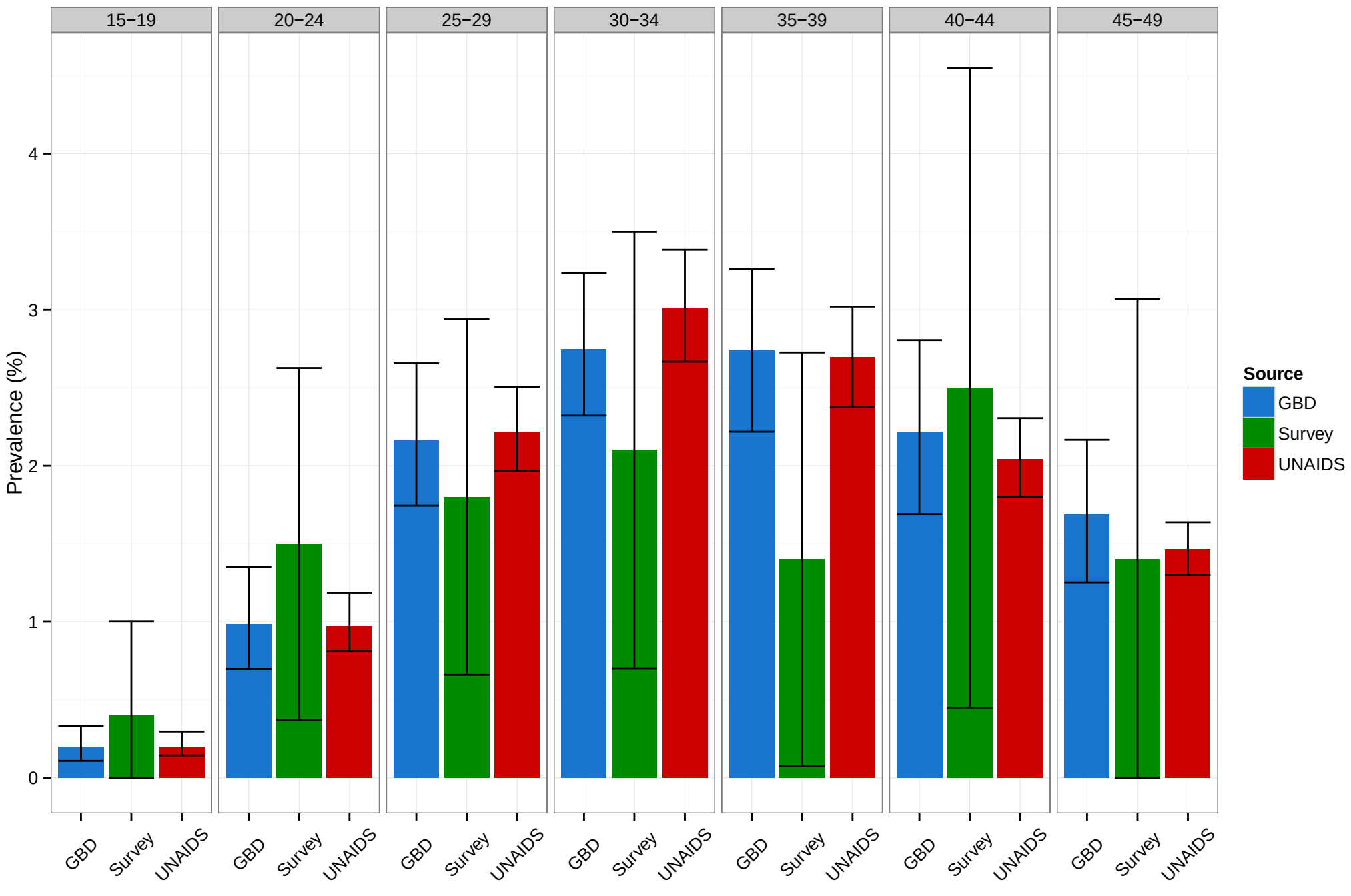


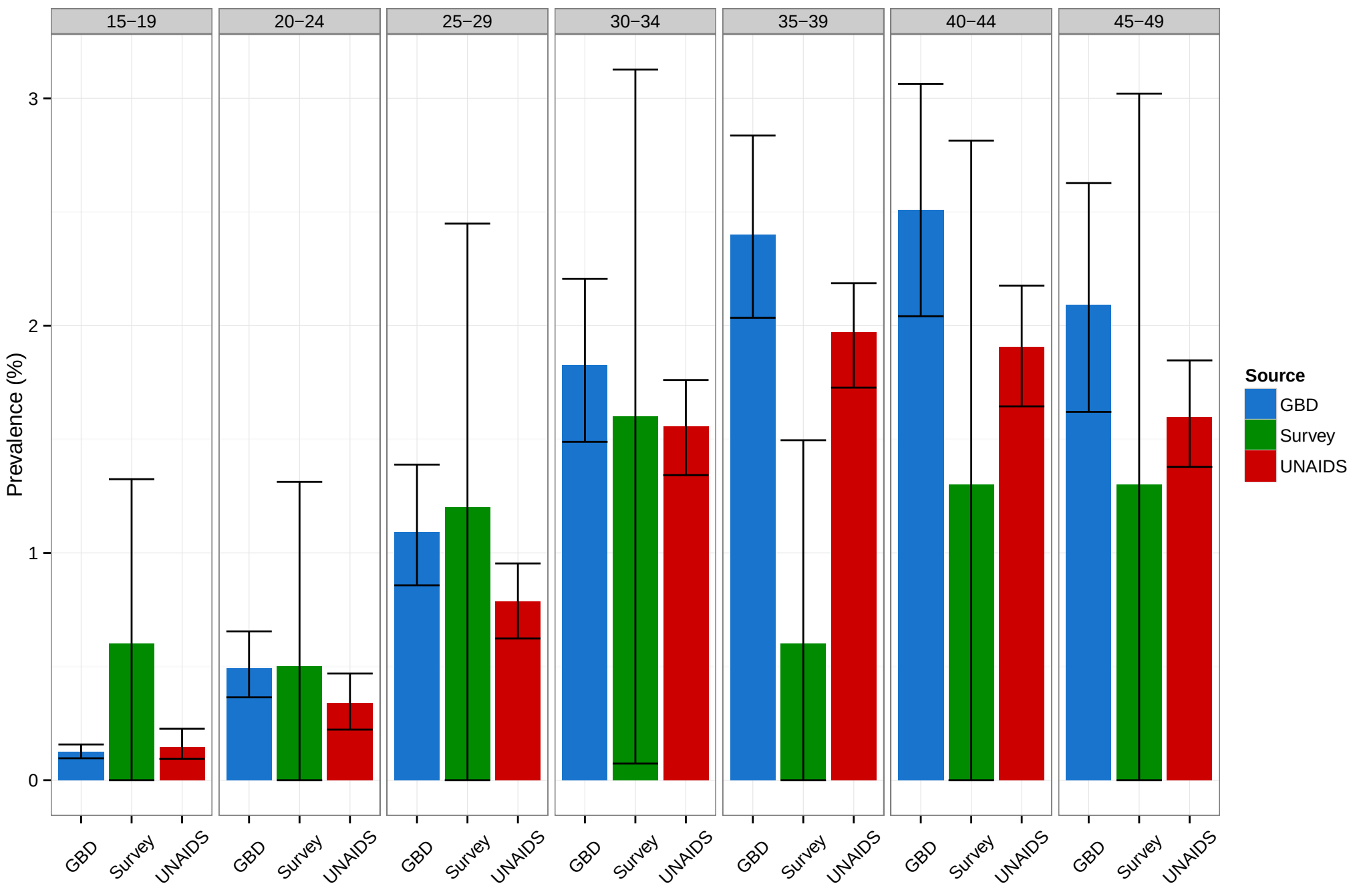
Appendix Figure 6. Comparison of national HIV prevalence survey estimates to GBD and UNAIDS estimates with 95% confidence intervals. Each graph represents age-specific estimates for a particular country, survey year, and sex.

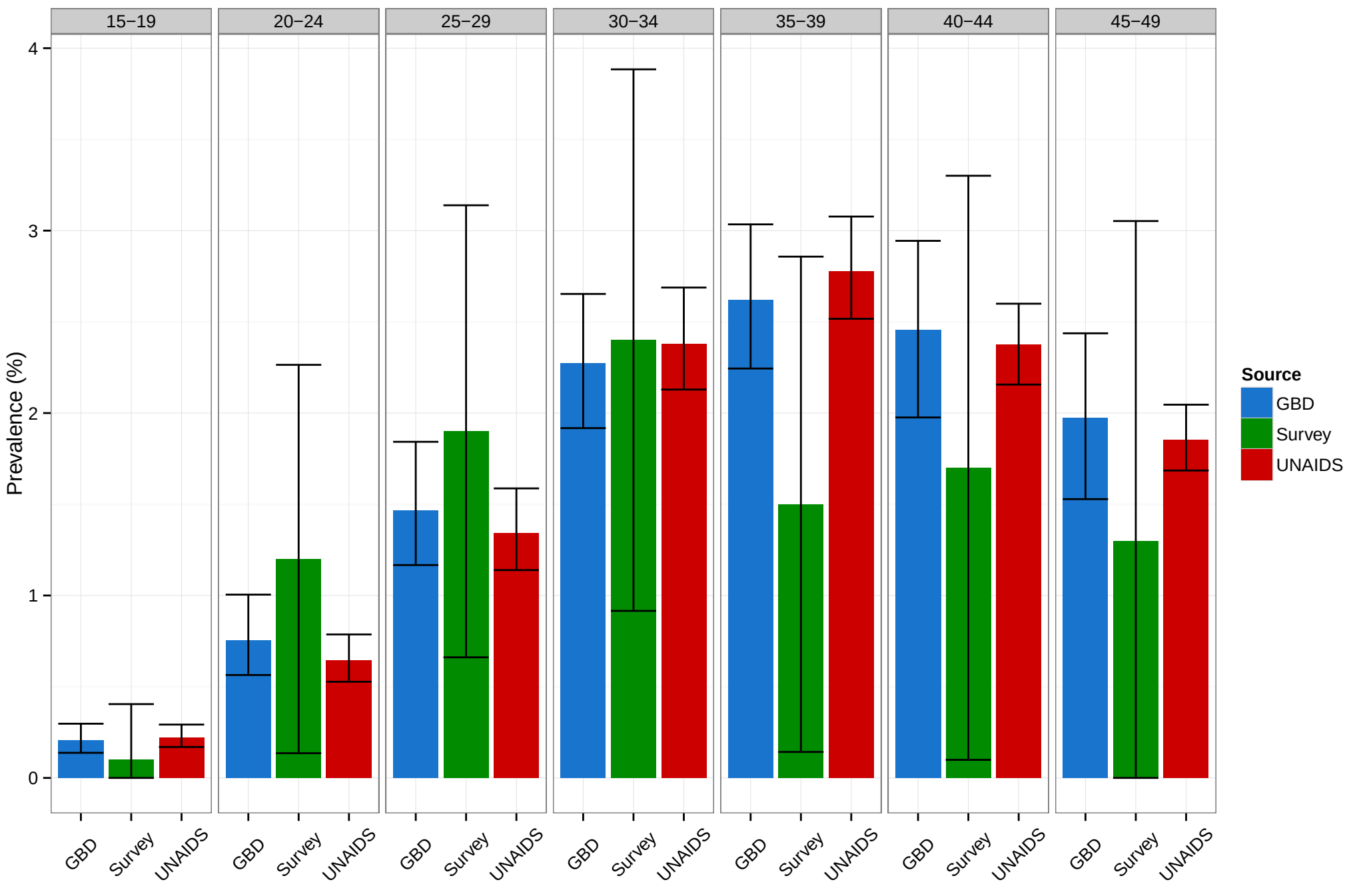


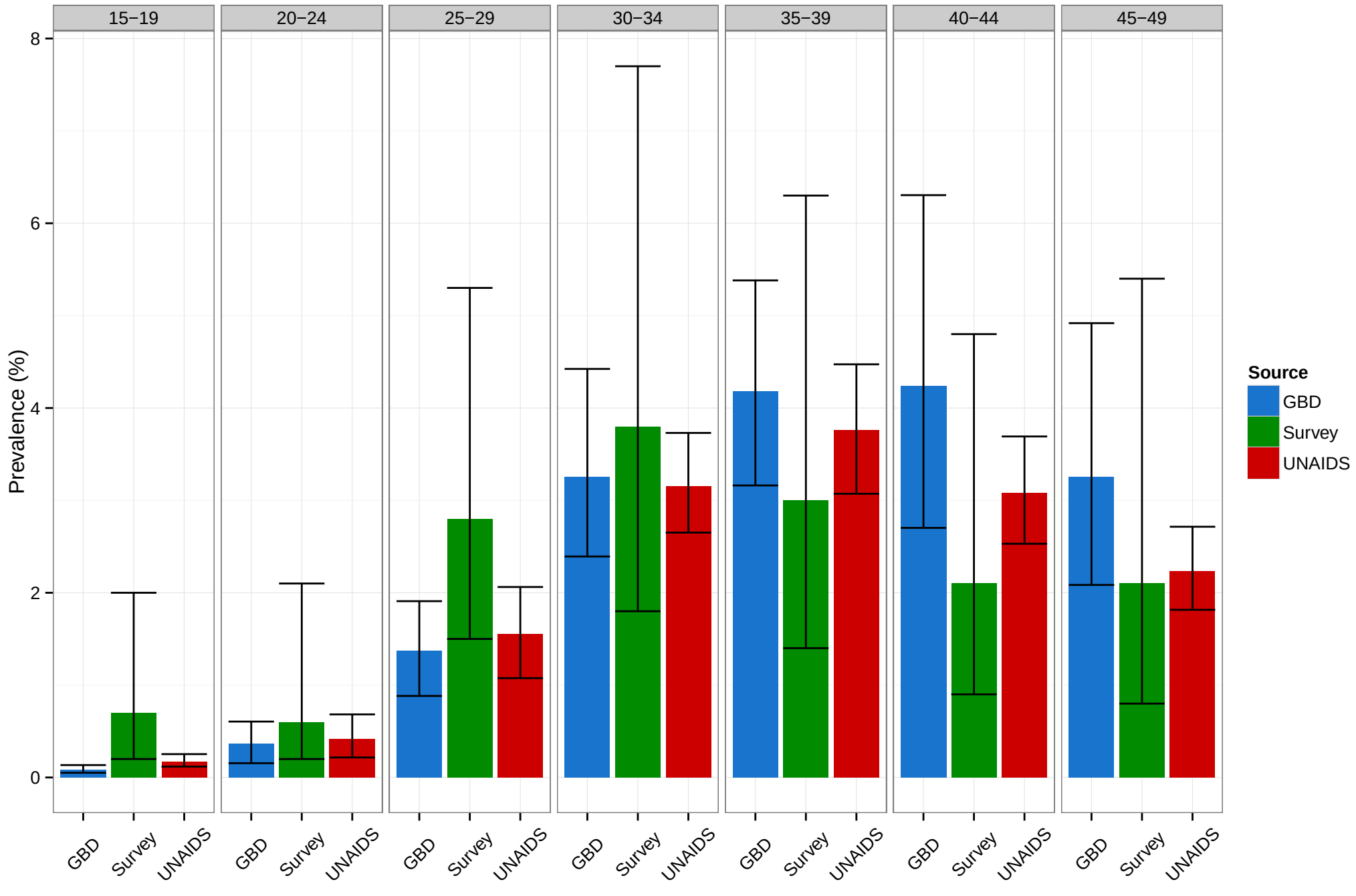

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BDI 2010 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

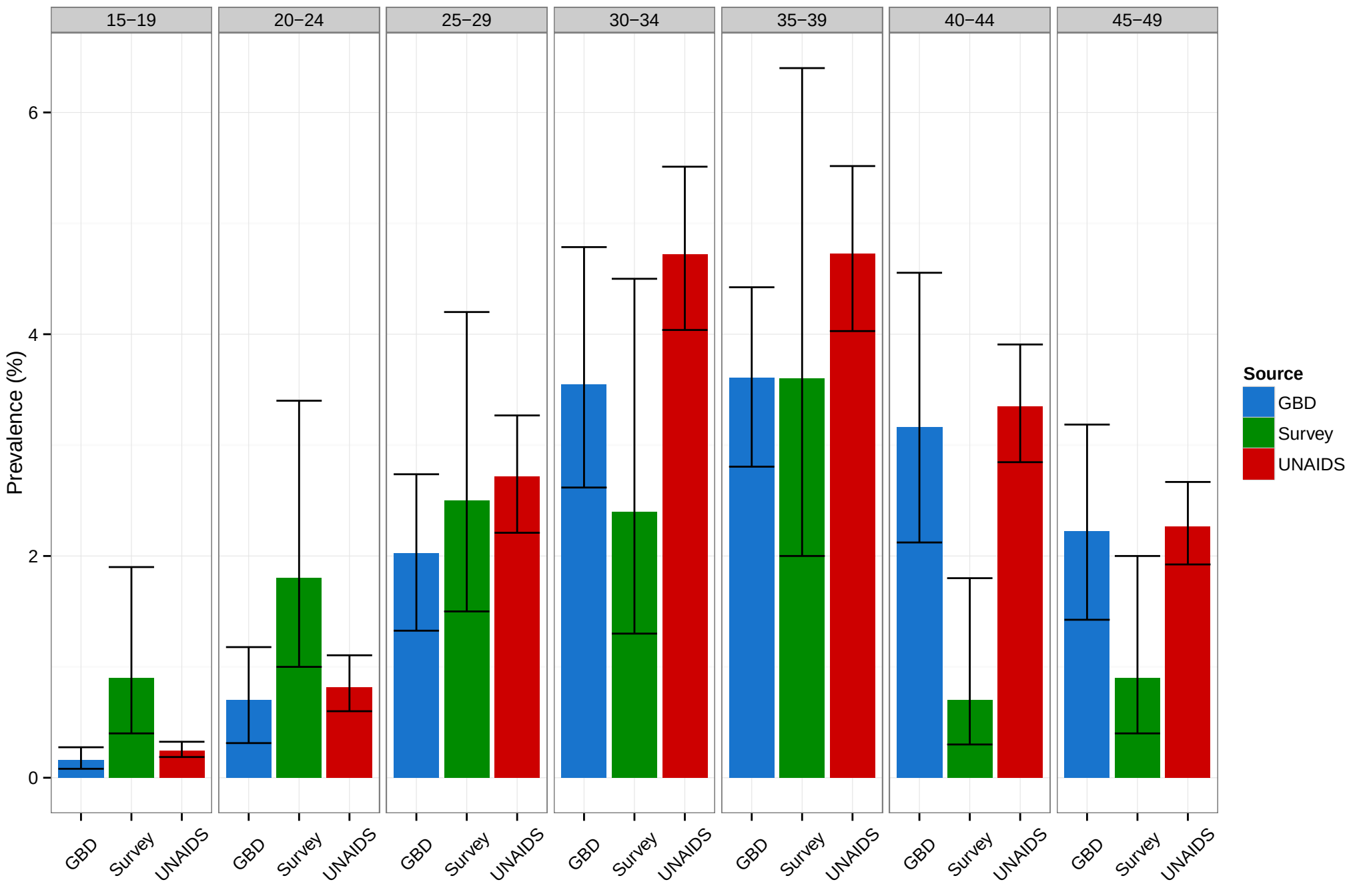

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BEN 2006 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

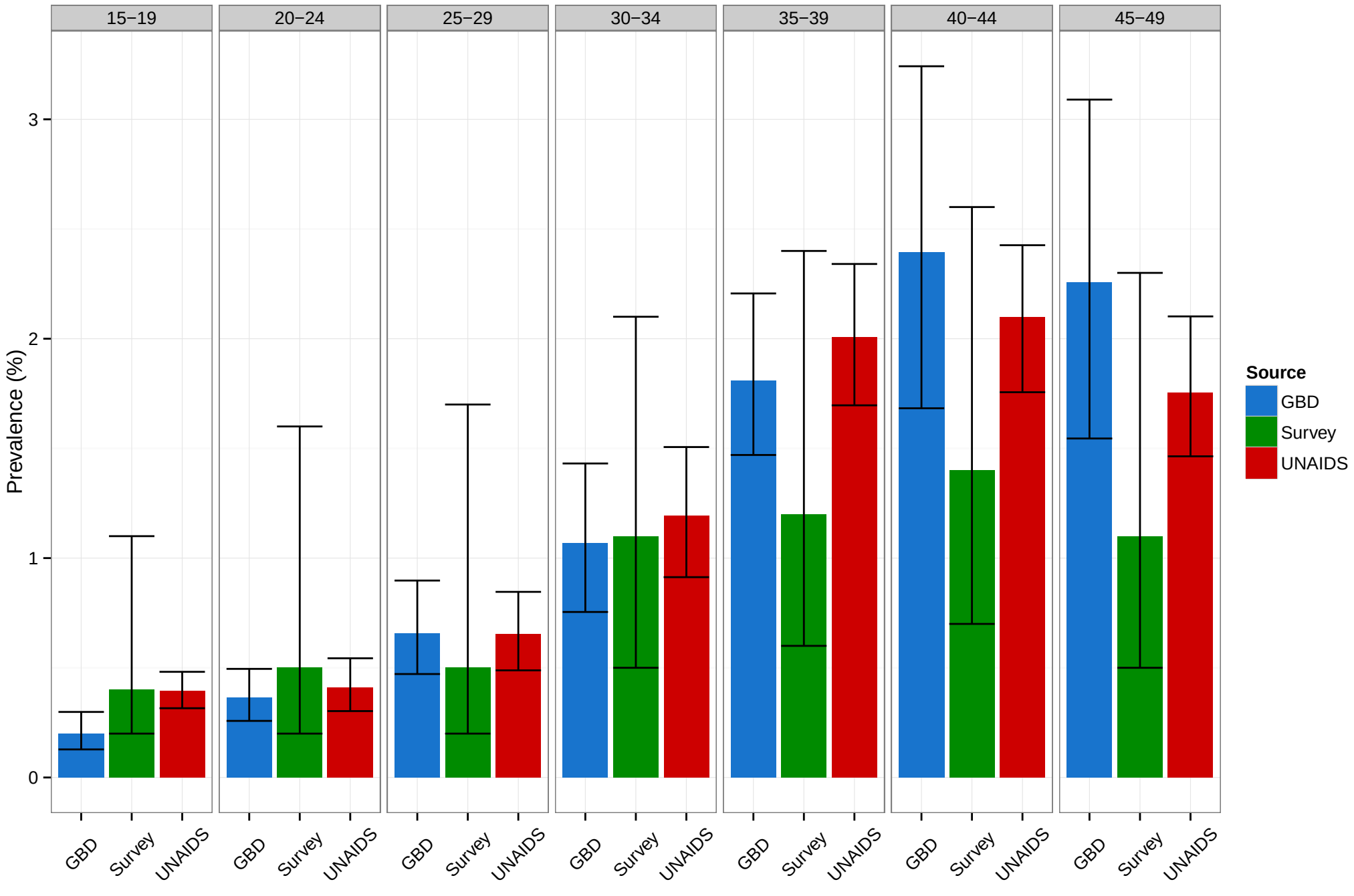

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BEN 2006 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

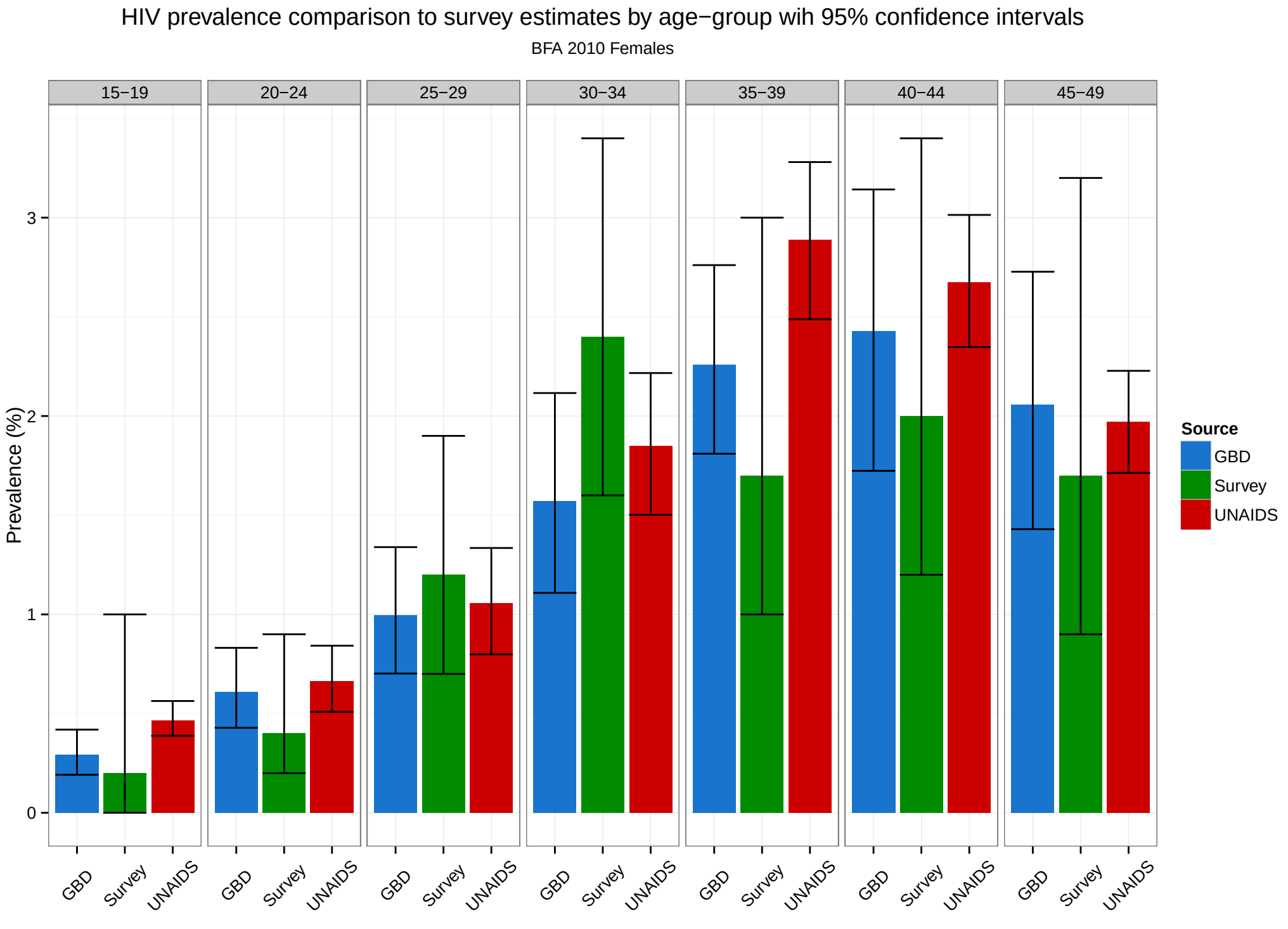

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BEN 2011−2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

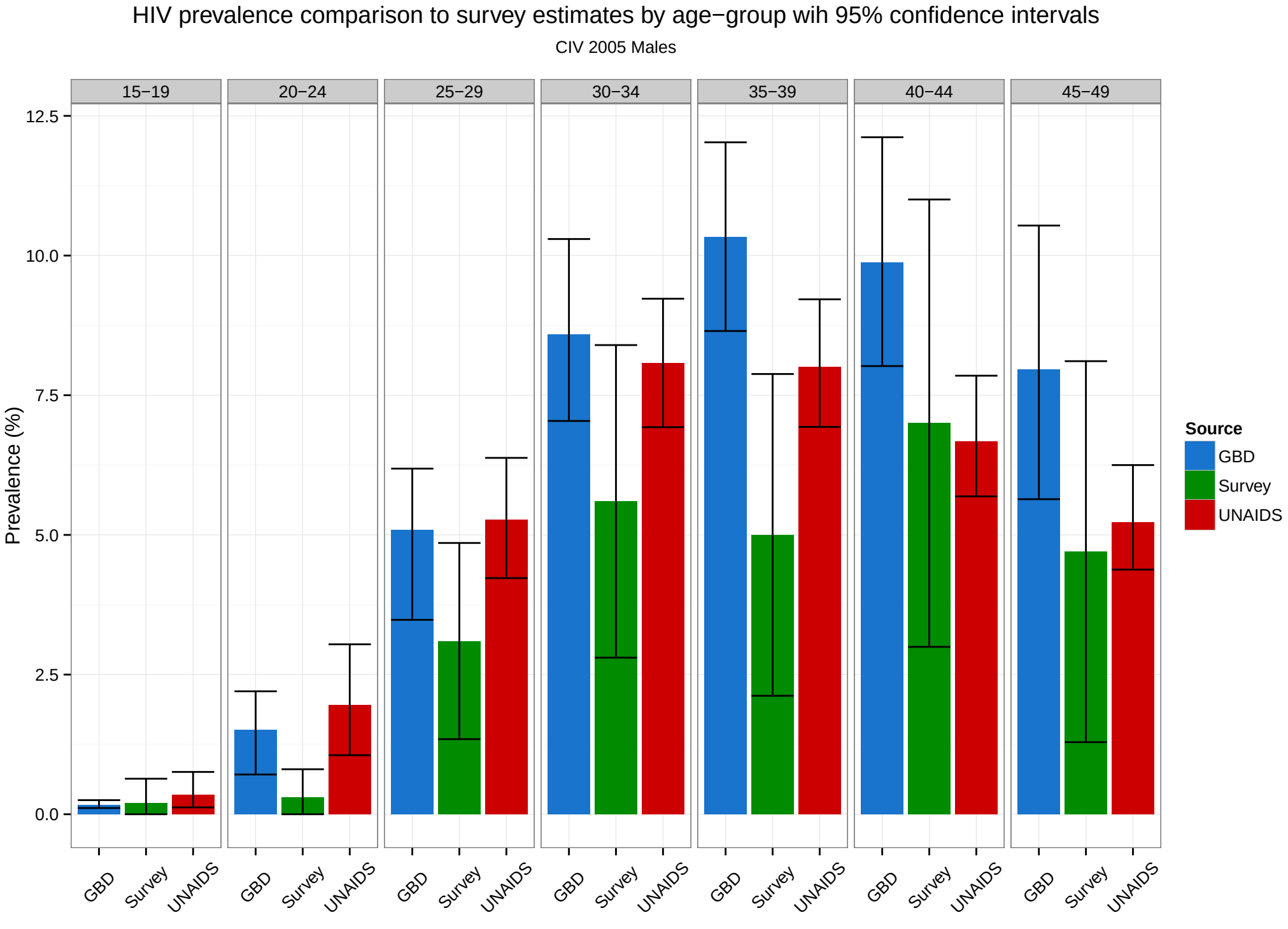

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BEN 2011−2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

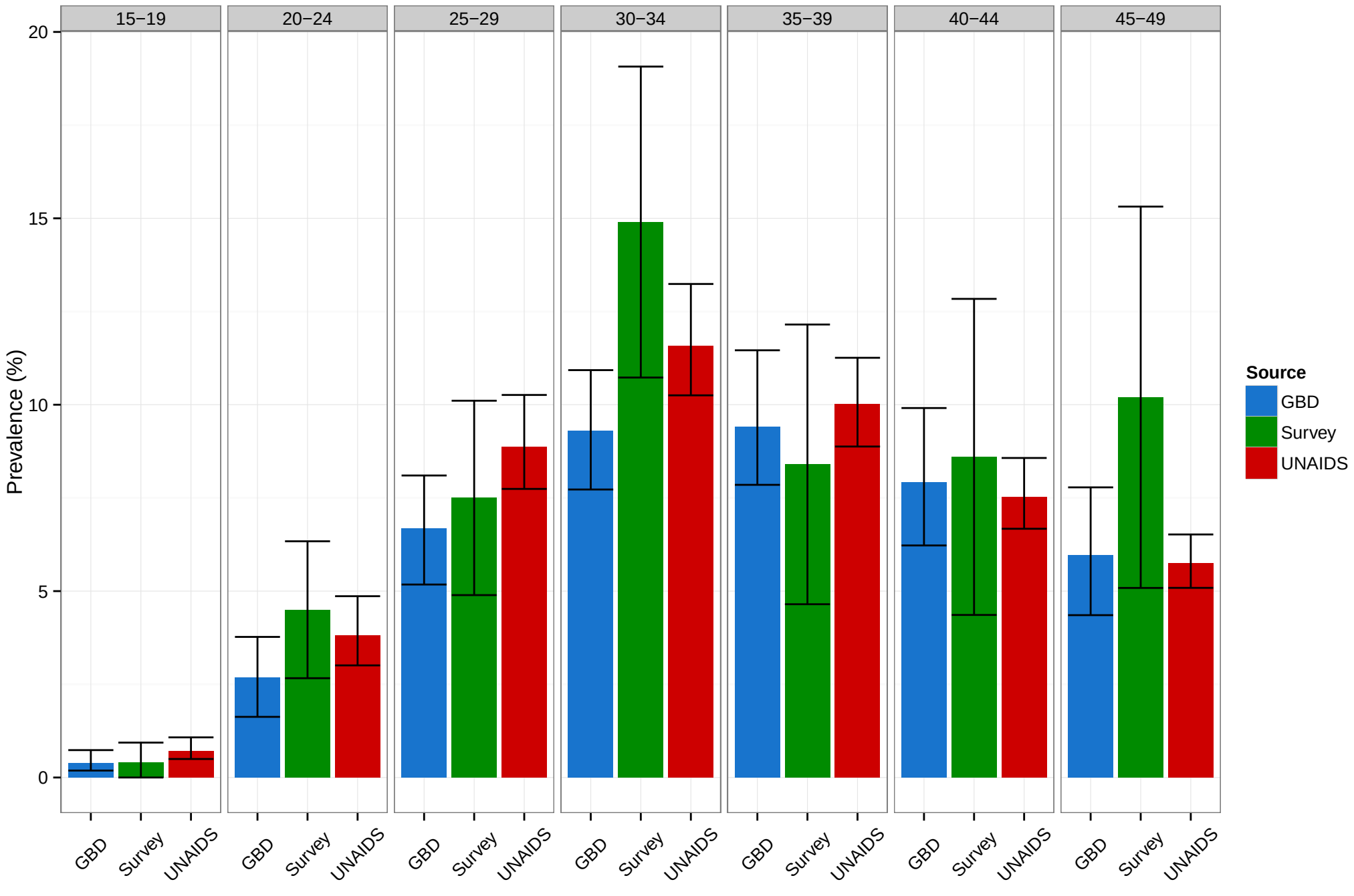

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BFA 2003 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
8
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

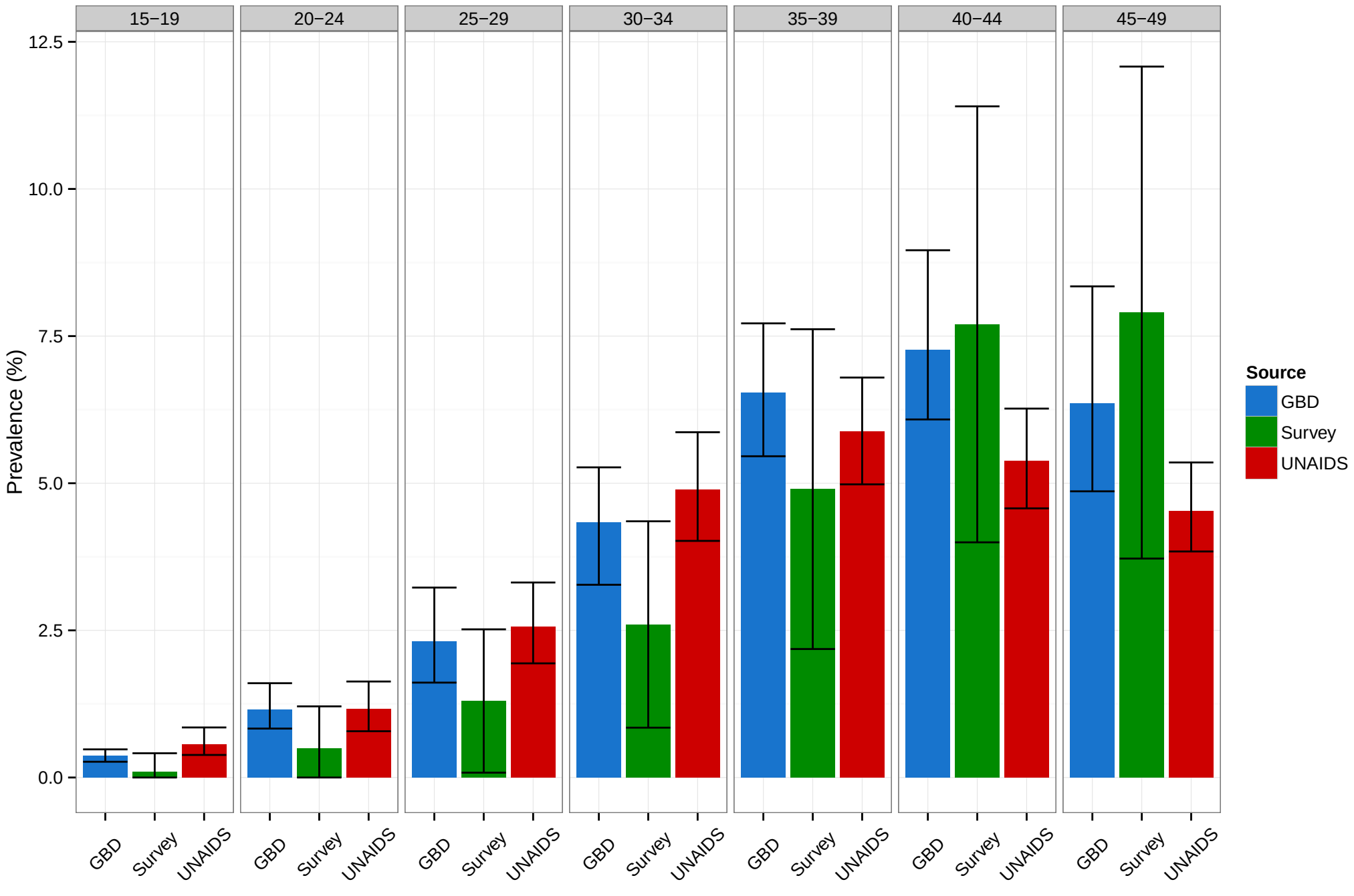

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BFA 2003 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

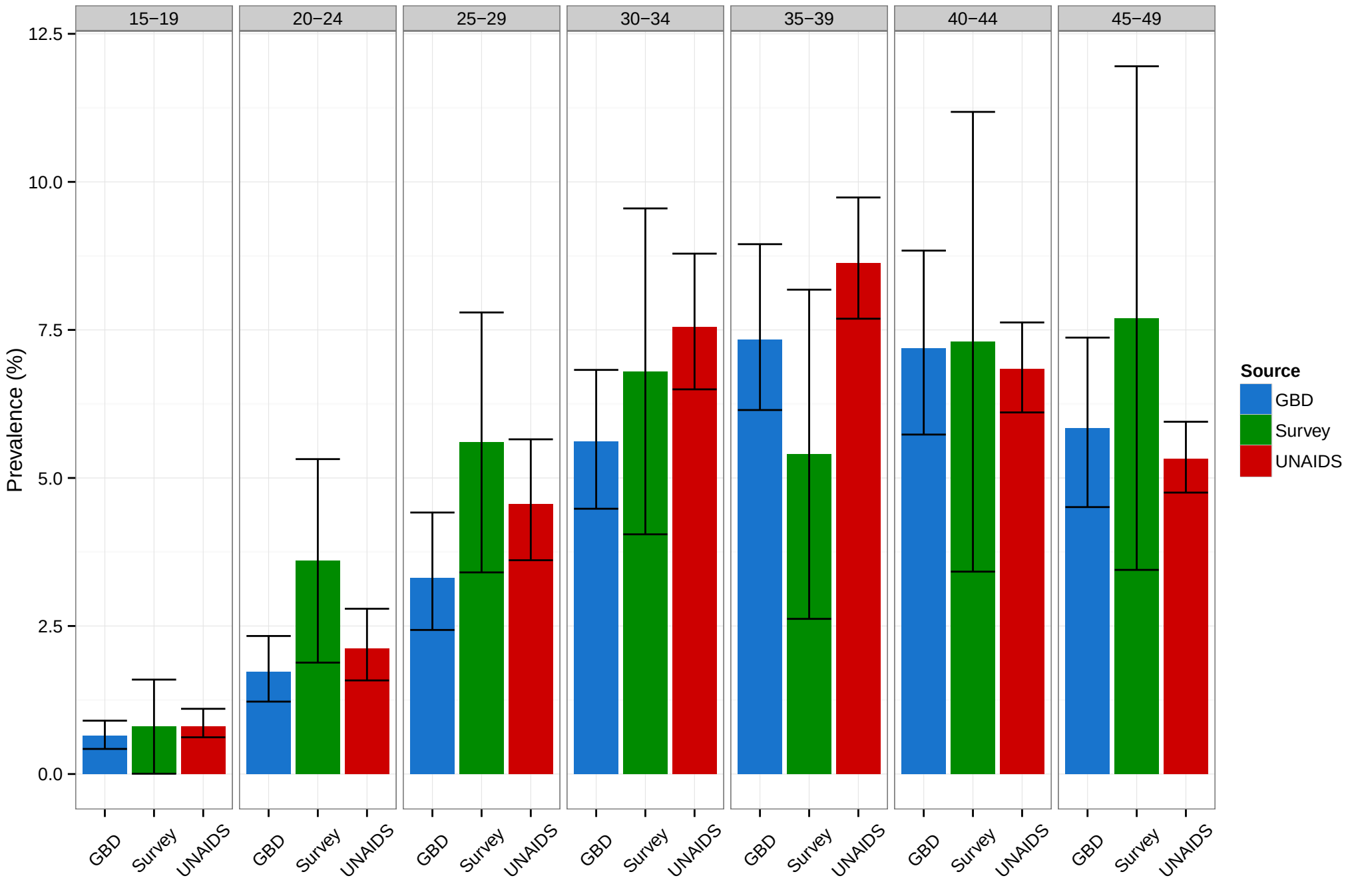

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BFA 2010 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

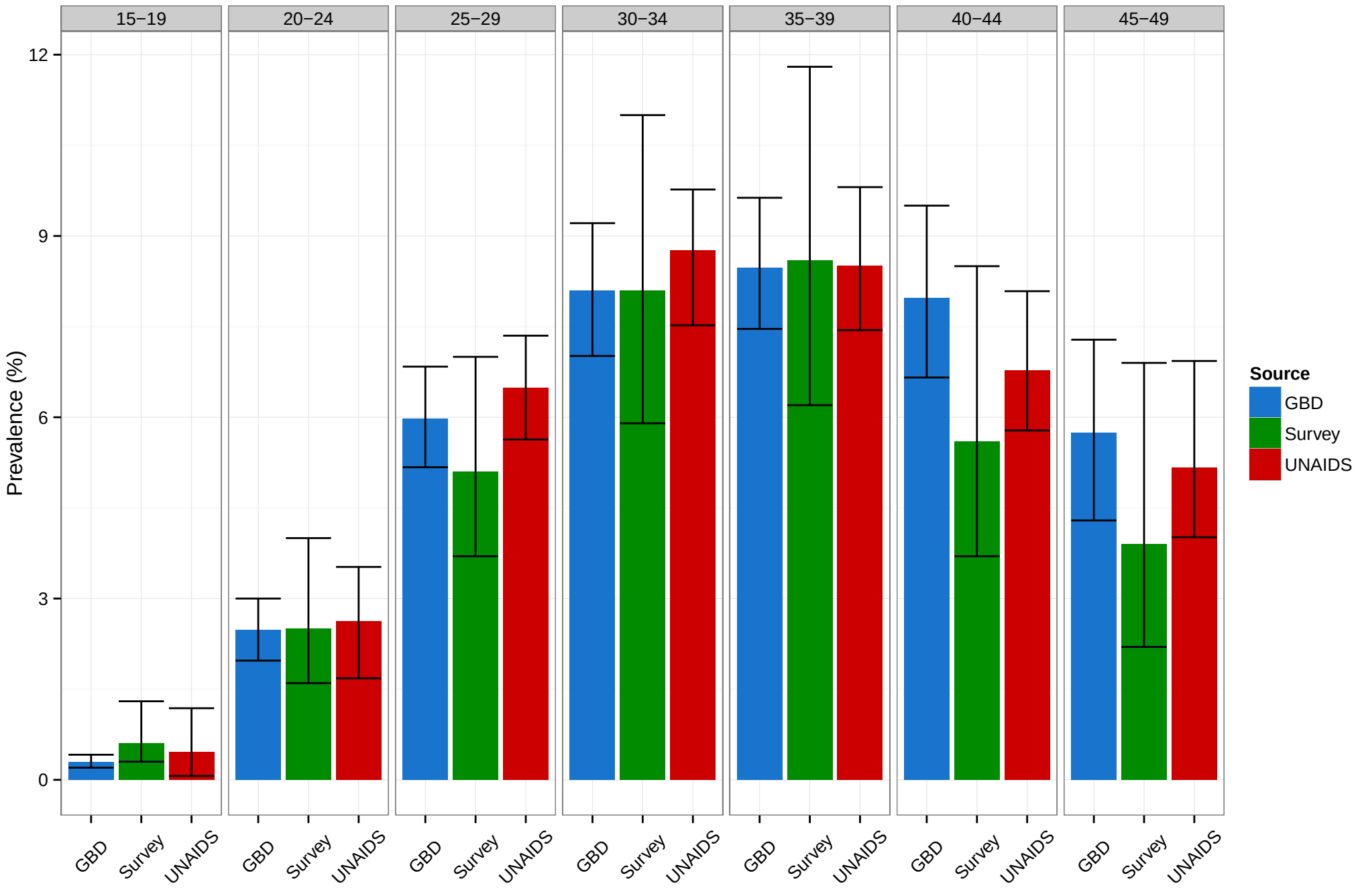

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
BFA 2010 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

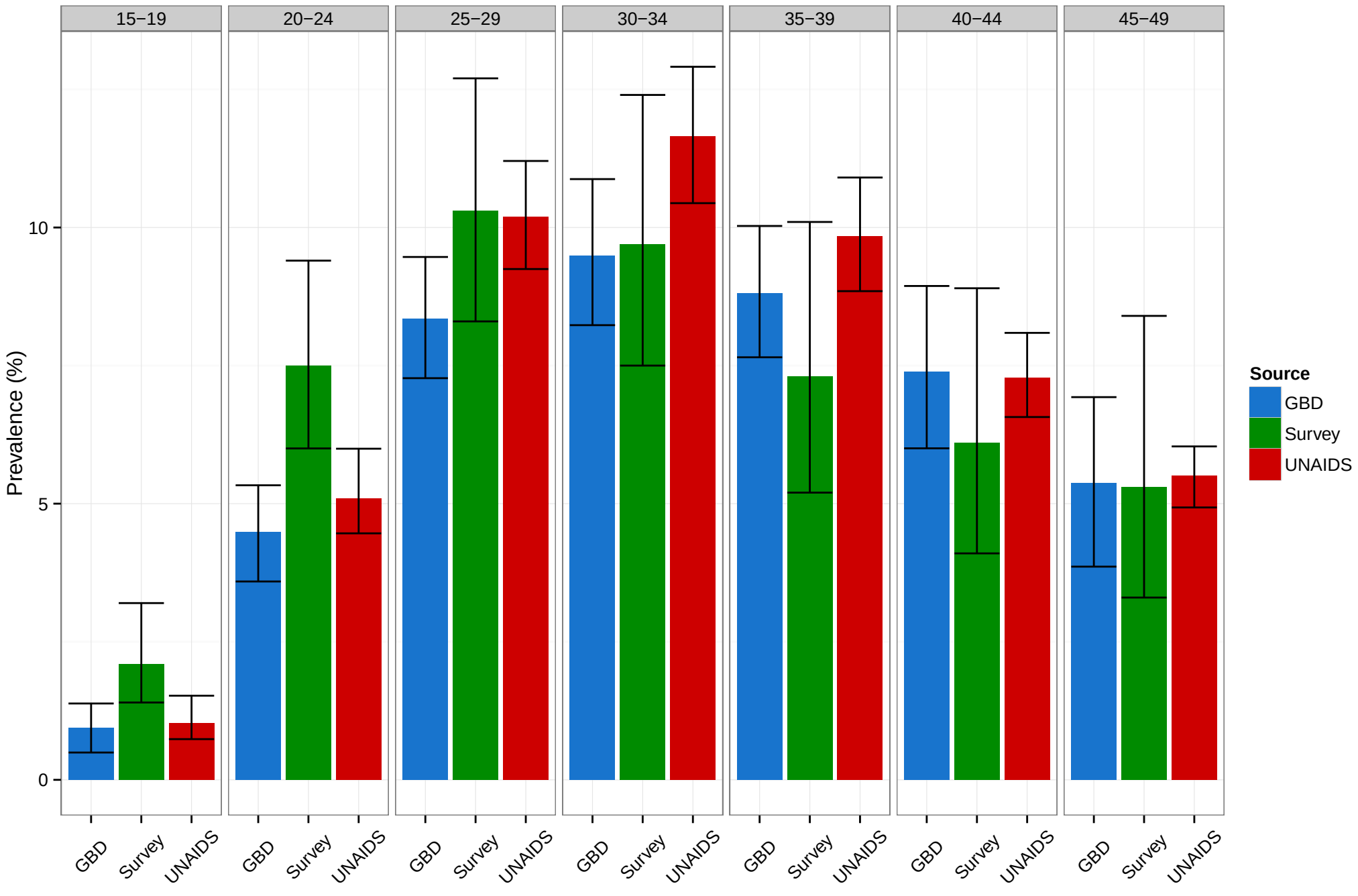

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CIV 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
12.5
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

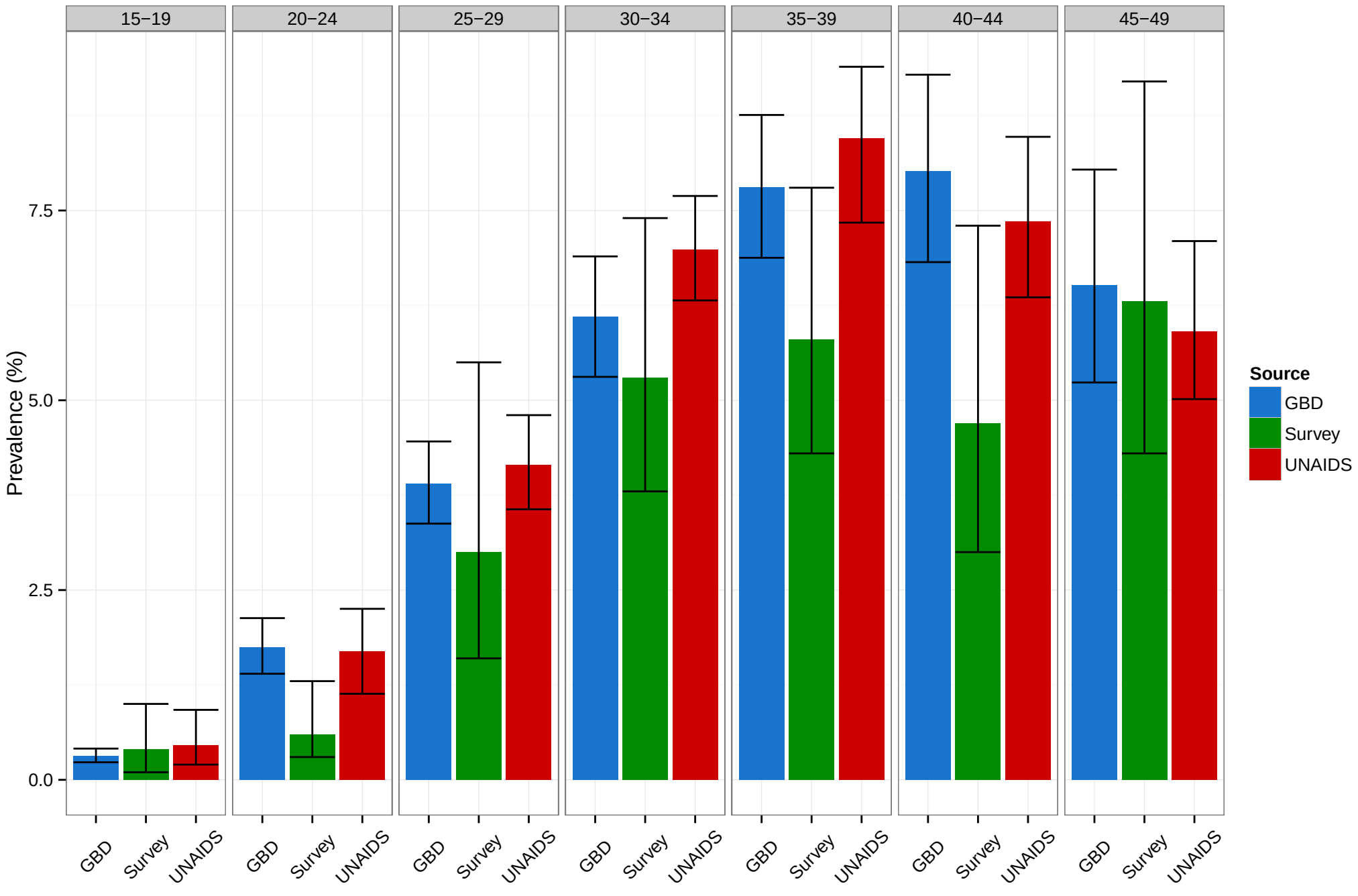

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CIV 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
20
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

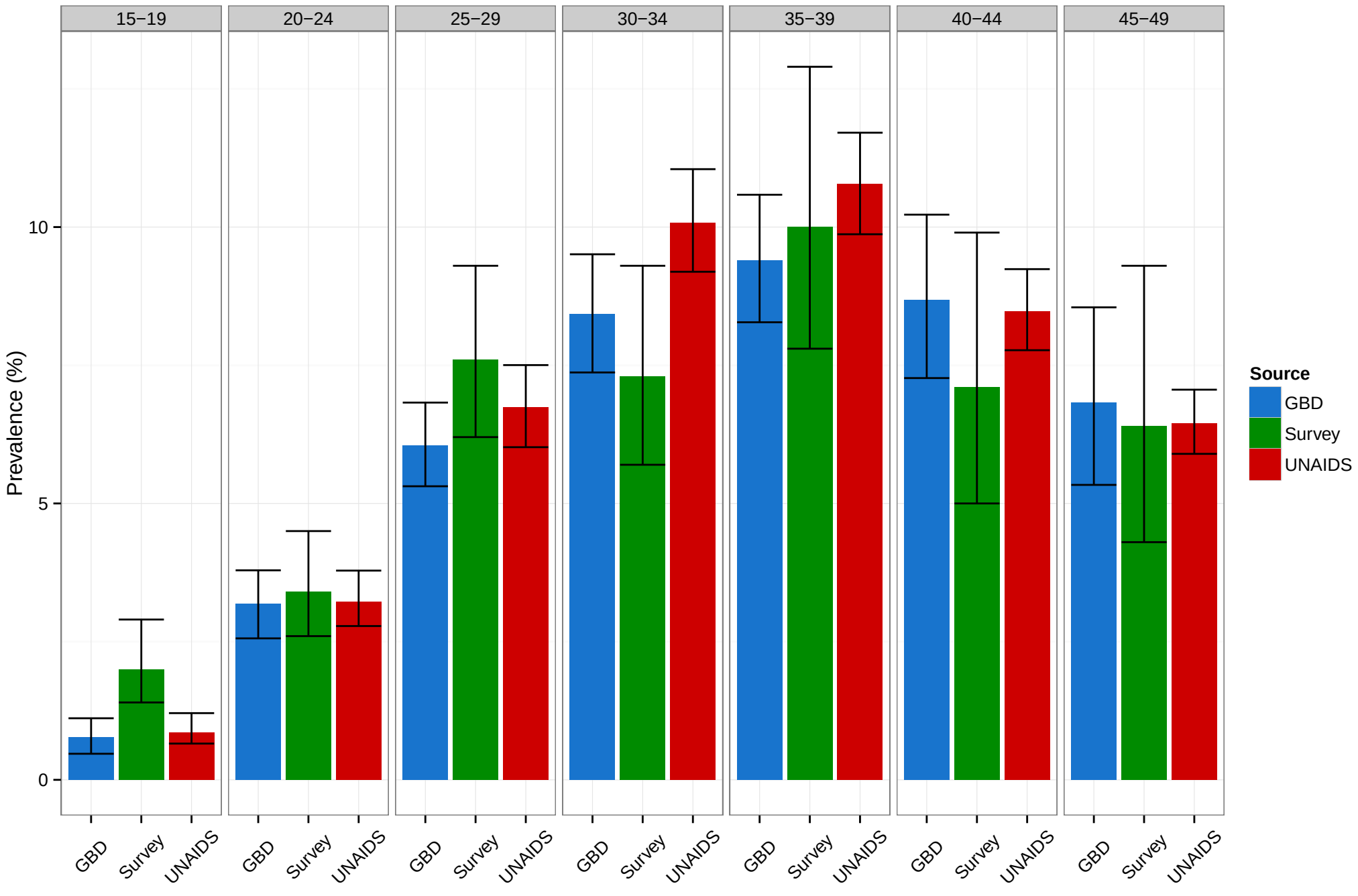

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CIV 2011−2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
12.5
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

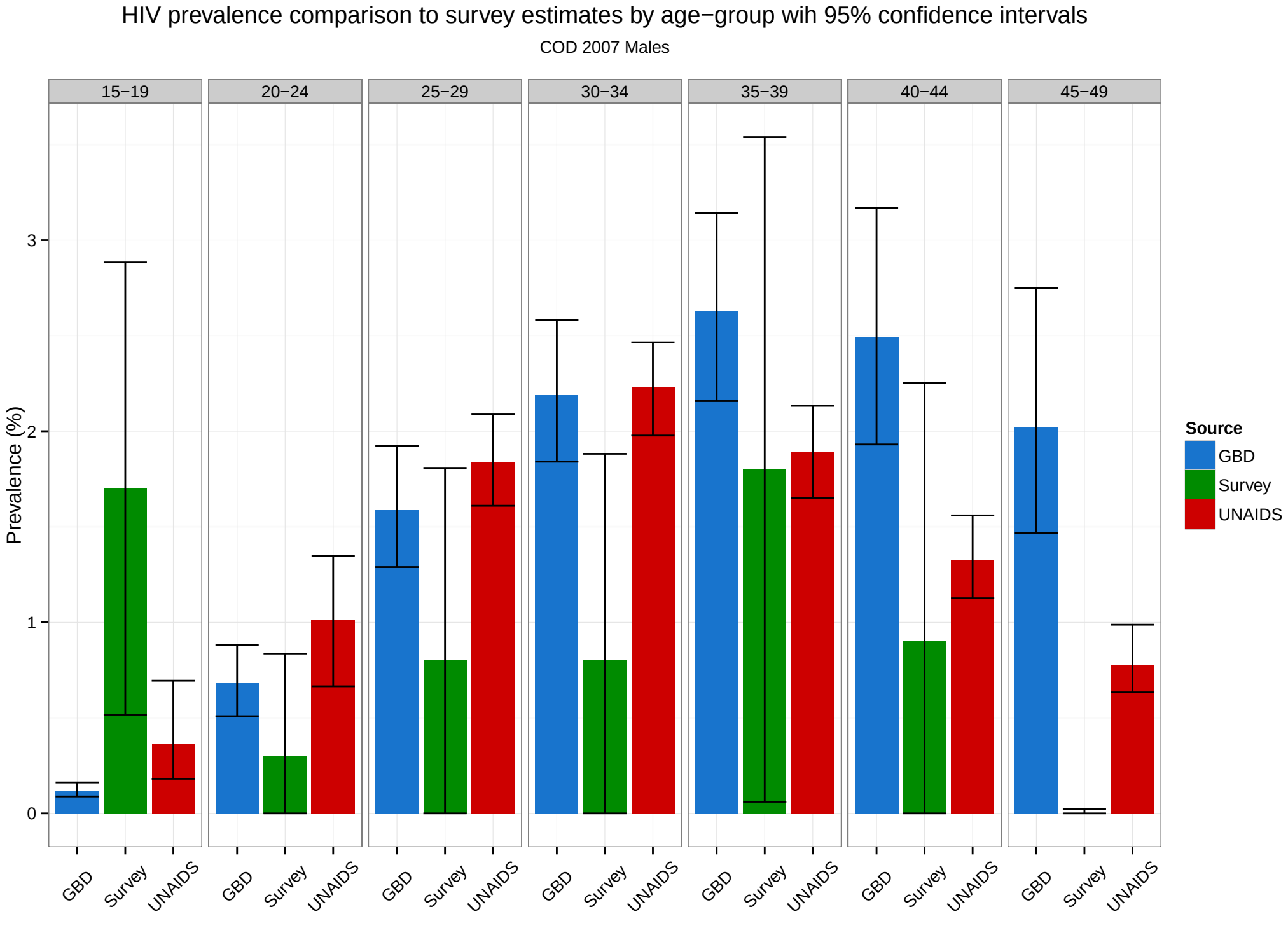

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CIV 2011−2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
12.5
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

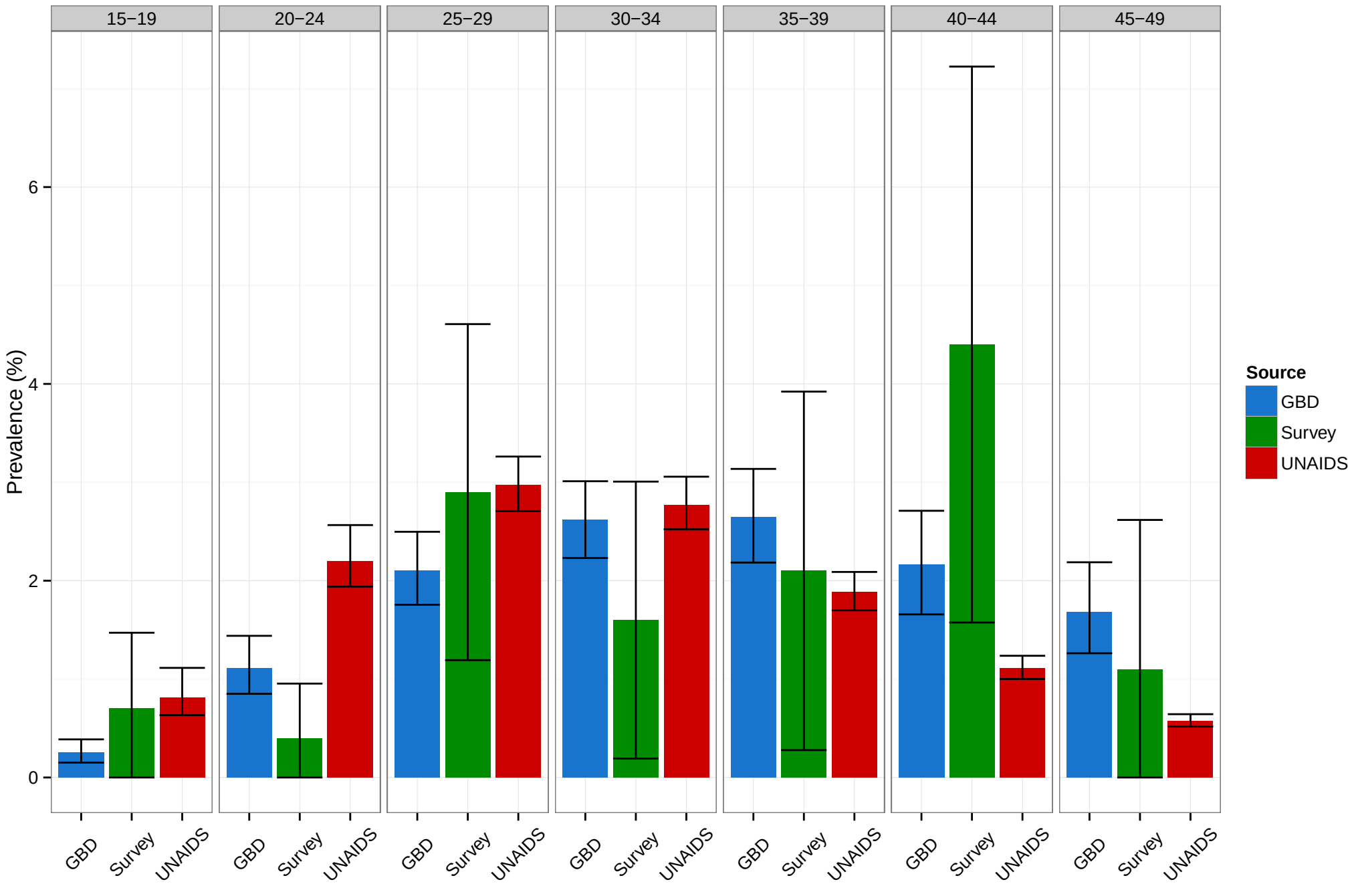

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CMR 2004 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
3
6
9
12
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

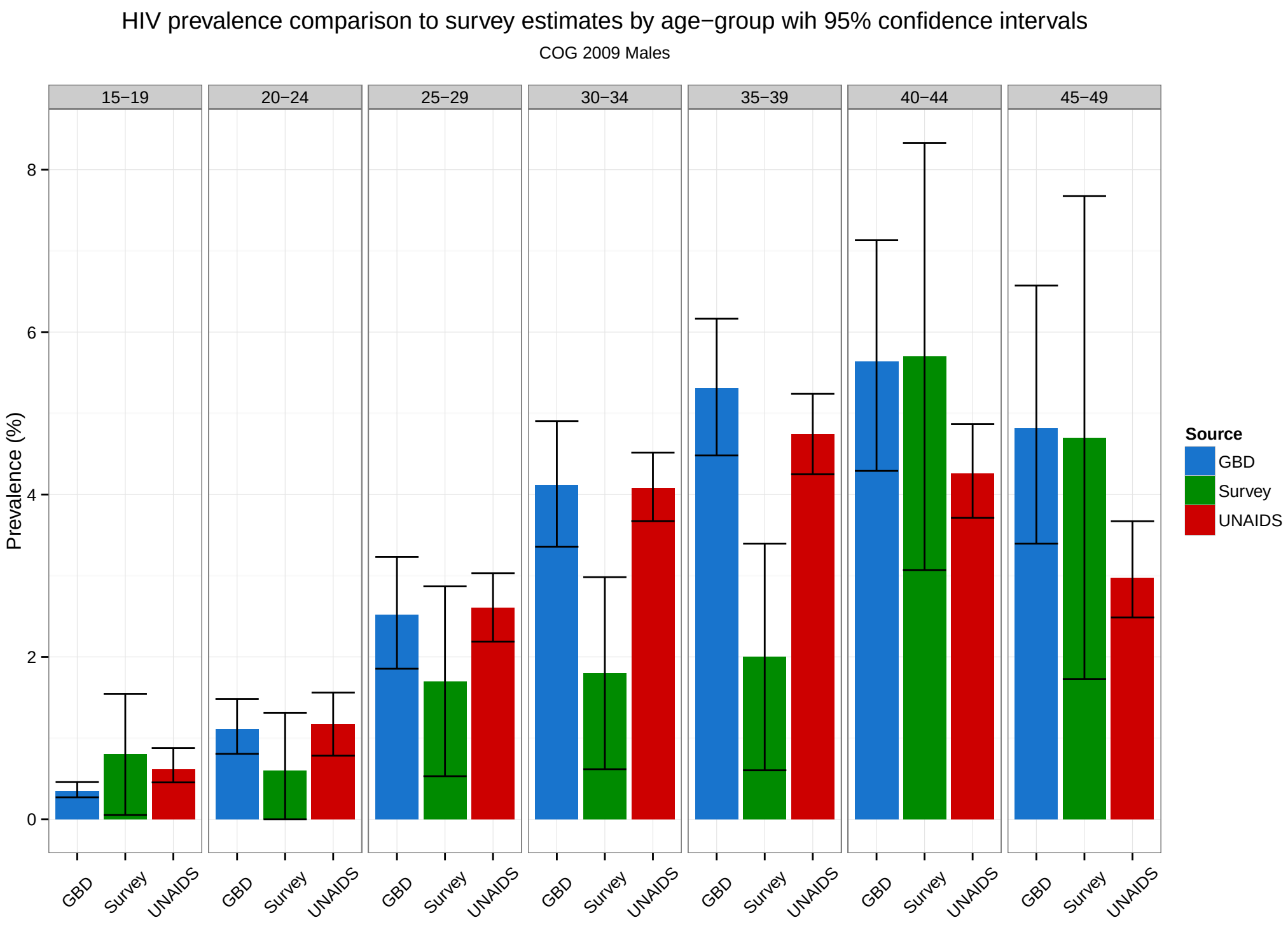

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CMR 2004 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

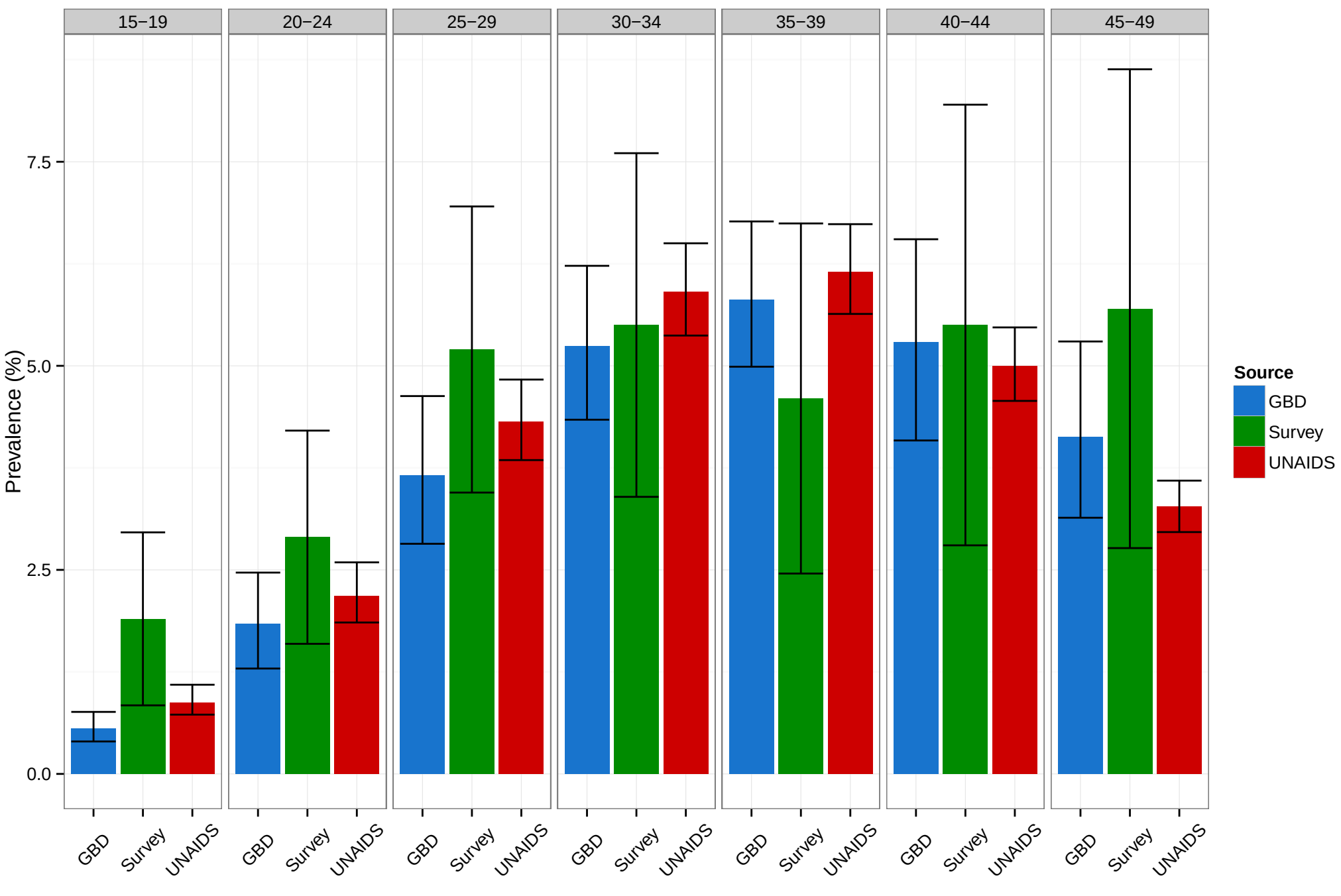

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CMR 2011 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0.0
2.5
5.0
7.5
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

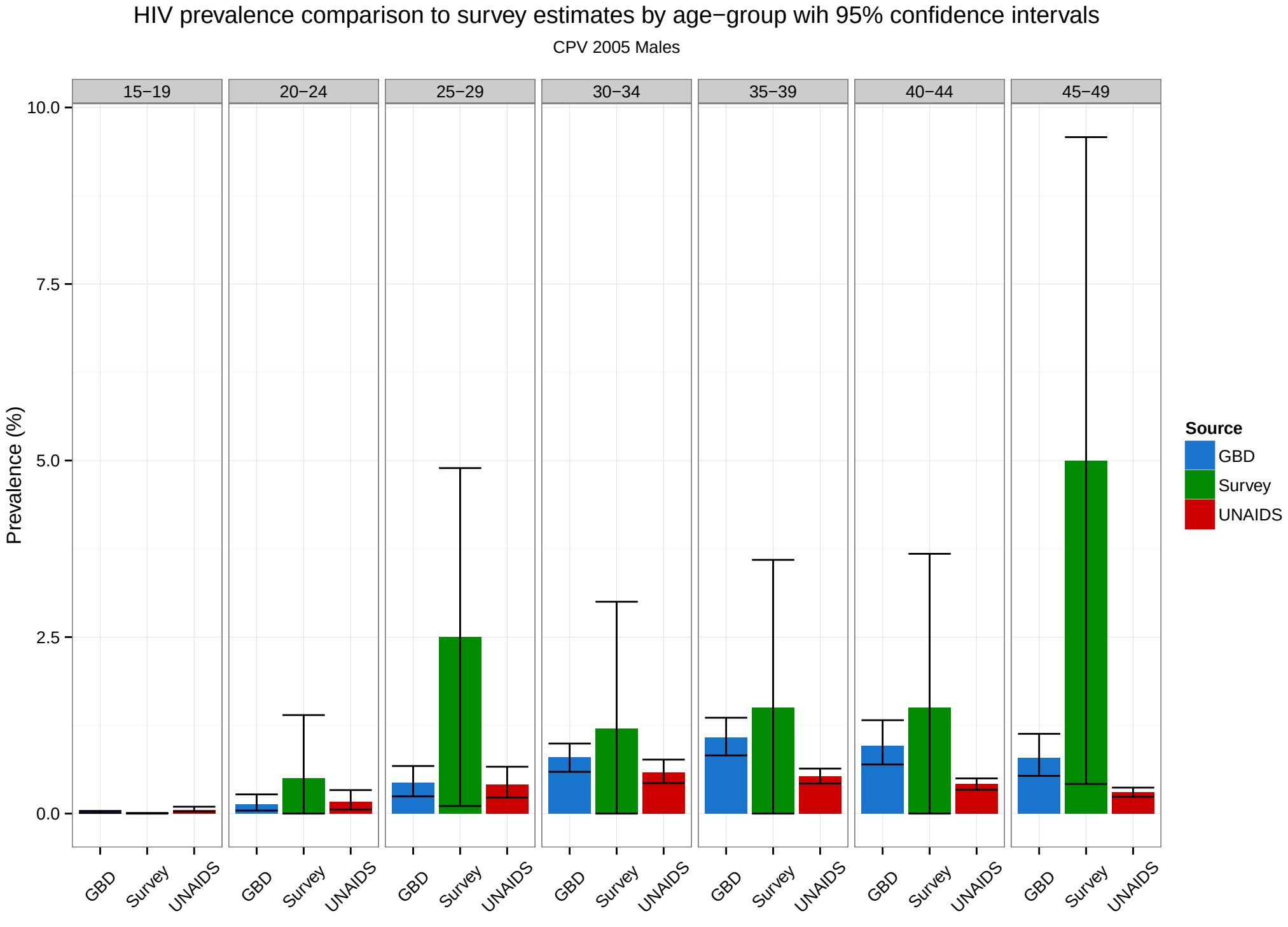

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CMR 2011 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

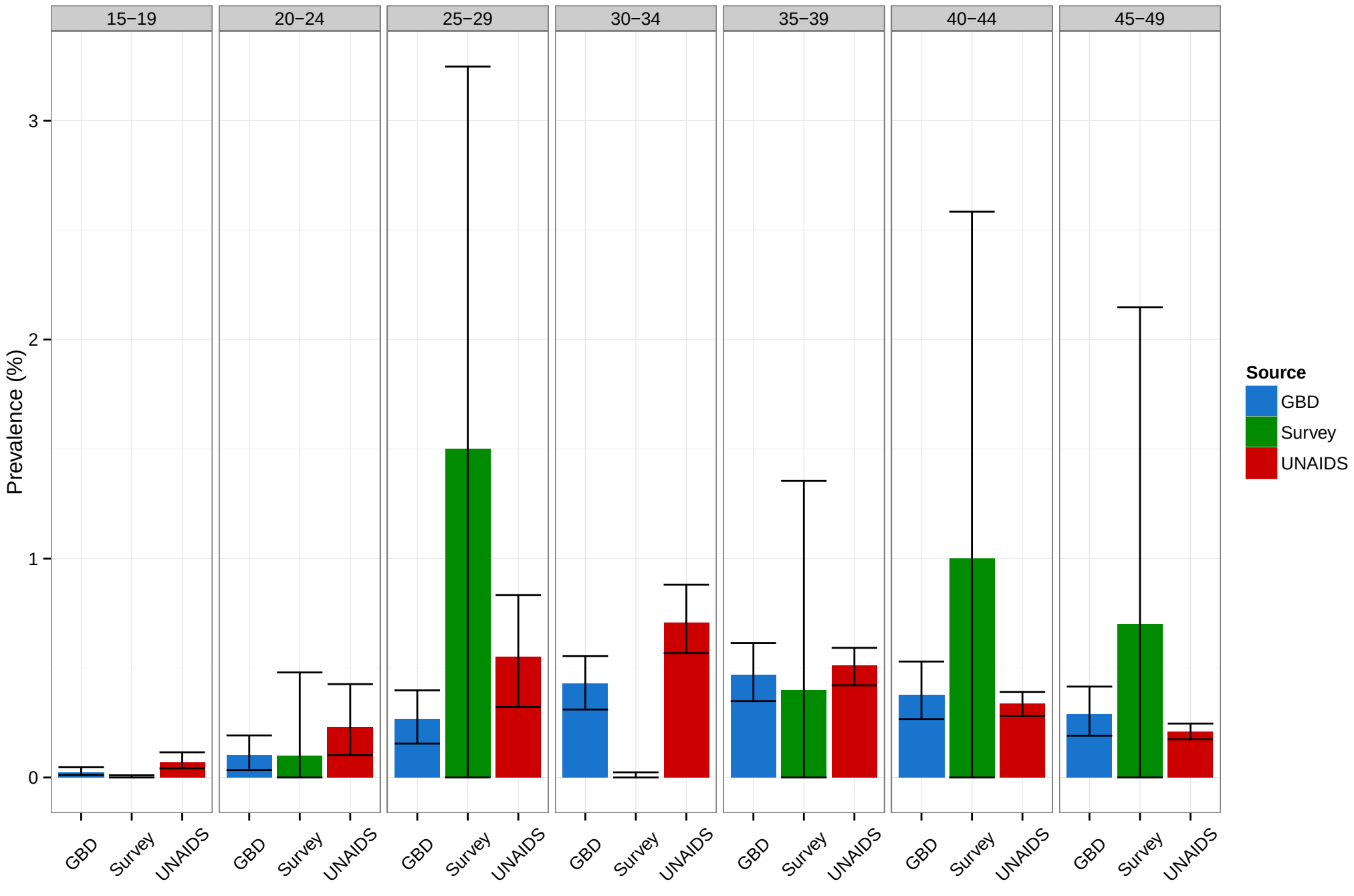

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
COD 2007 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
COD 2007 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
COG 2009 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
8
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
COG 2009 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0.0
2.5
5.0
7.5
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CPV 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
CPV 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
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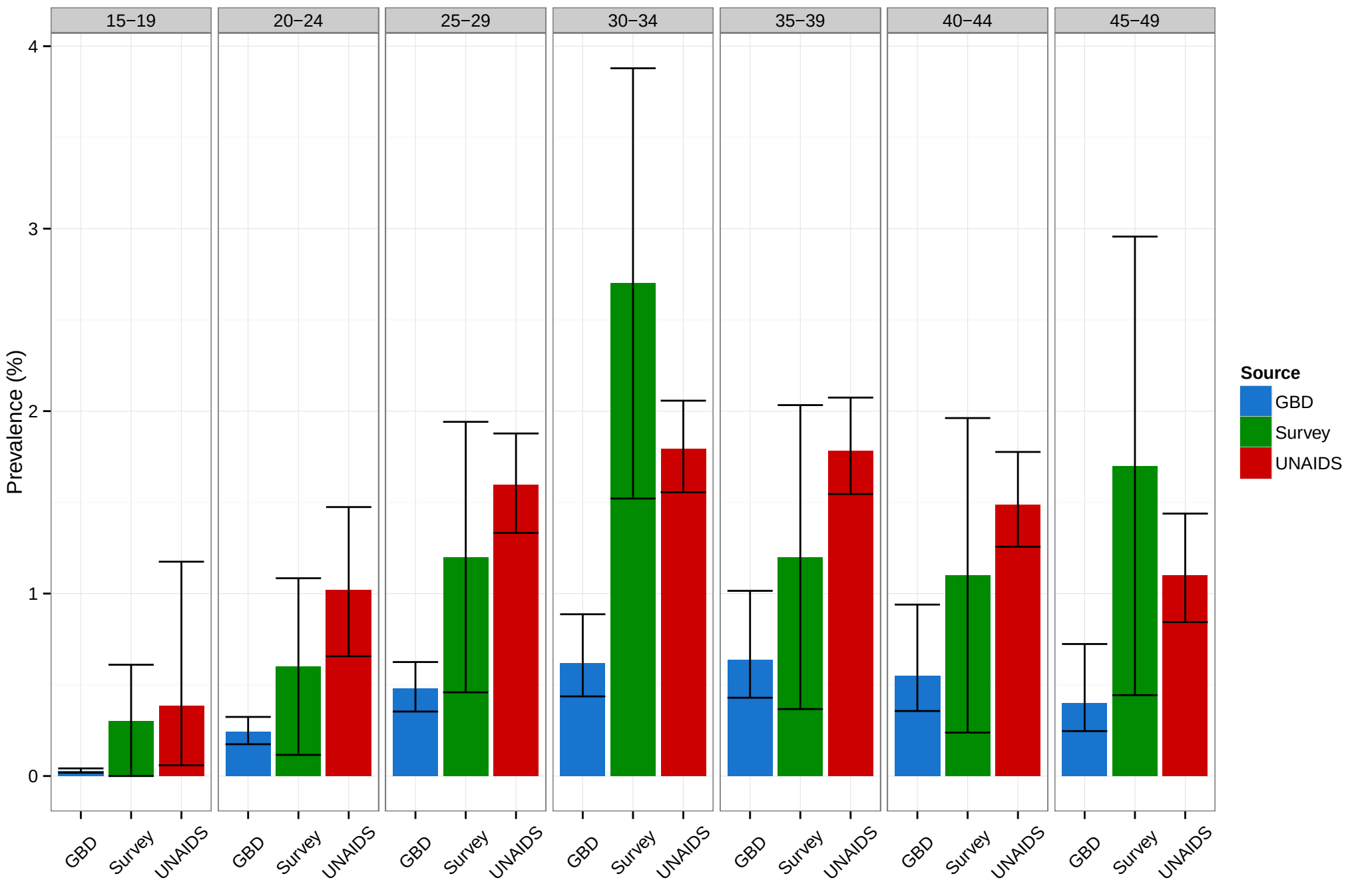
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
DOM 2002 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
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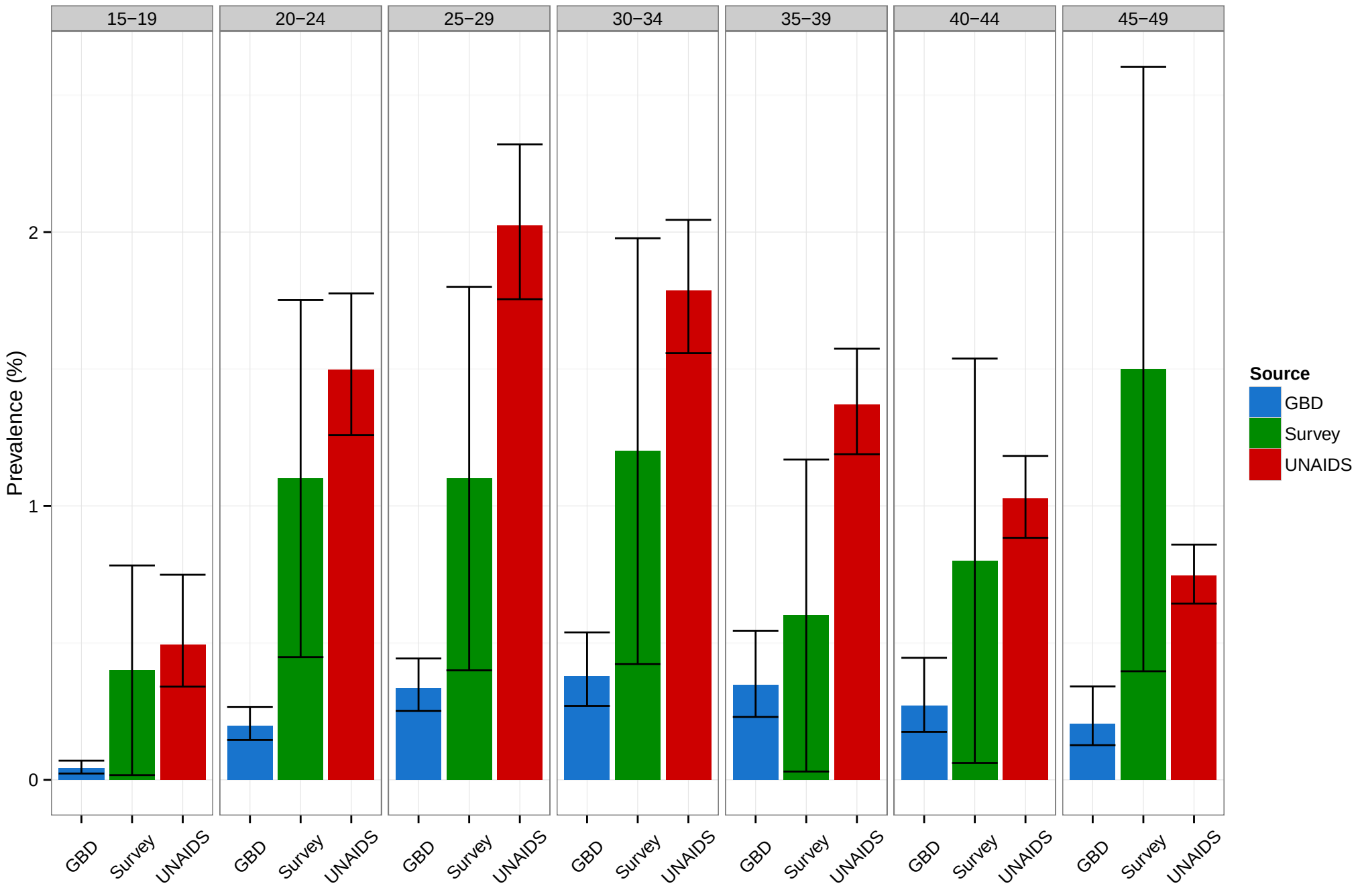
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
DOM 2002 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
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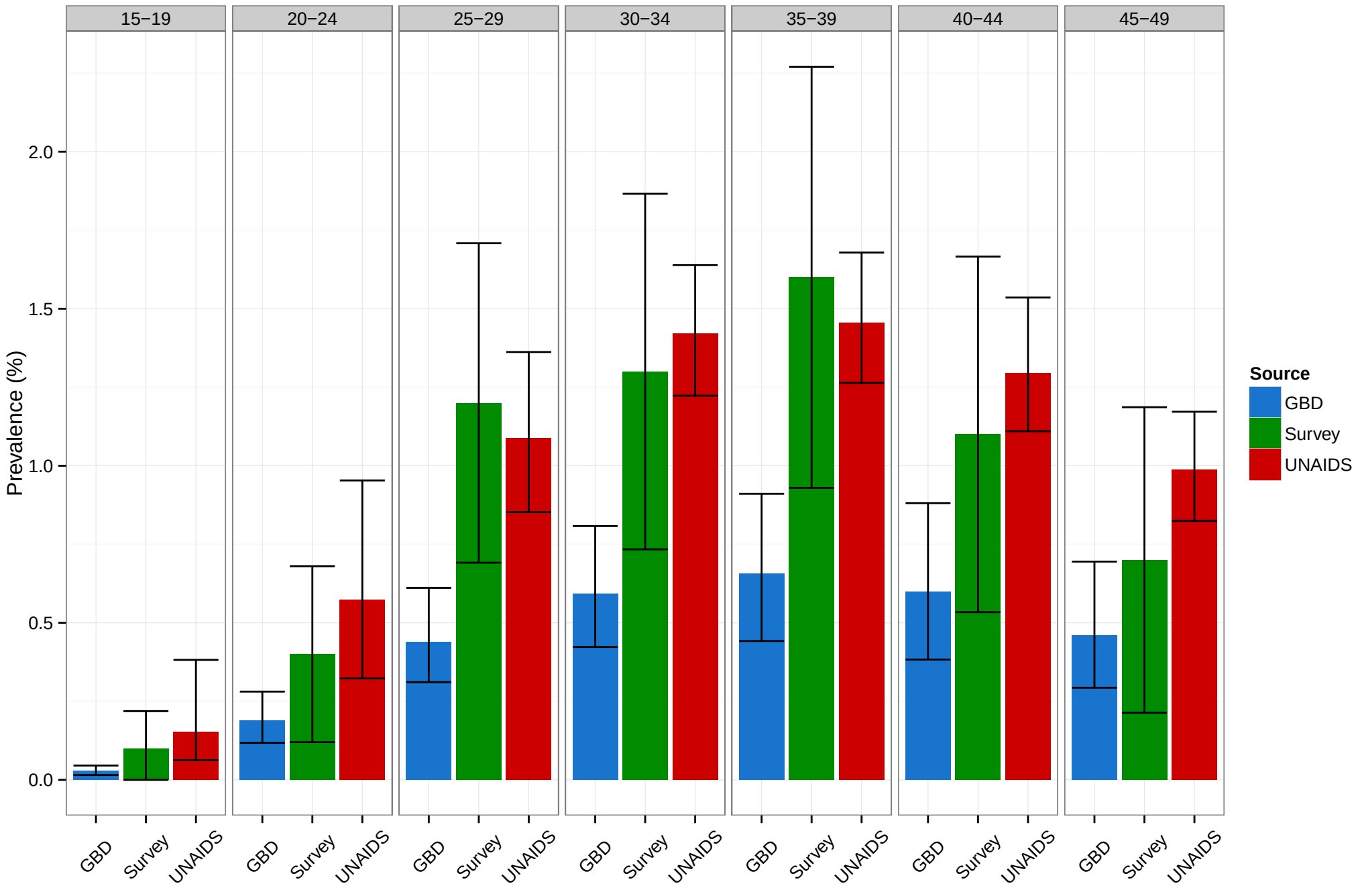
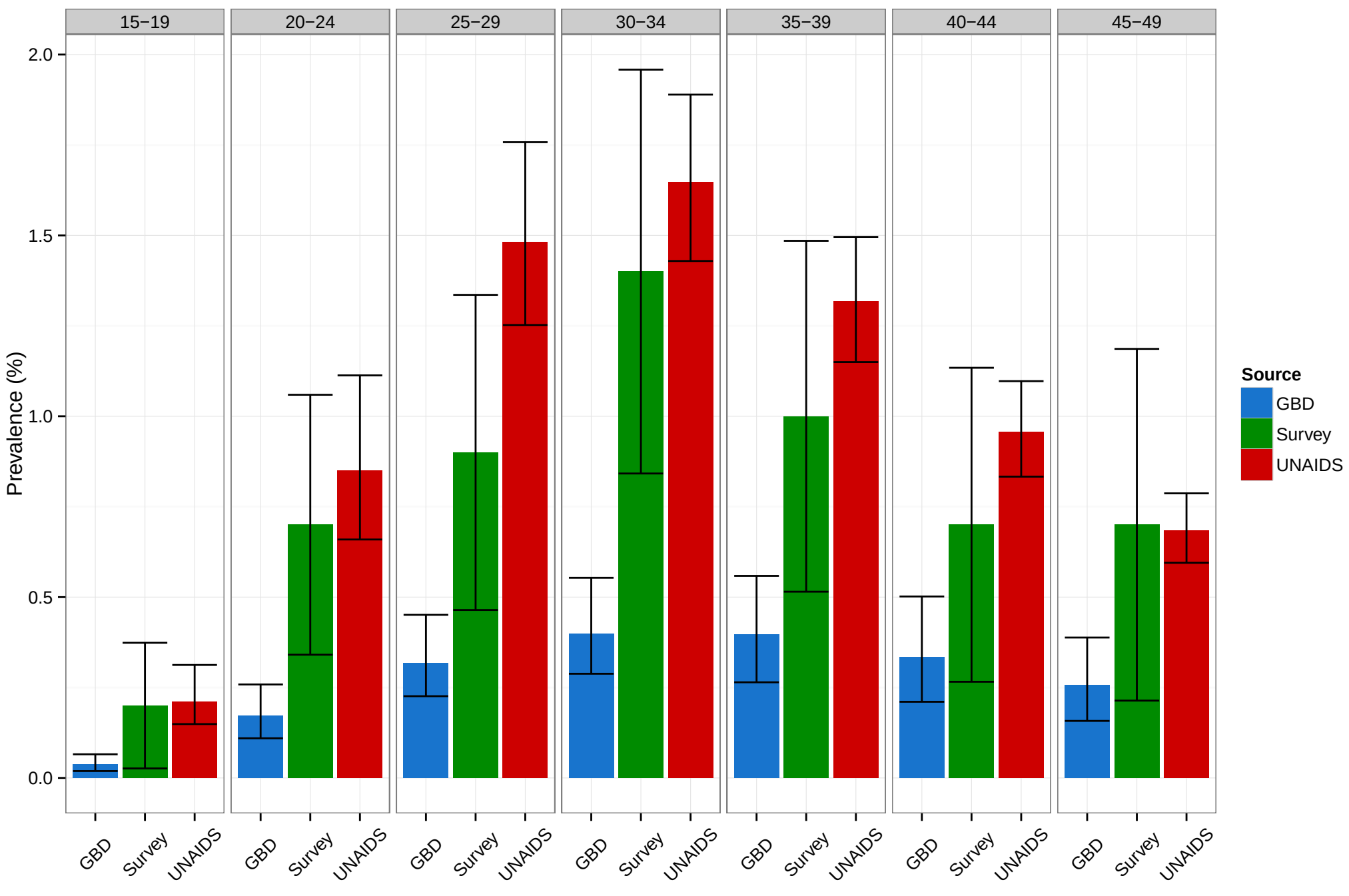
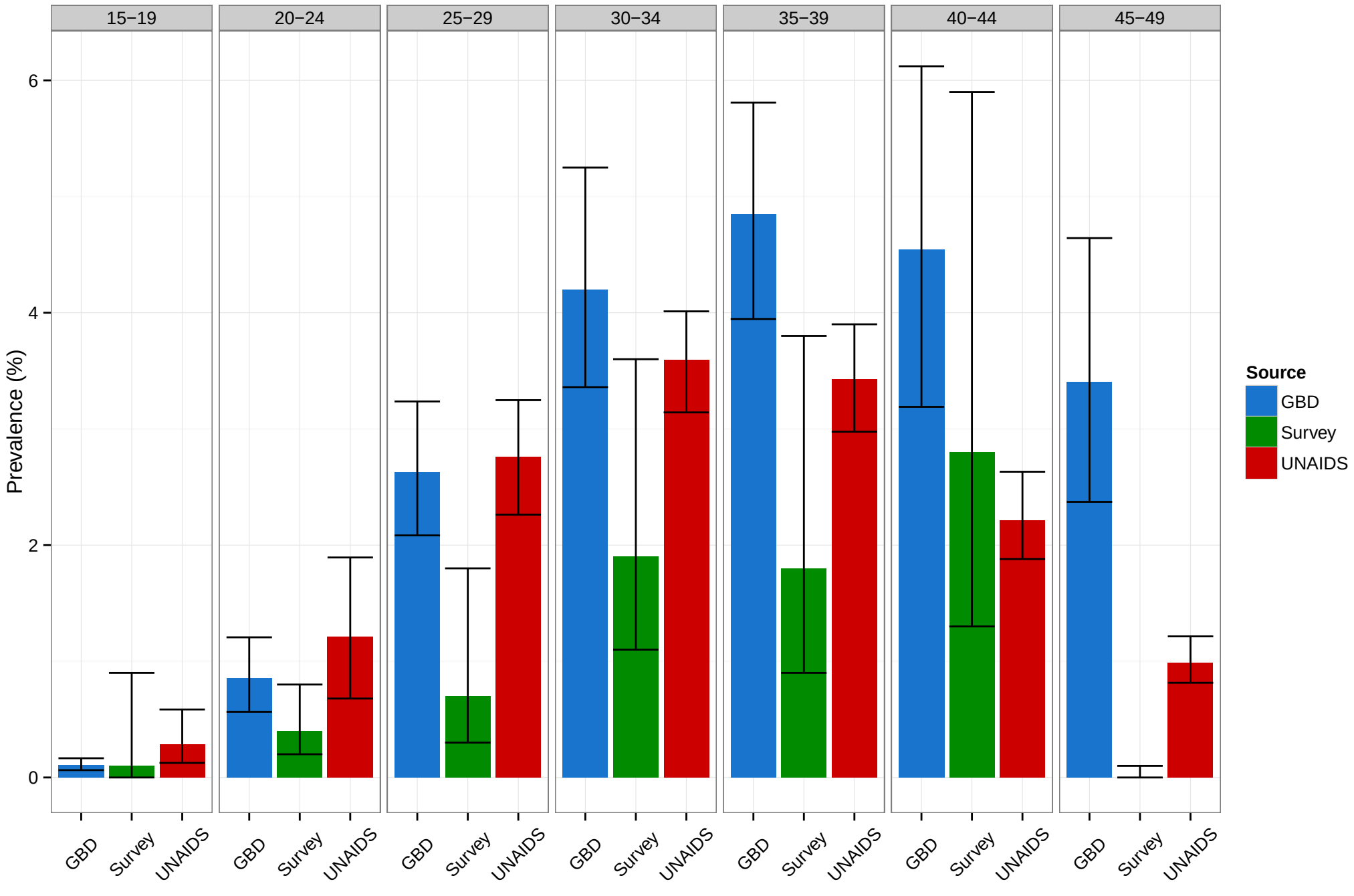
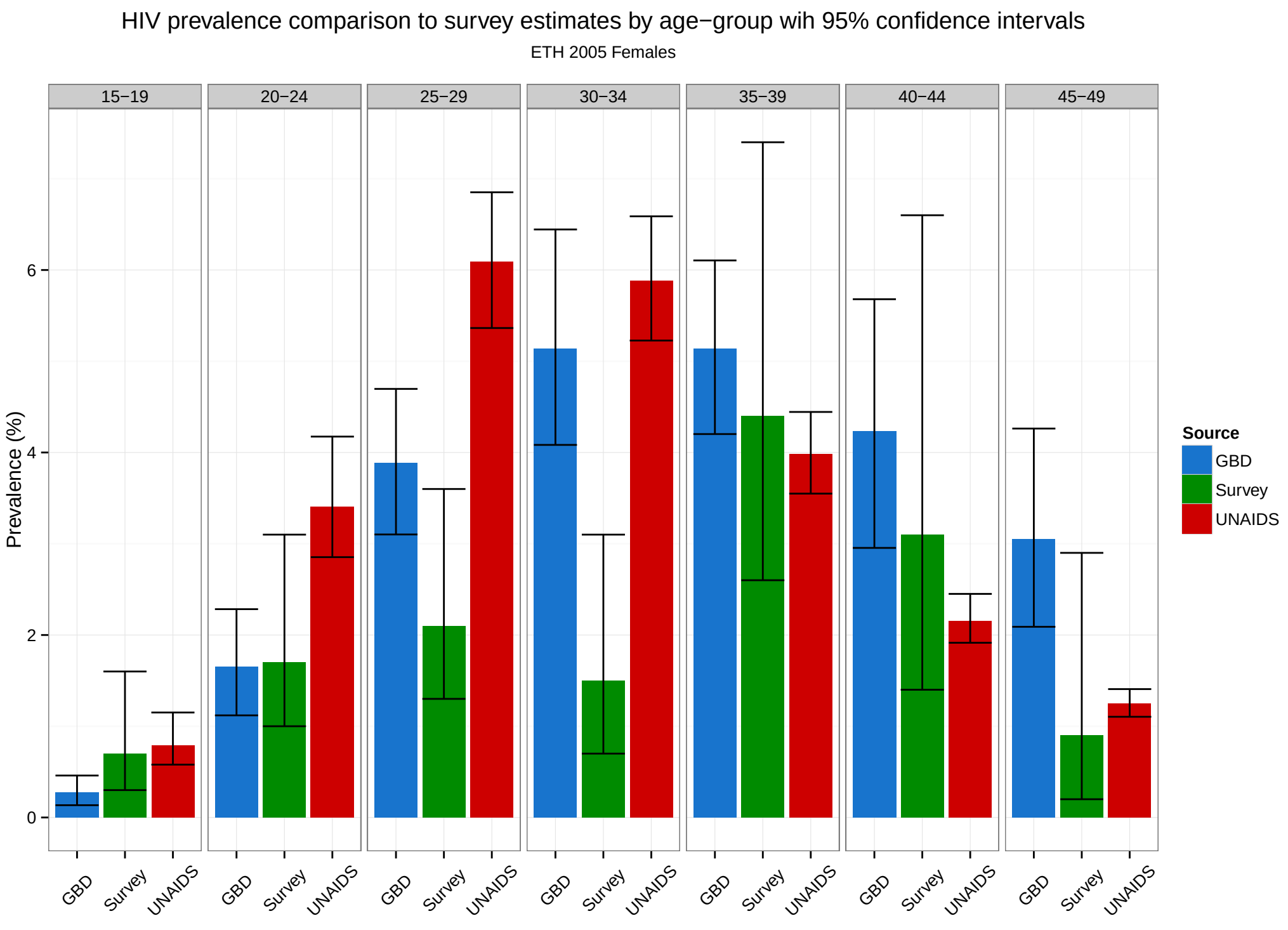
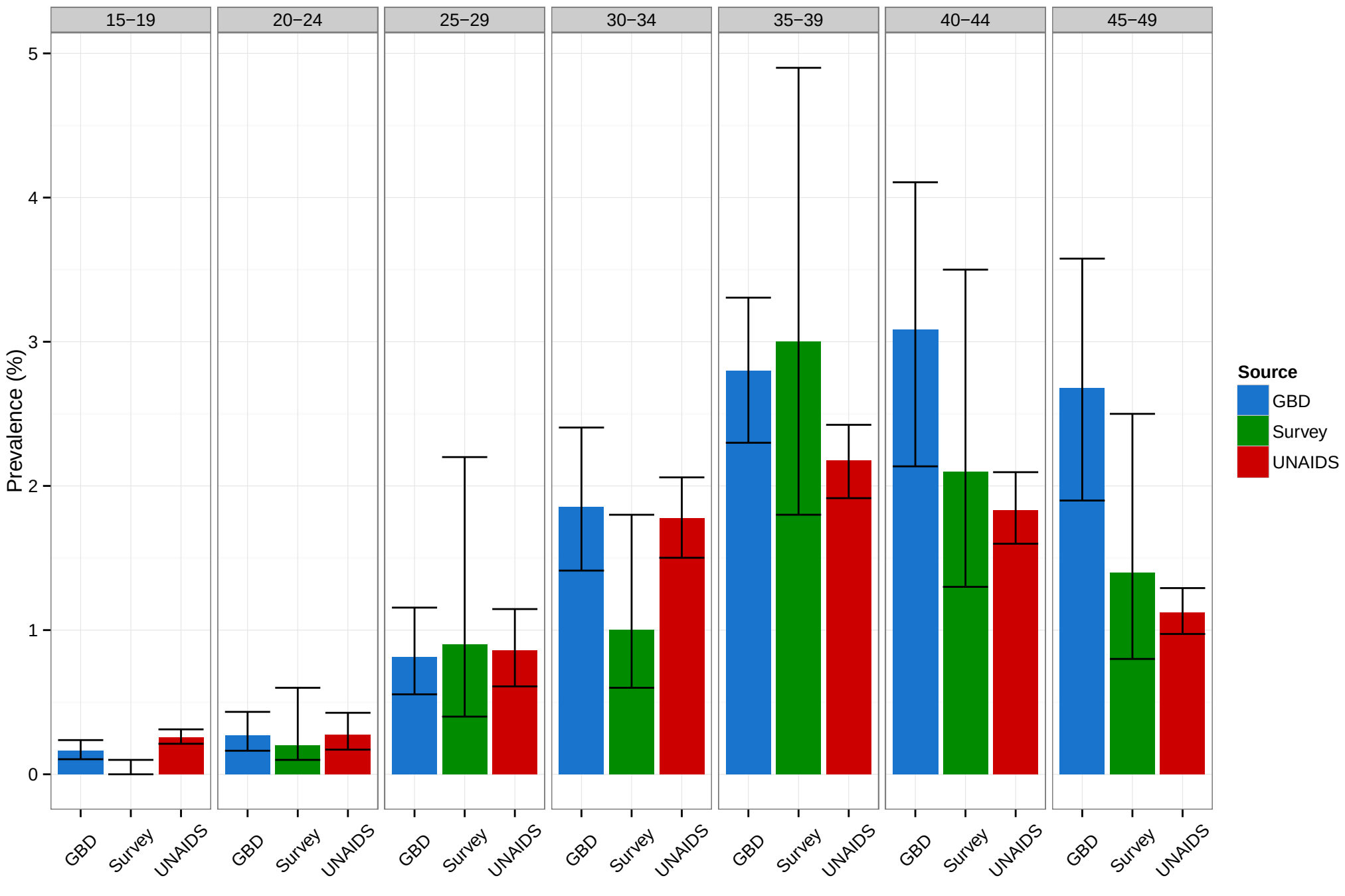
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

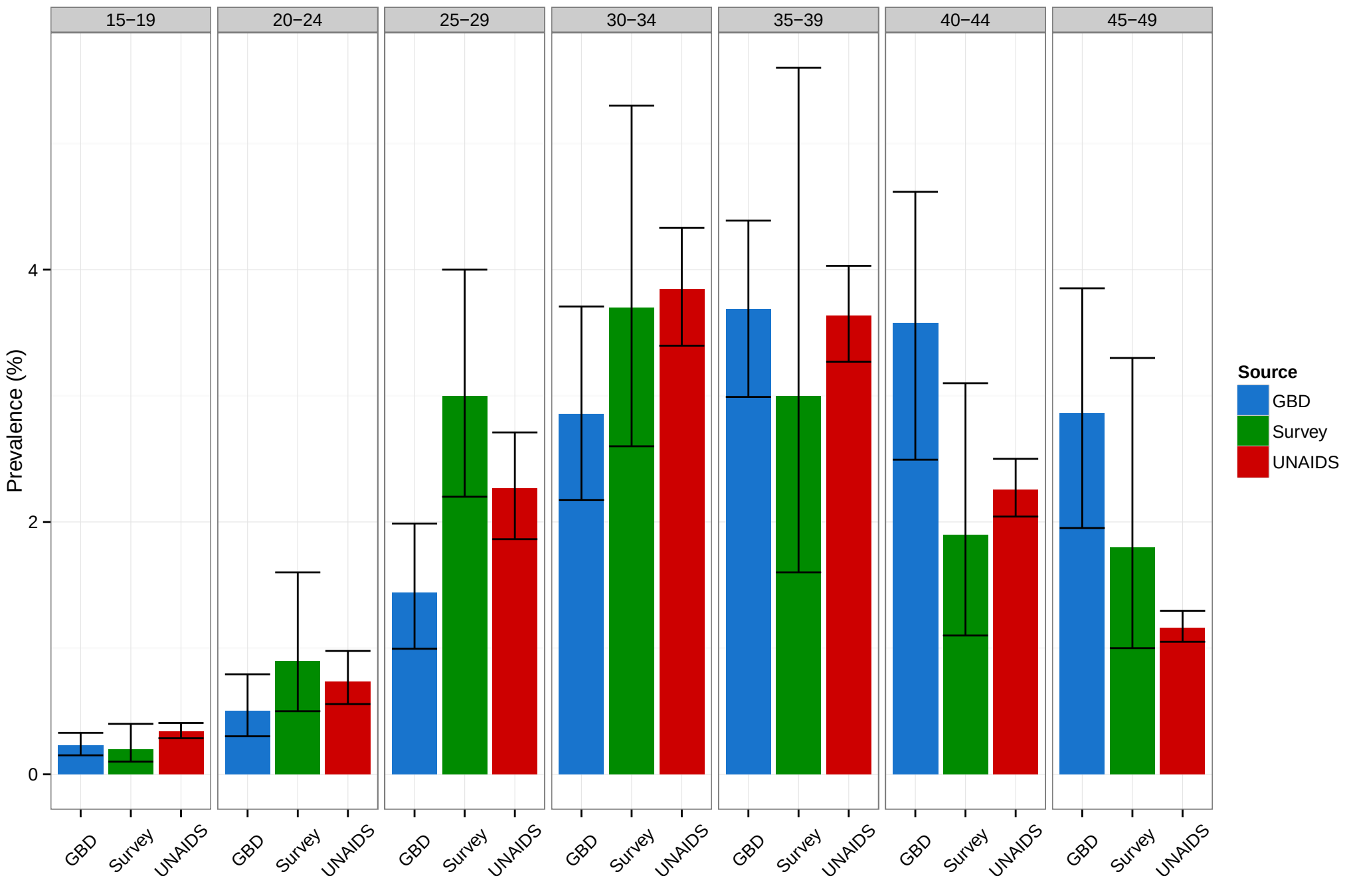

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
DOM 2007 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0.0
0.5
1.0
1.5
2.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

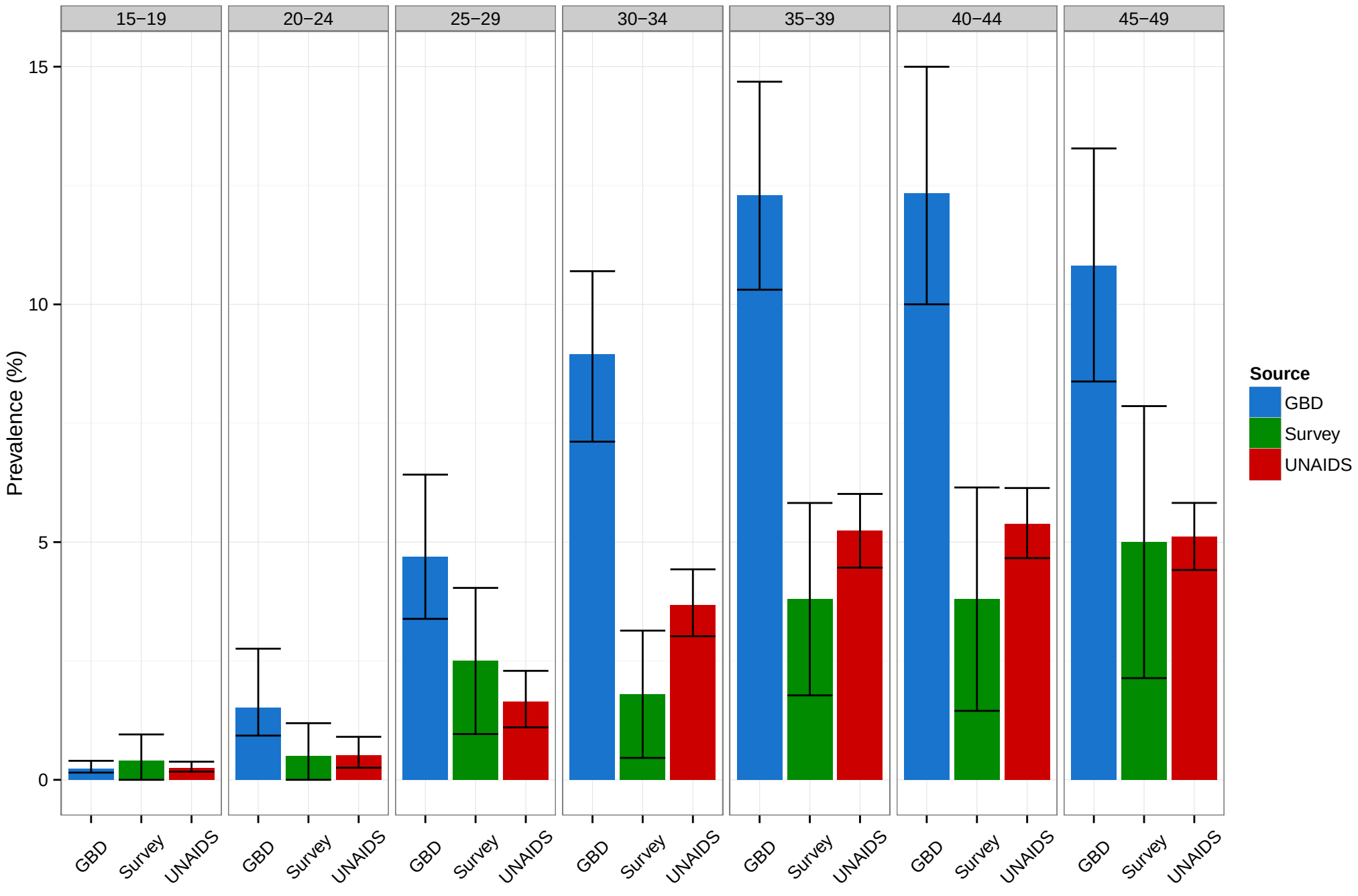

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
DOM 2007 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
2.0
1.5
1.0
0.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

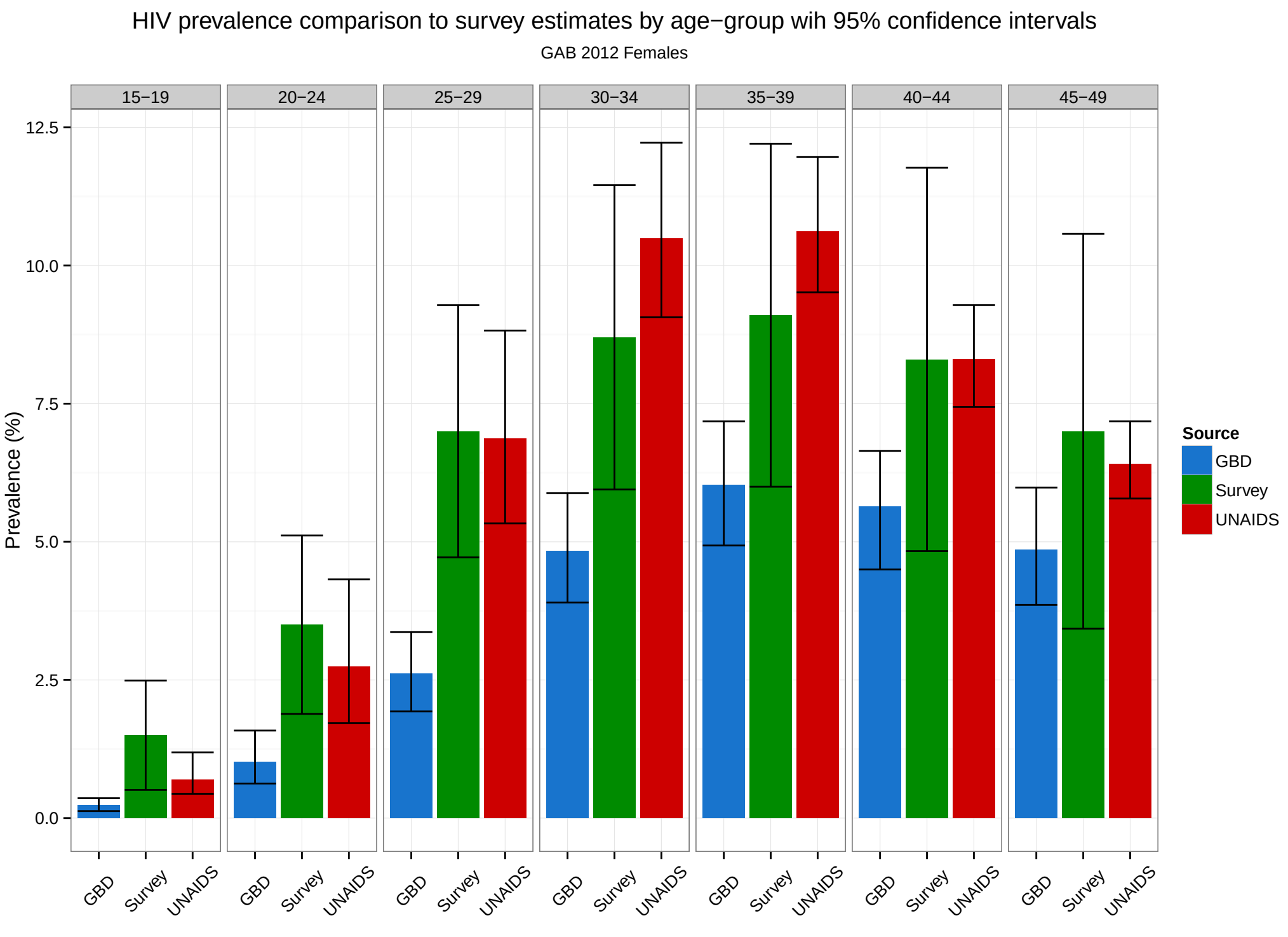

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ETH 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

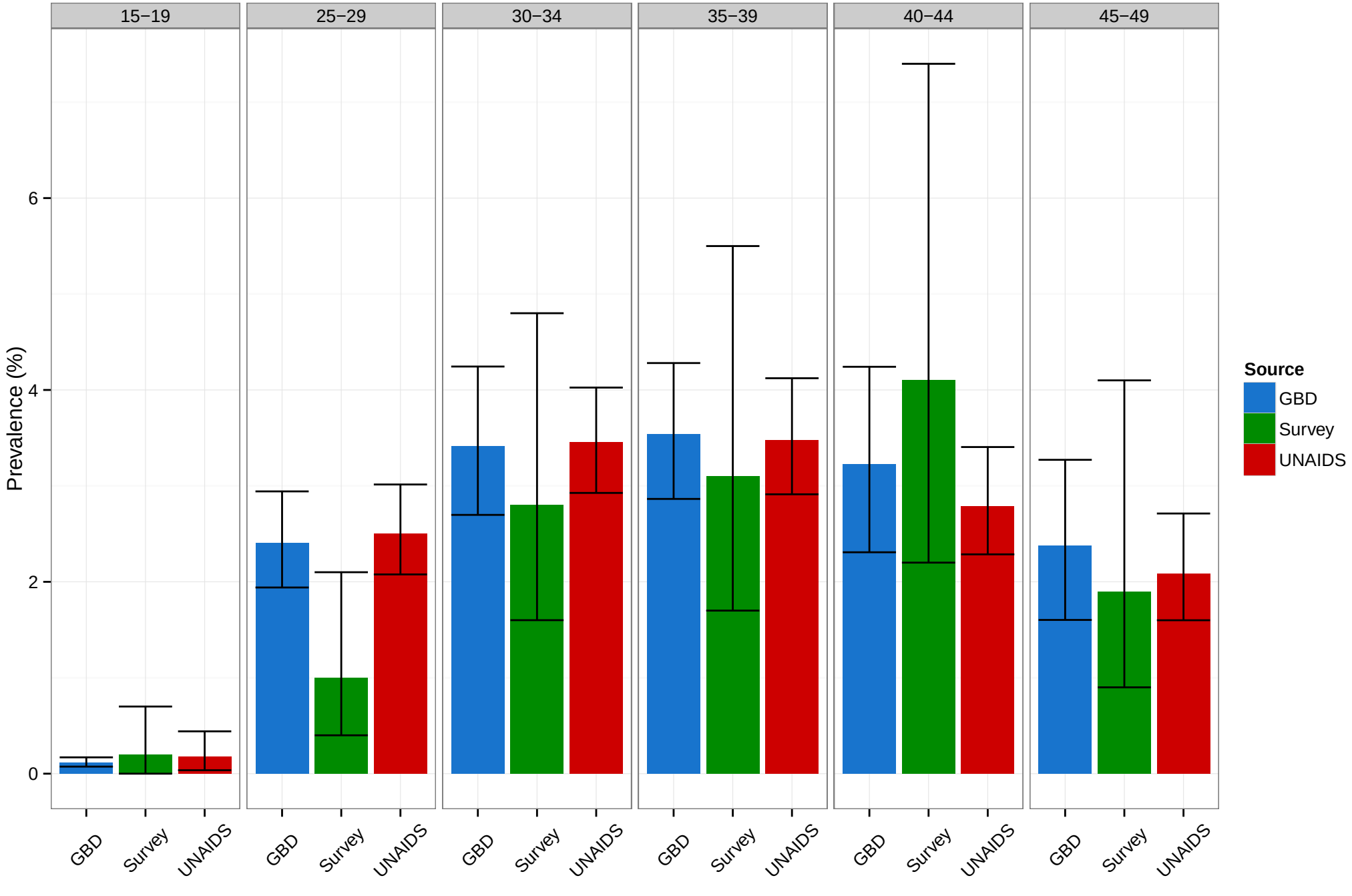

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ETH 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

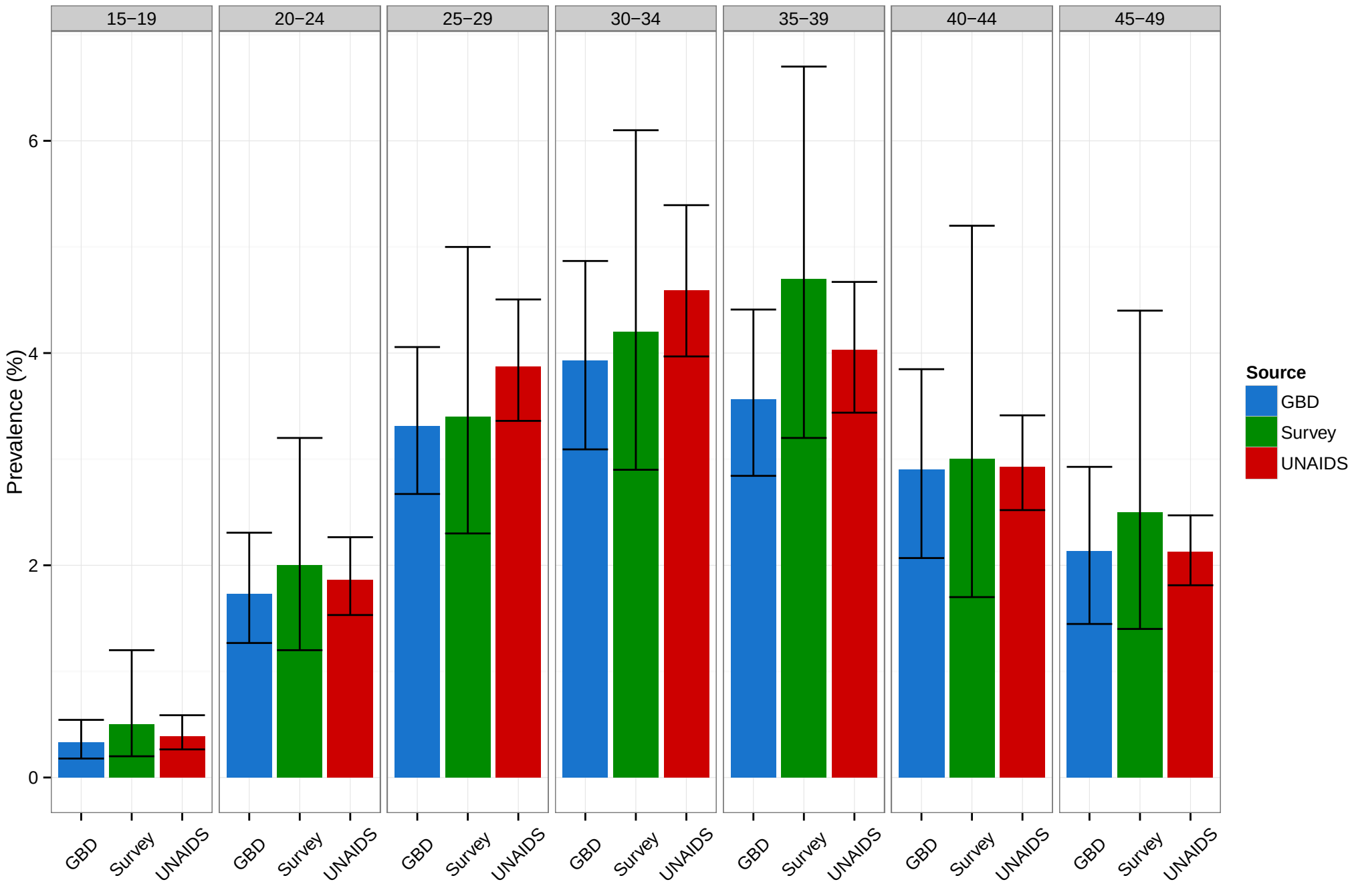

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ETH 2011 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
5
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

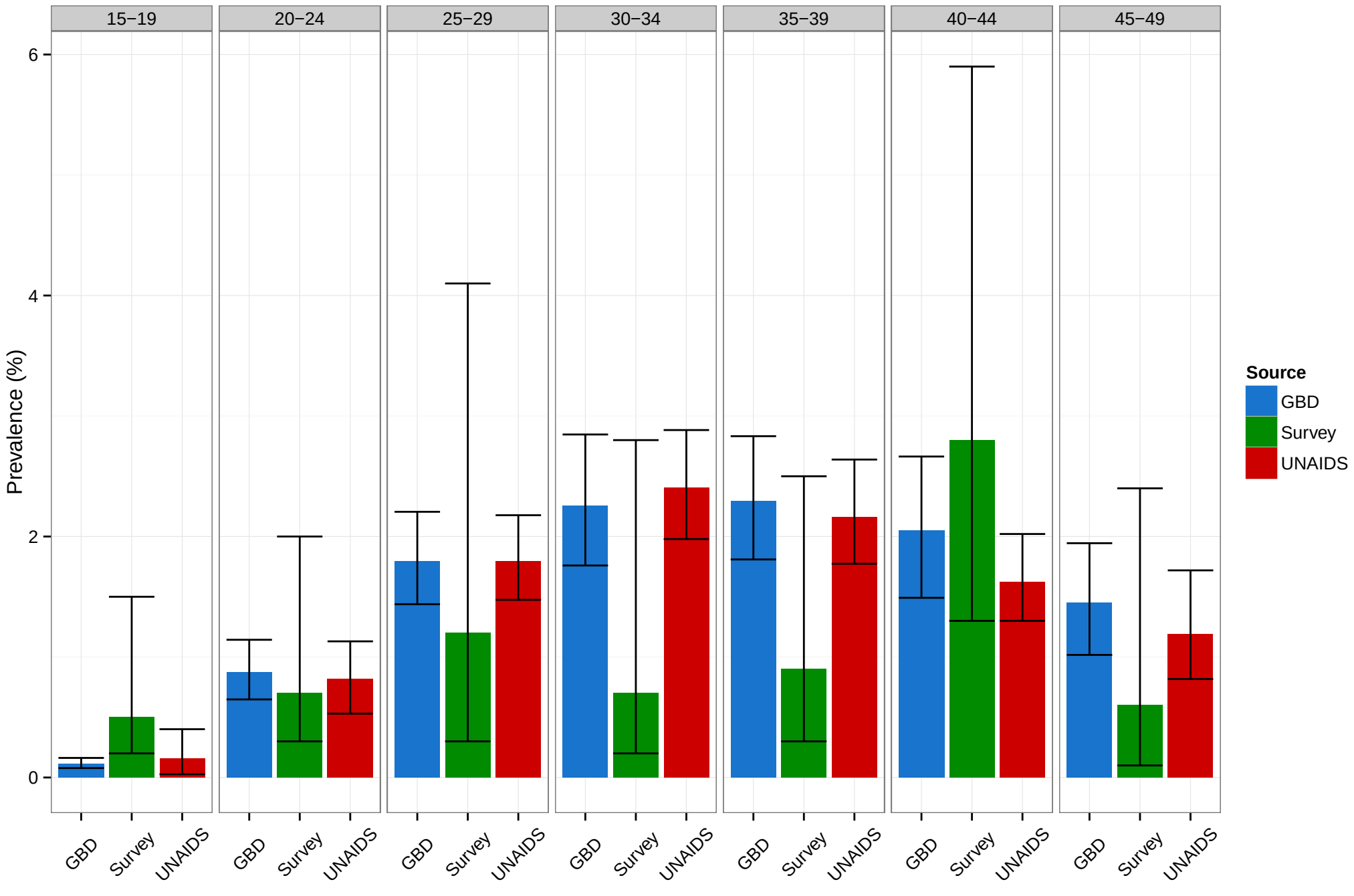

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ETH 2011 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

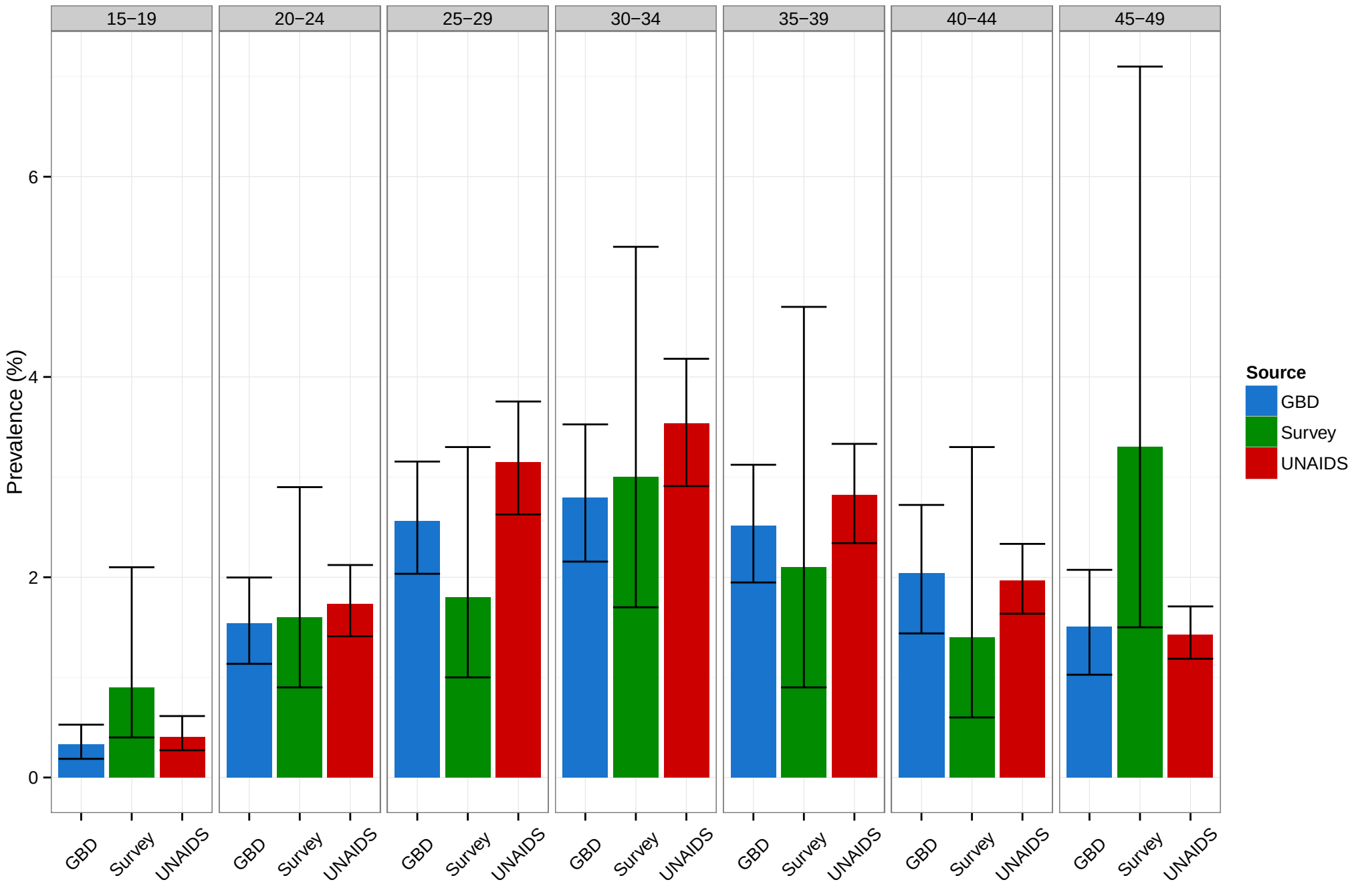

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GAB 2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
15
10
5
0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

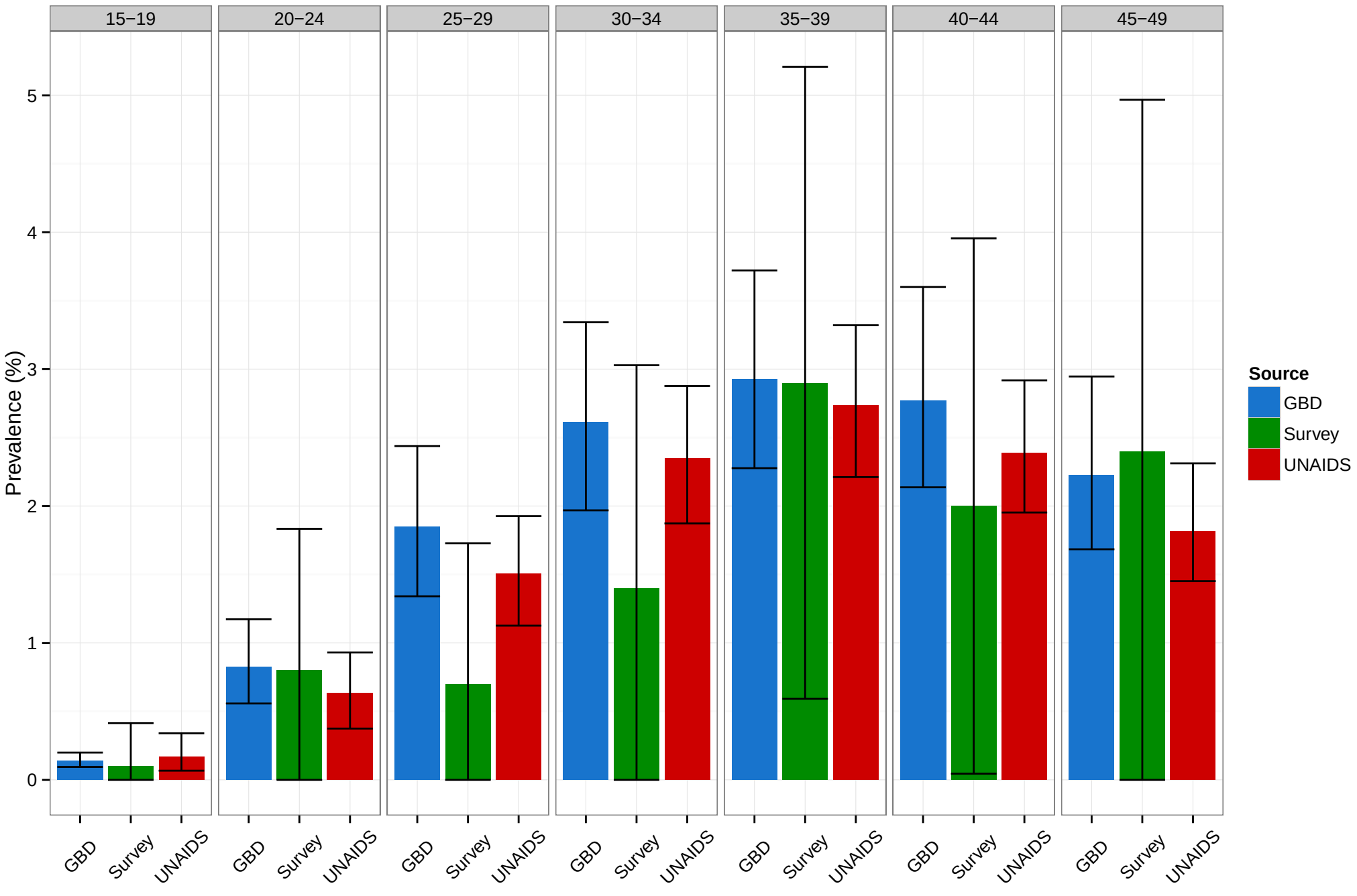

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GAB 2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
12.5
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

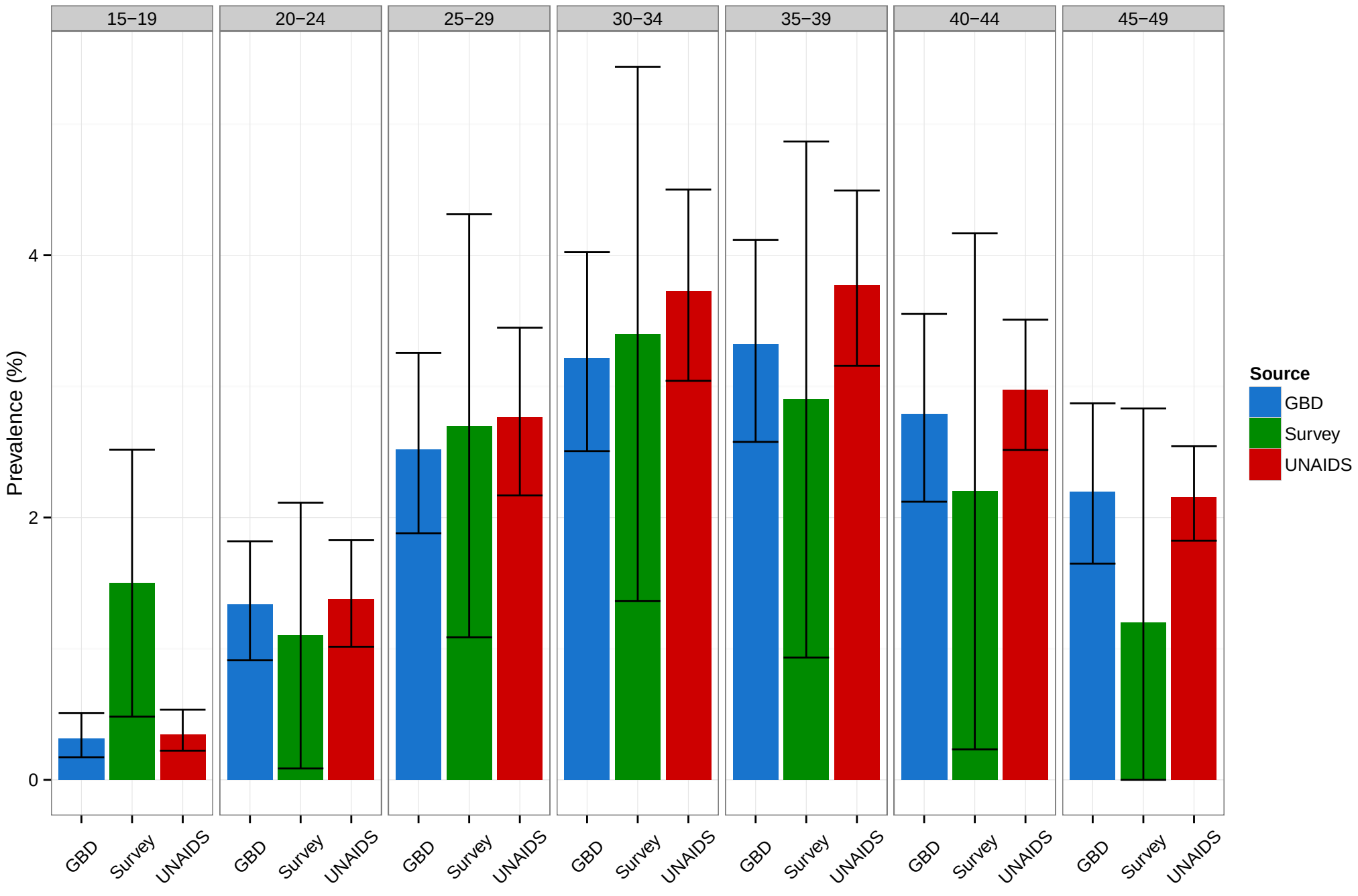

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GHA 2003 Males
15−19
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

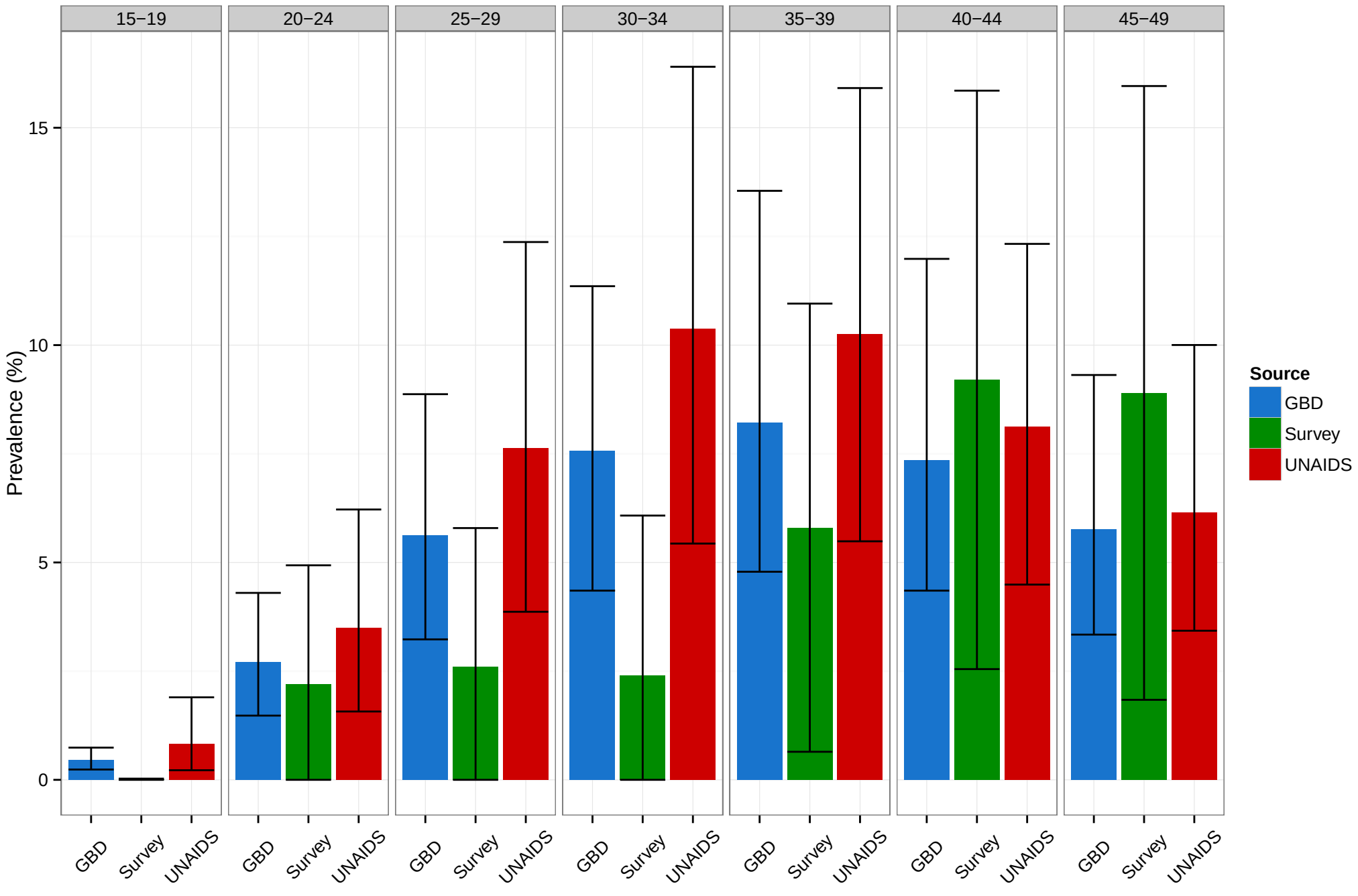

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GHA 2003 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

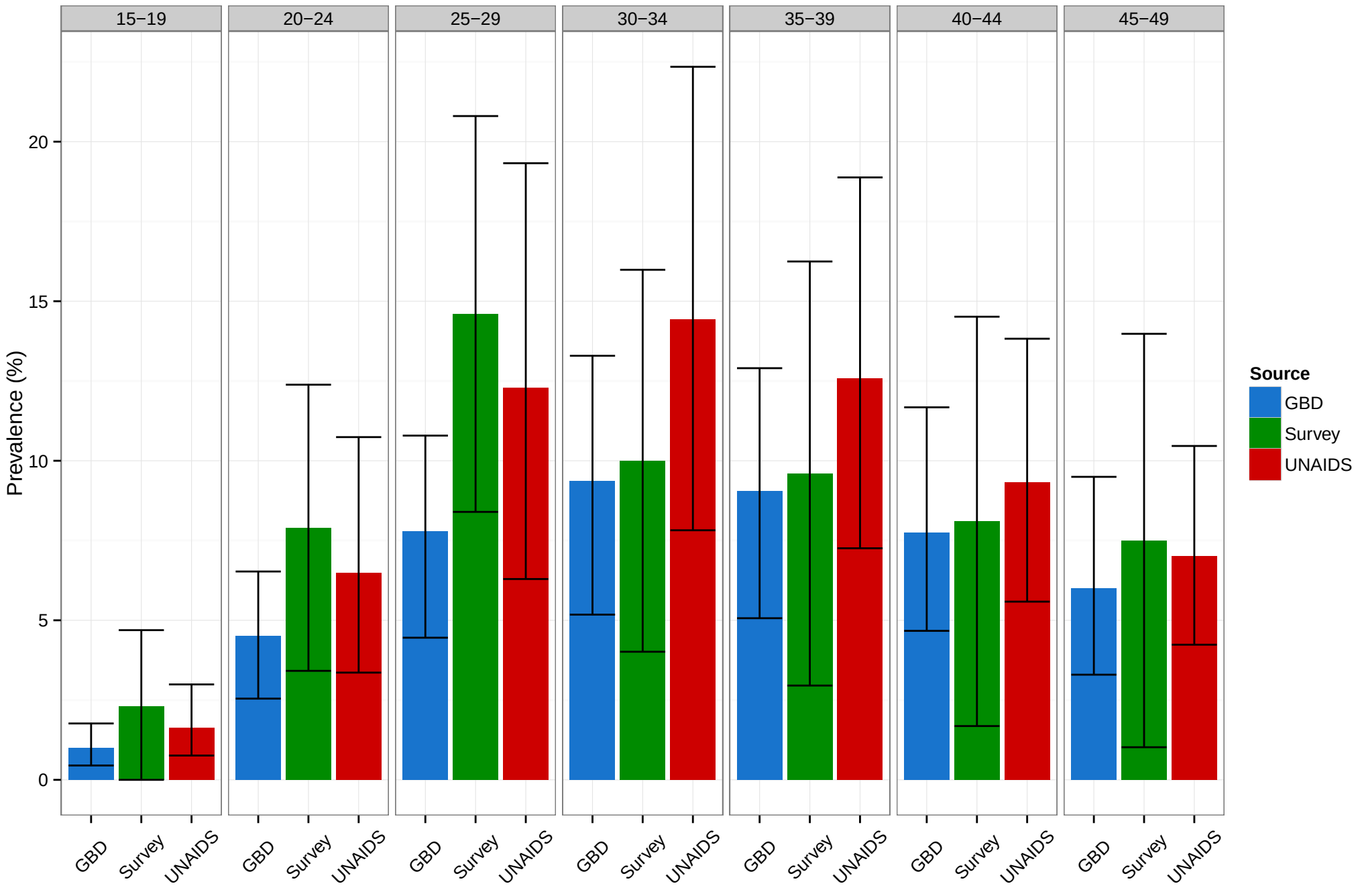

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GIN 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

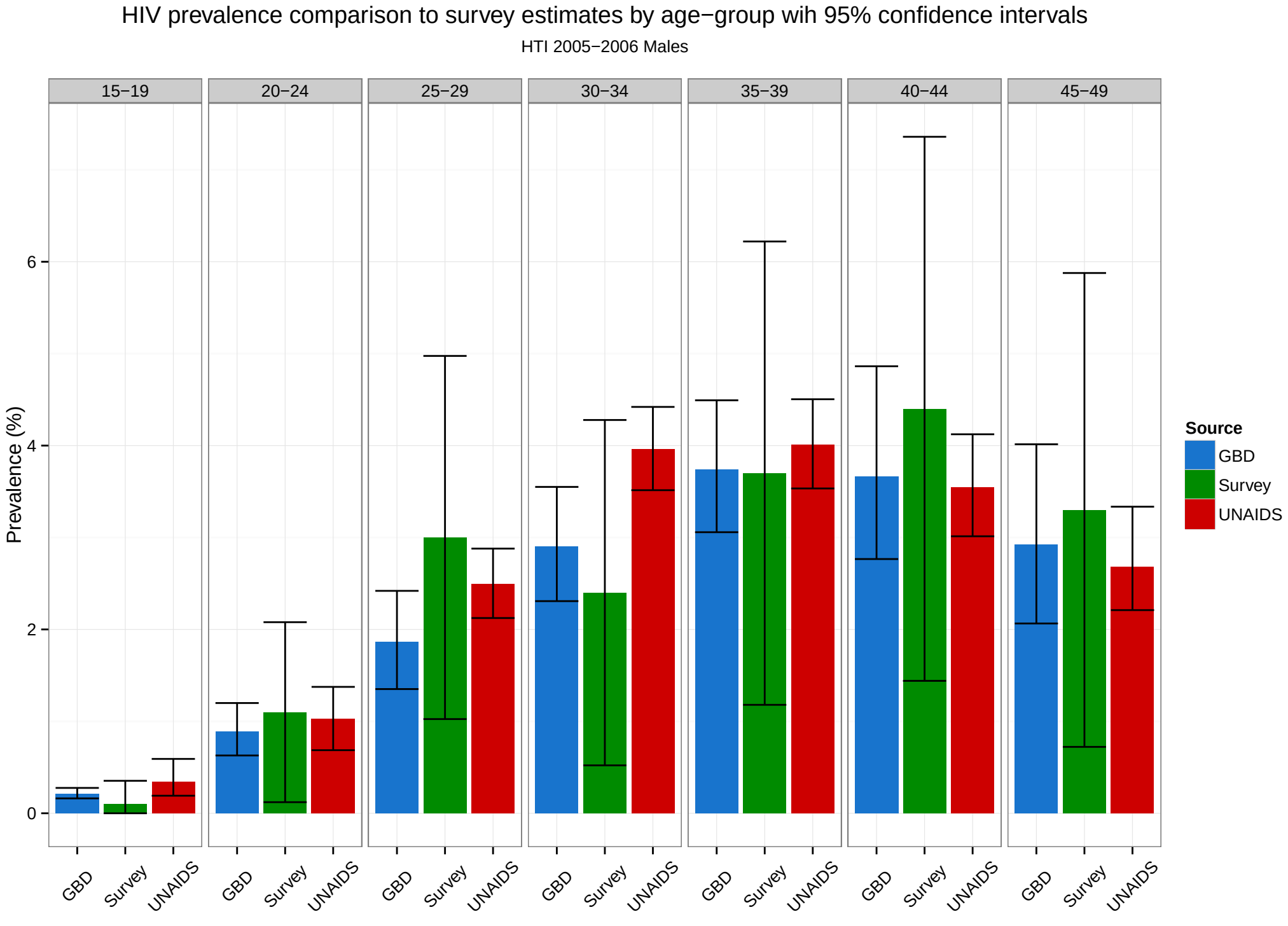

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GIN 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

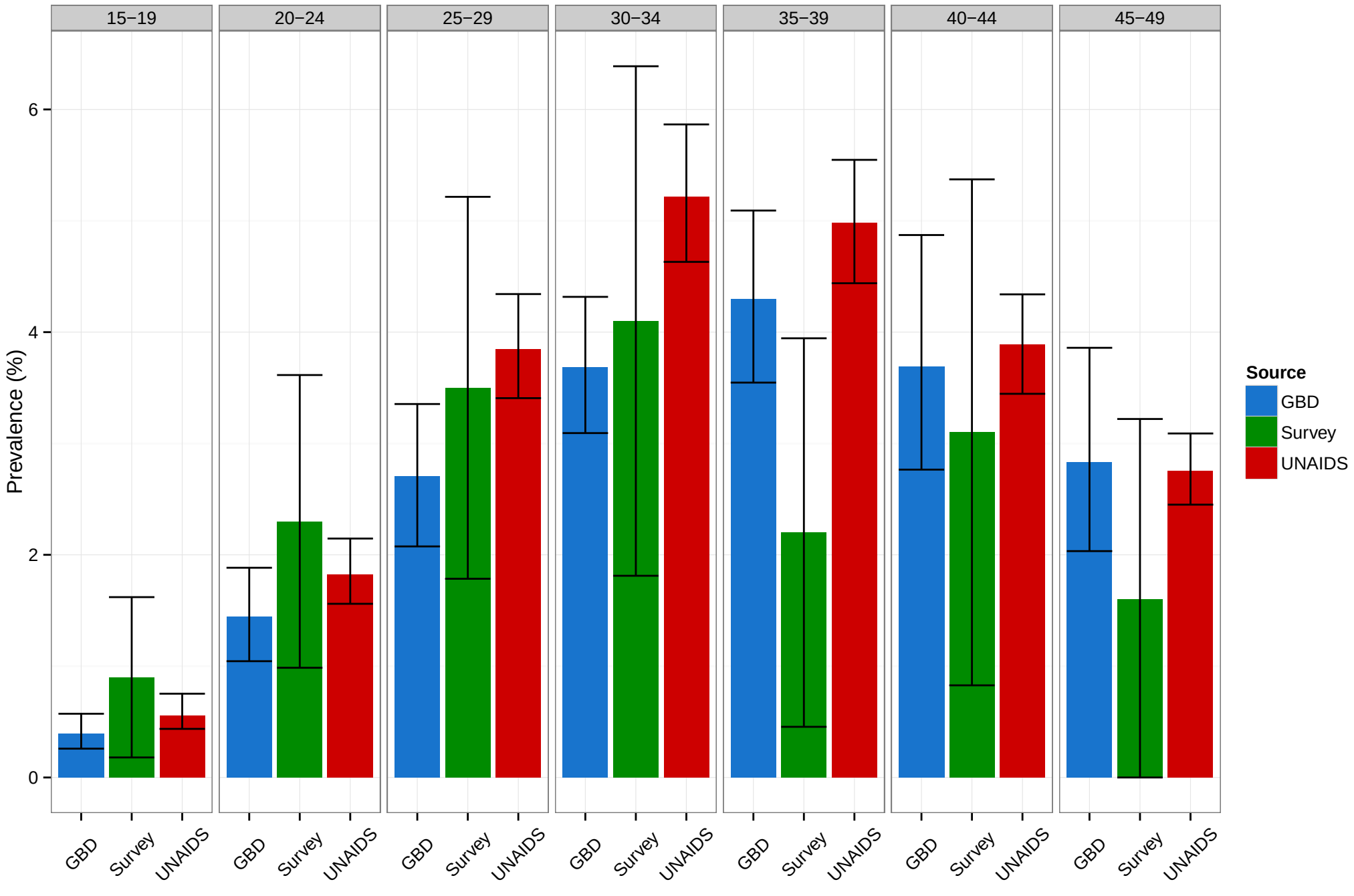

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GIN 2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
5
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

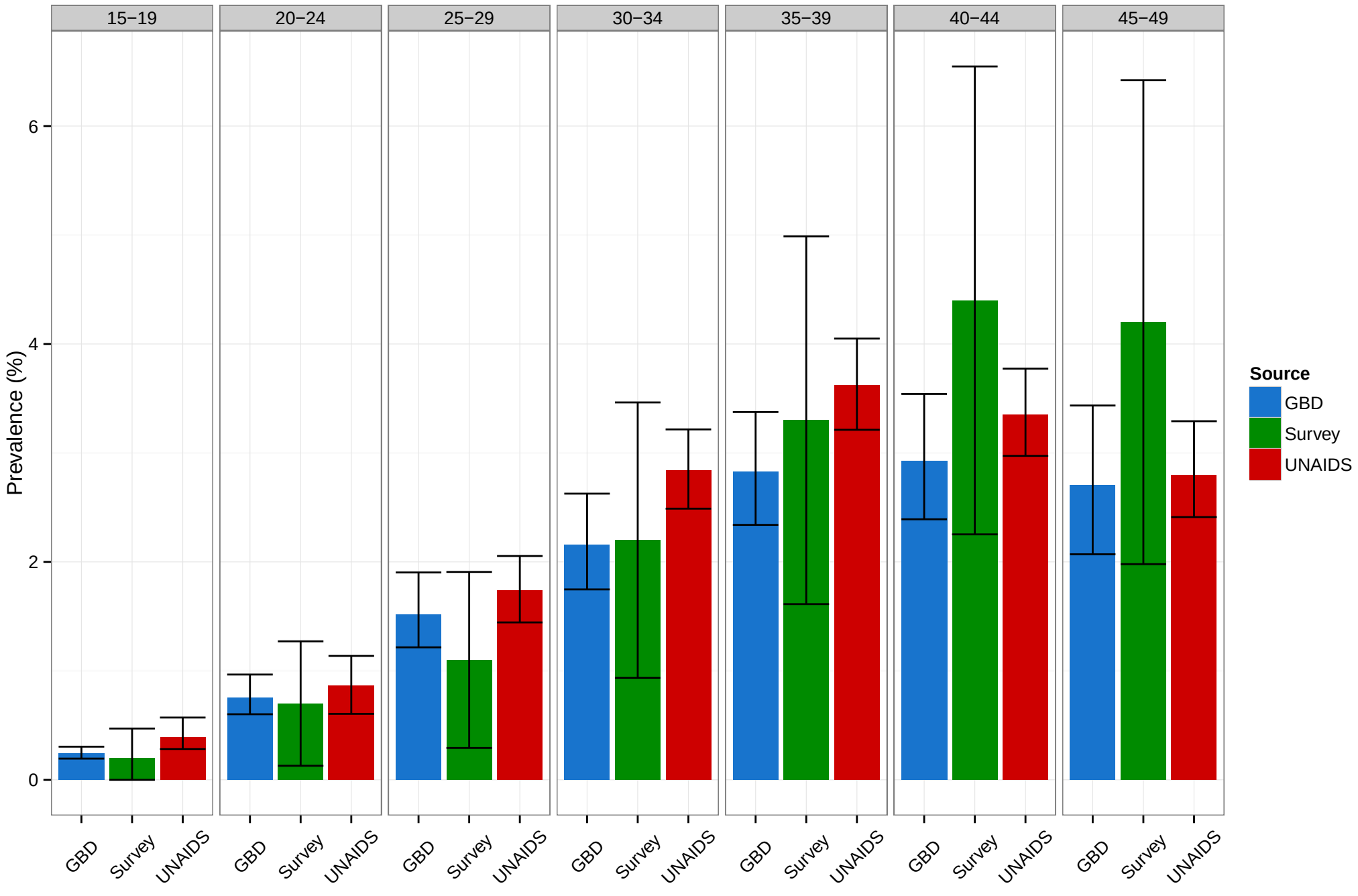

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GIN 2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

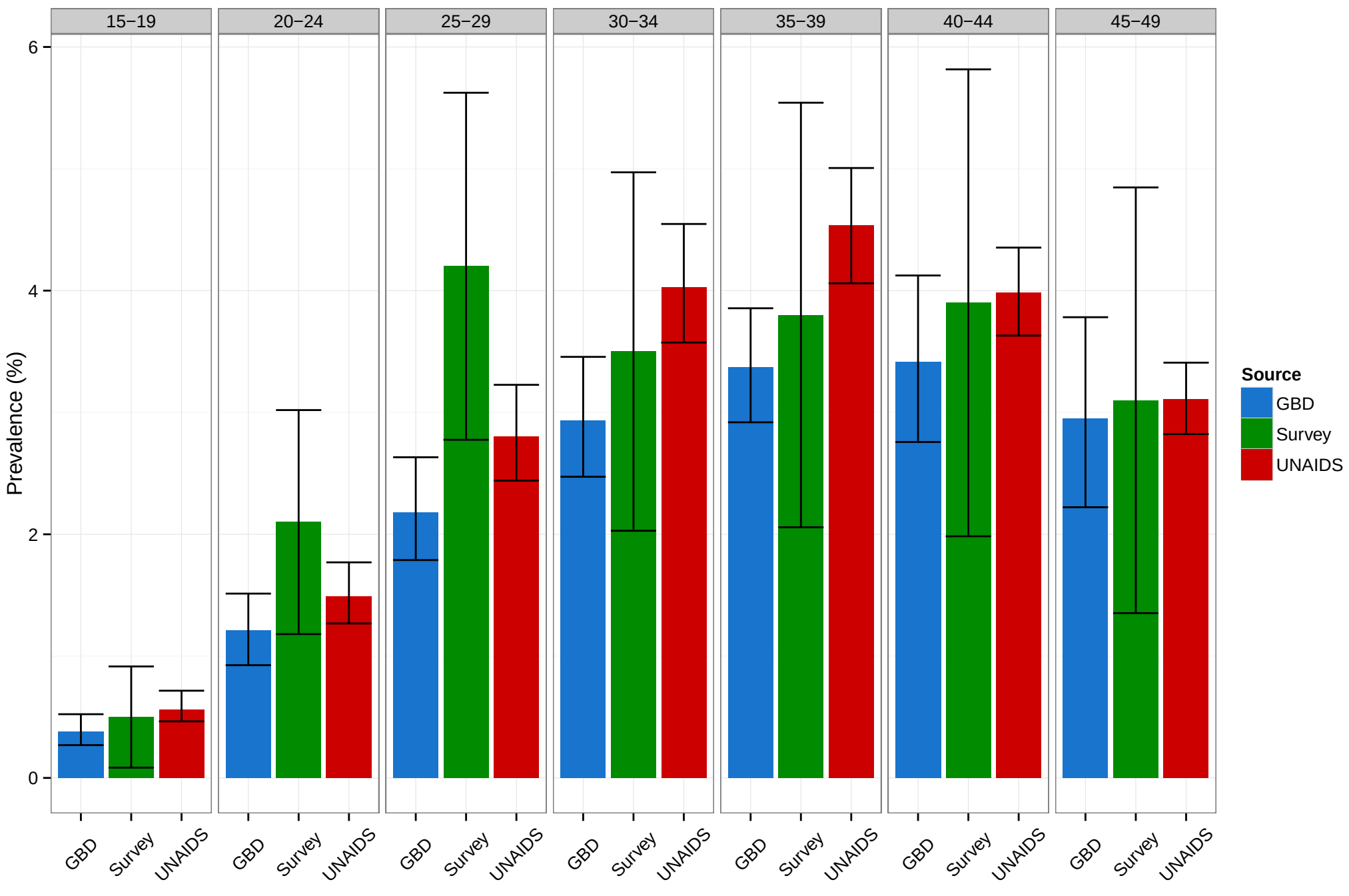

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GNQ 2011 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

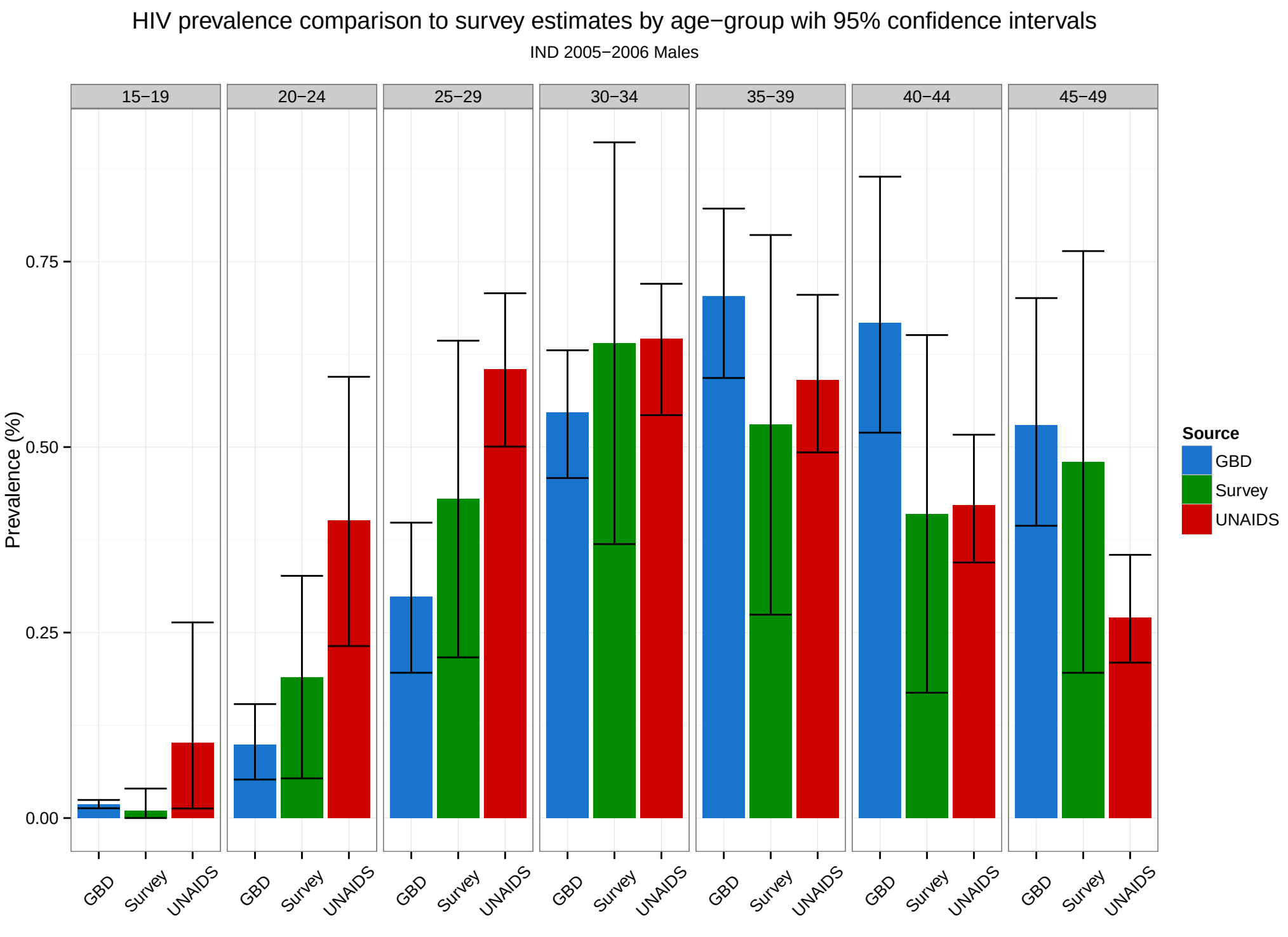

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
GNQ 2011 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
20
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

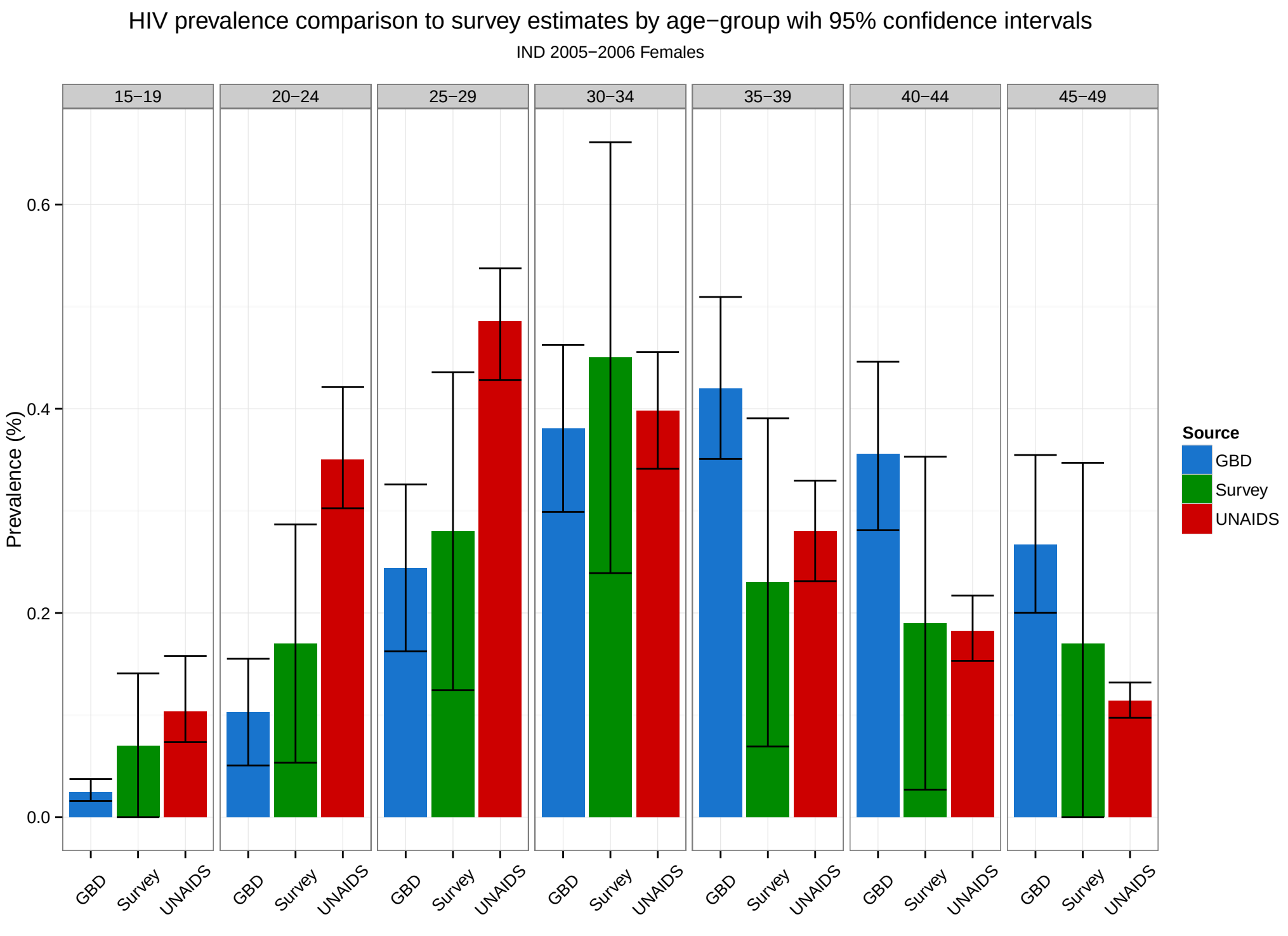

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
HTI 2005−2006 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

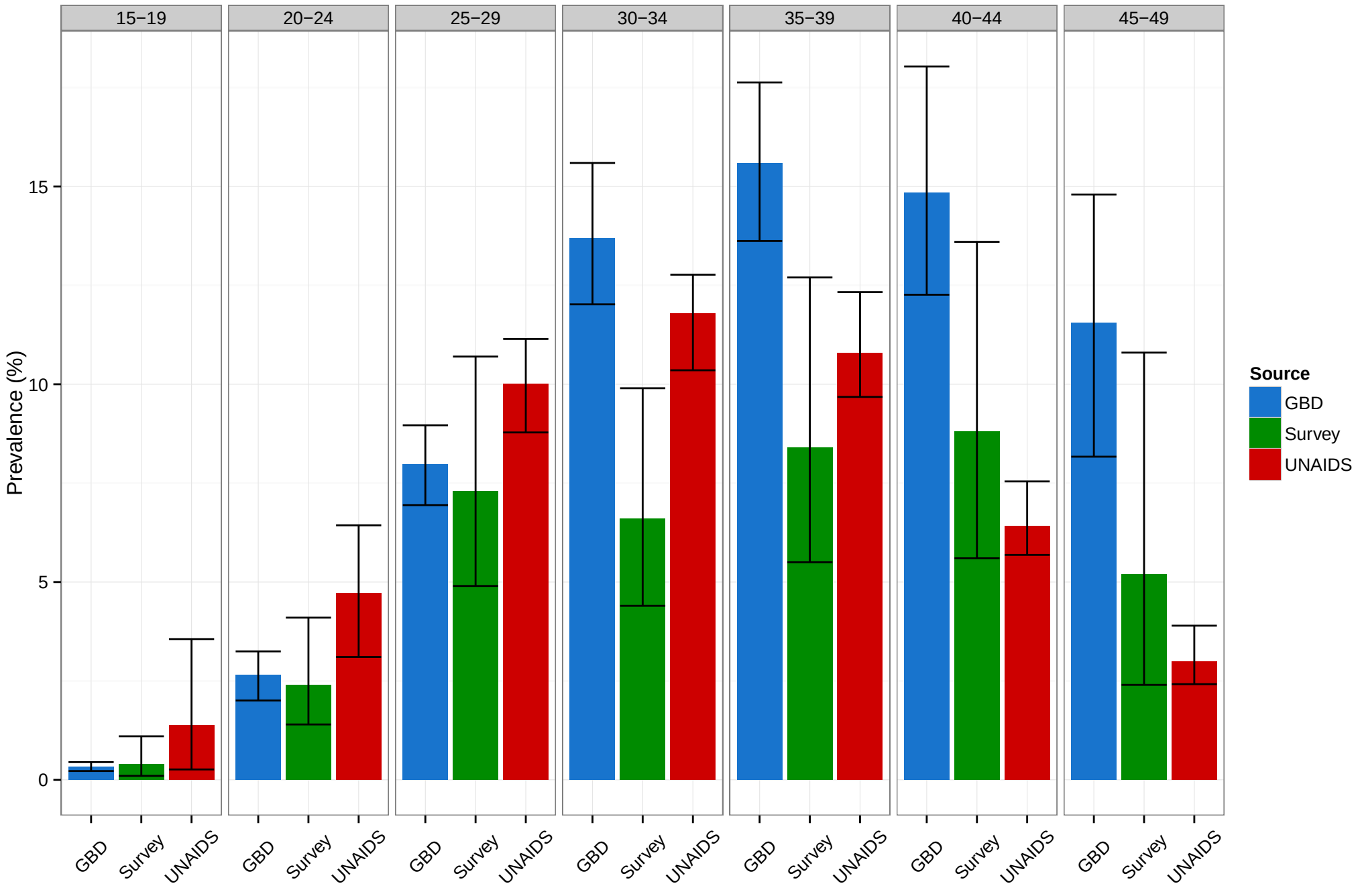

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
HTI 2005−2006 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

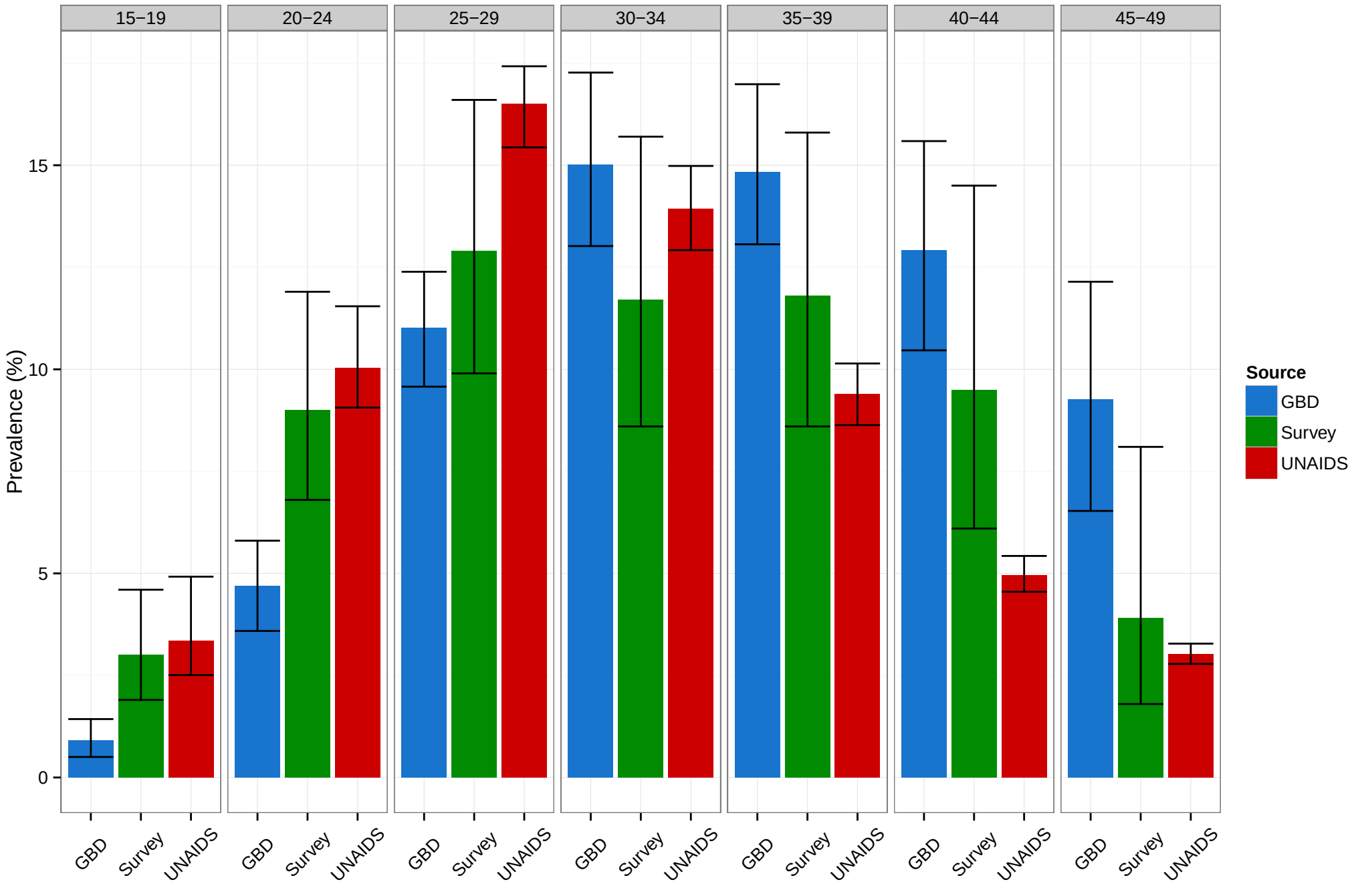

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
HTI 2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

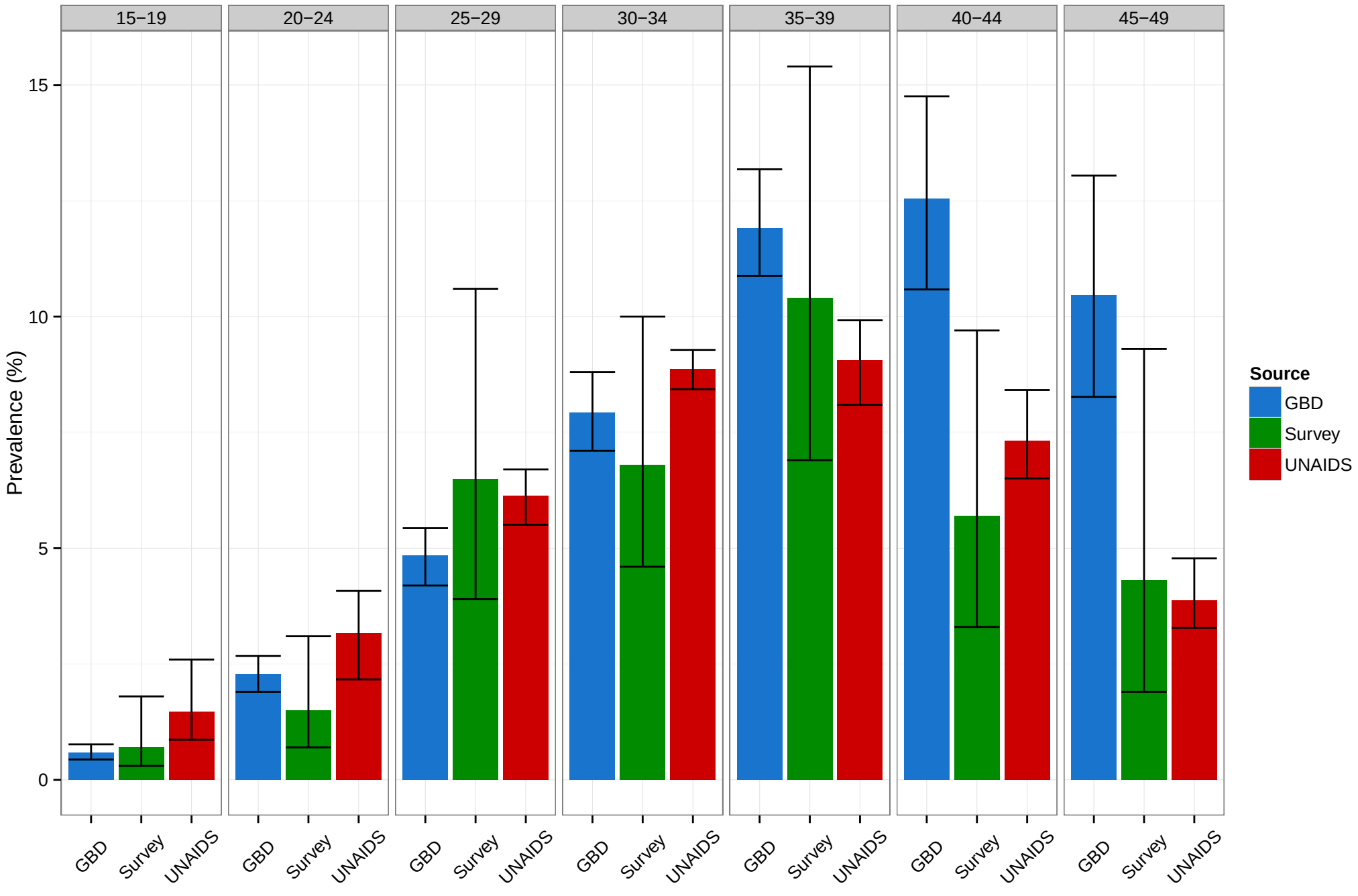

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
HTI 2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

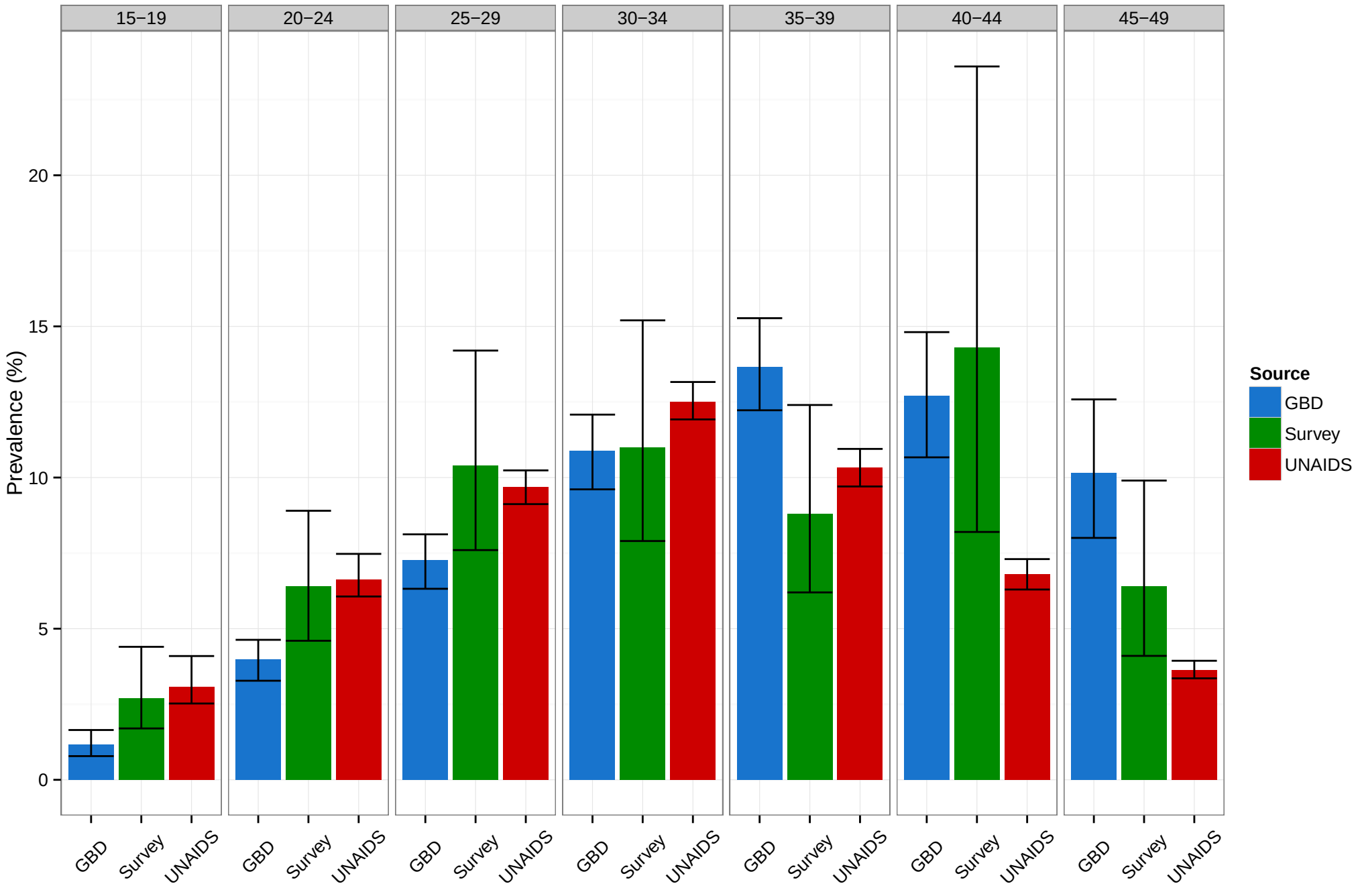

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
IND 2005−2006 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0.00
0.25
0.50
0.75
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

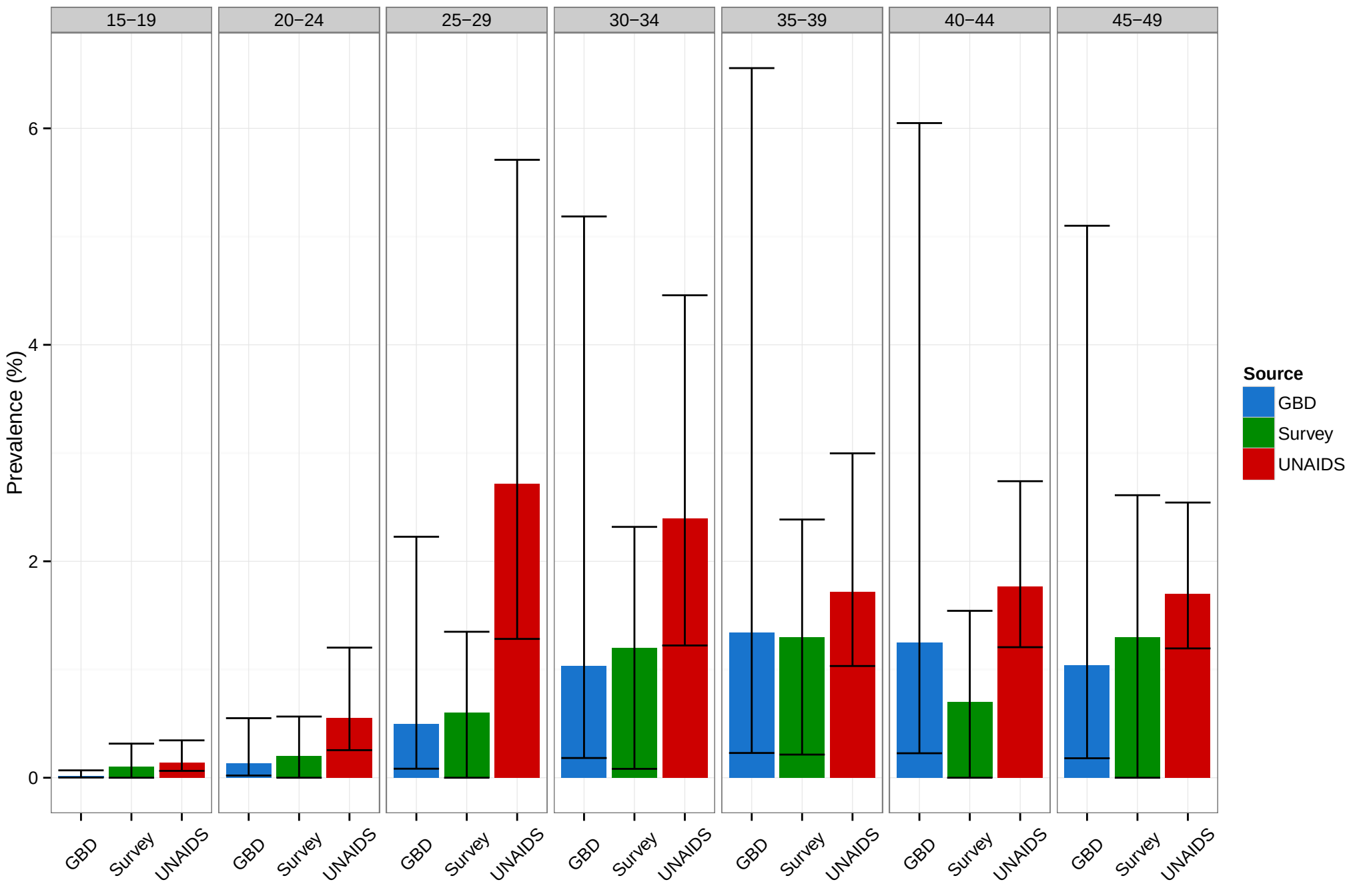

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
IND 2005−2006 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0.0
0.2
0.4
0.6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

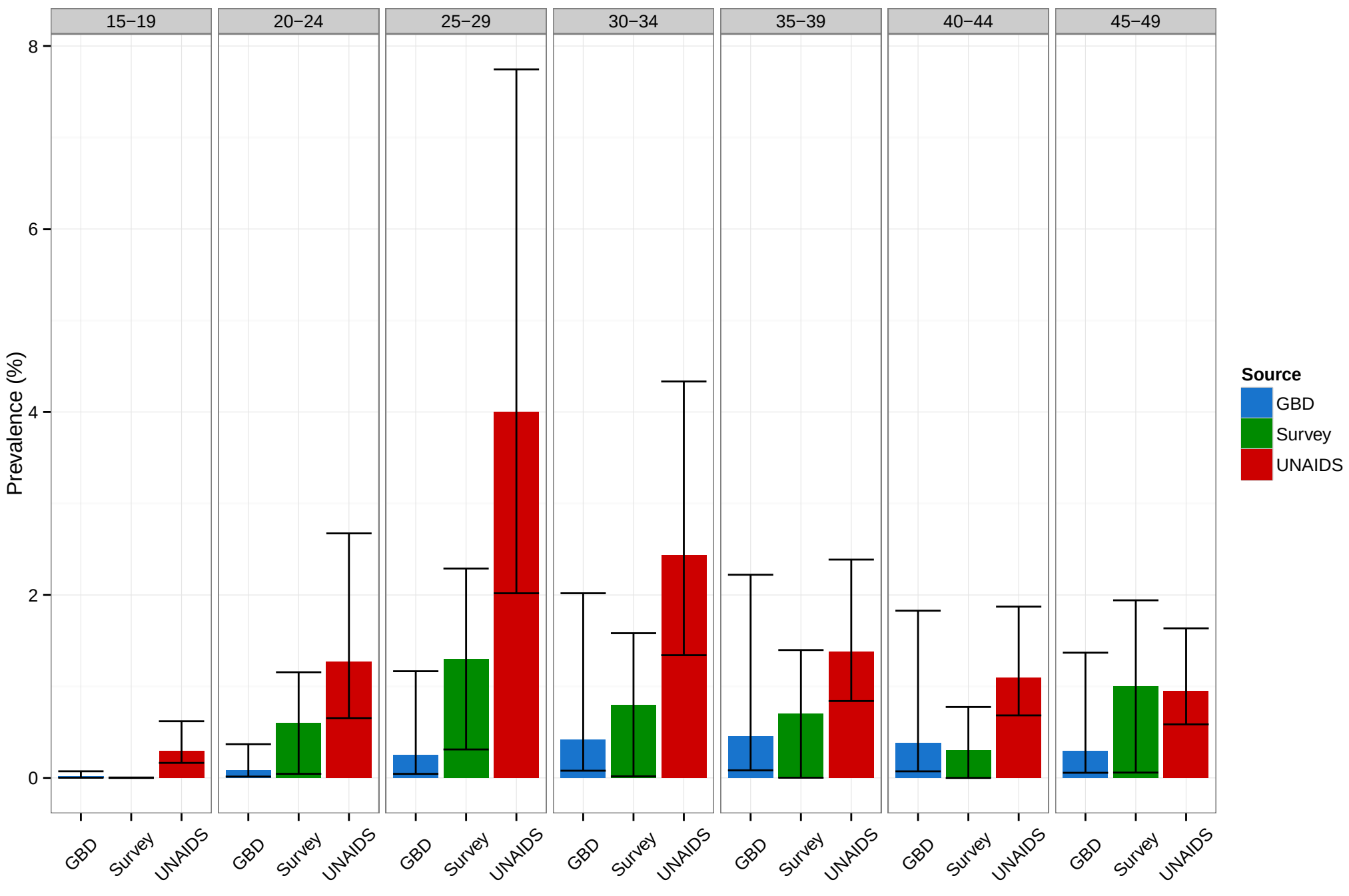

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KEN 2003 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

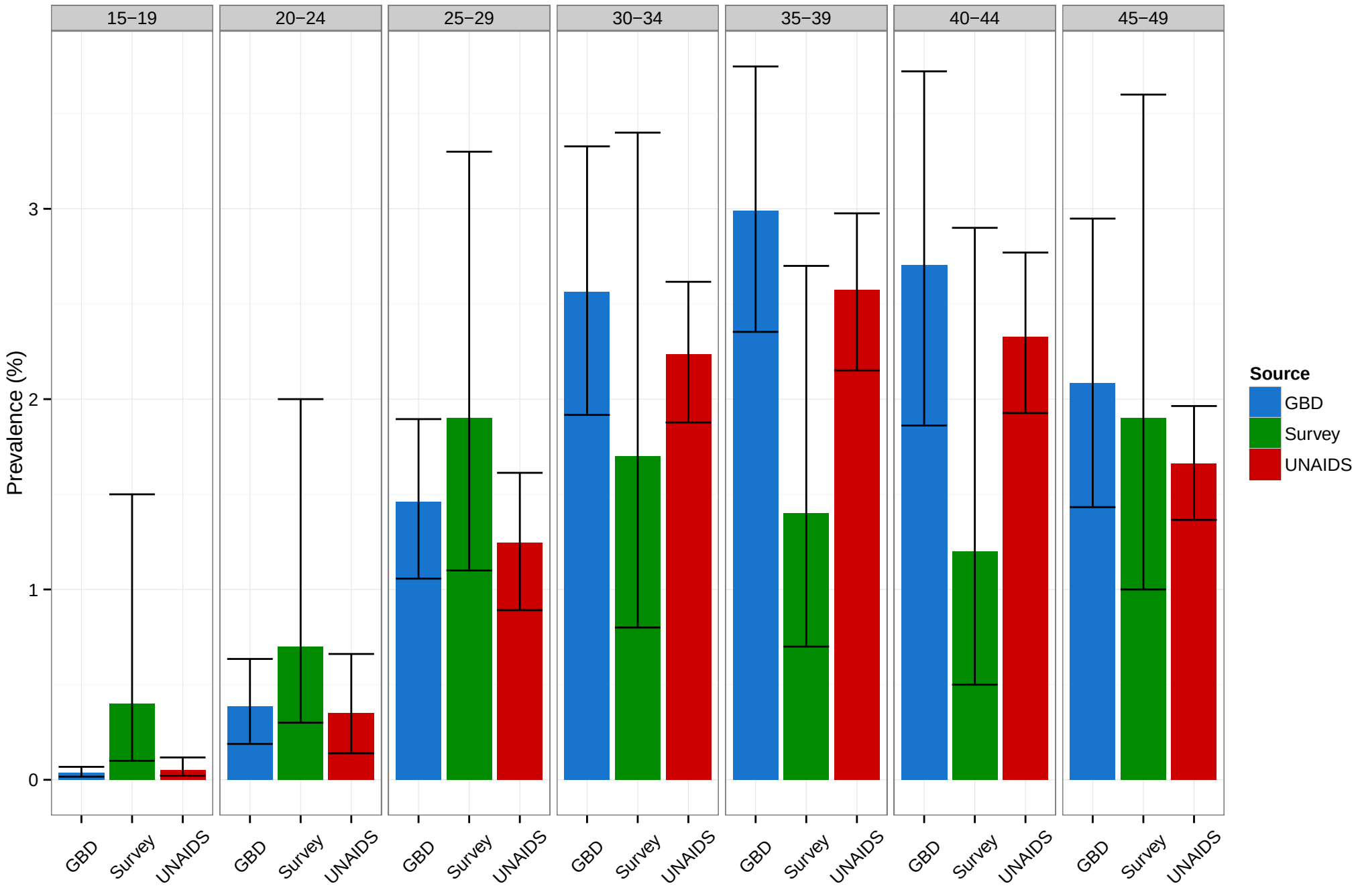

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KEN 2003 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

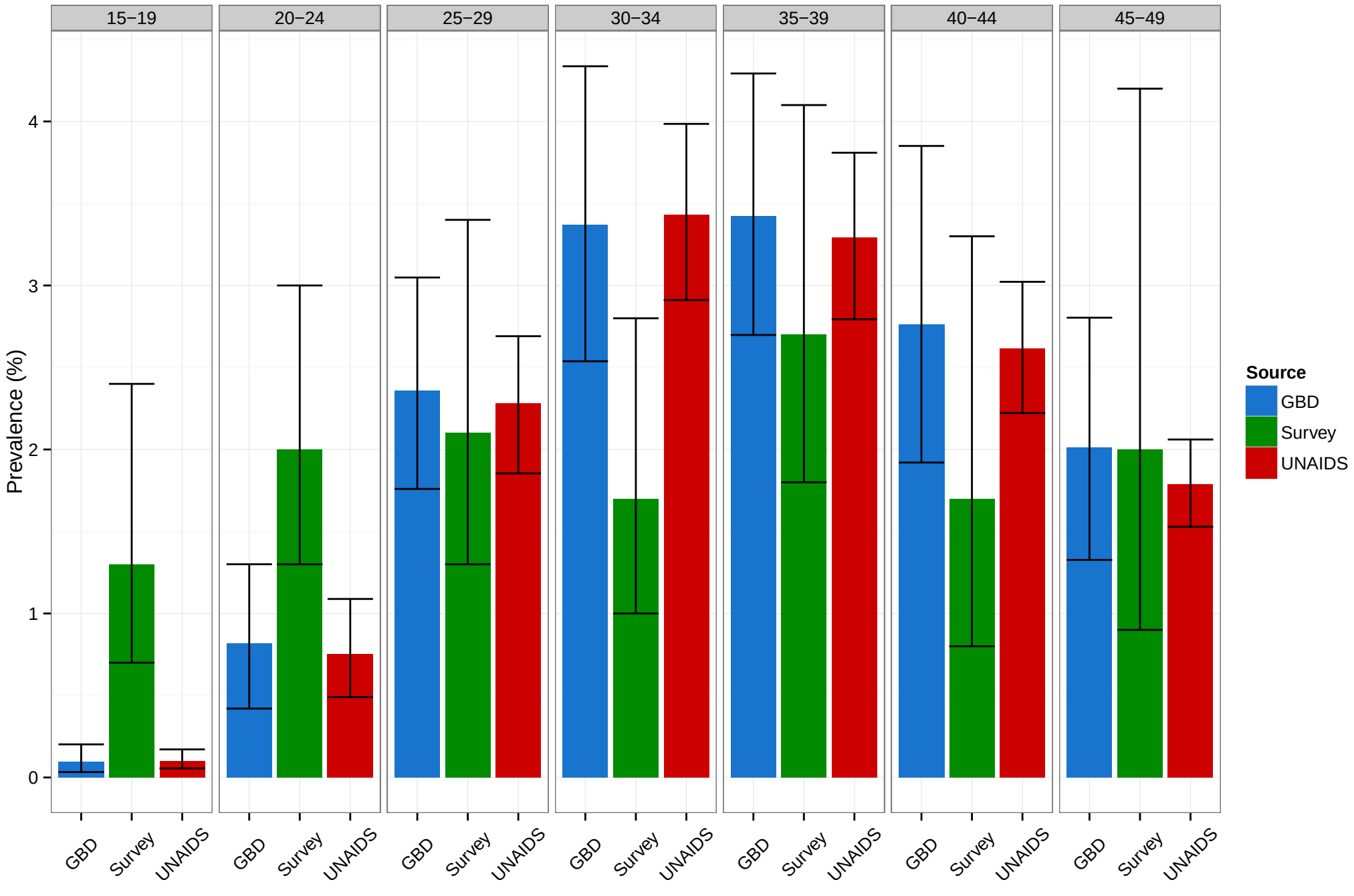

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KEN 2009 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

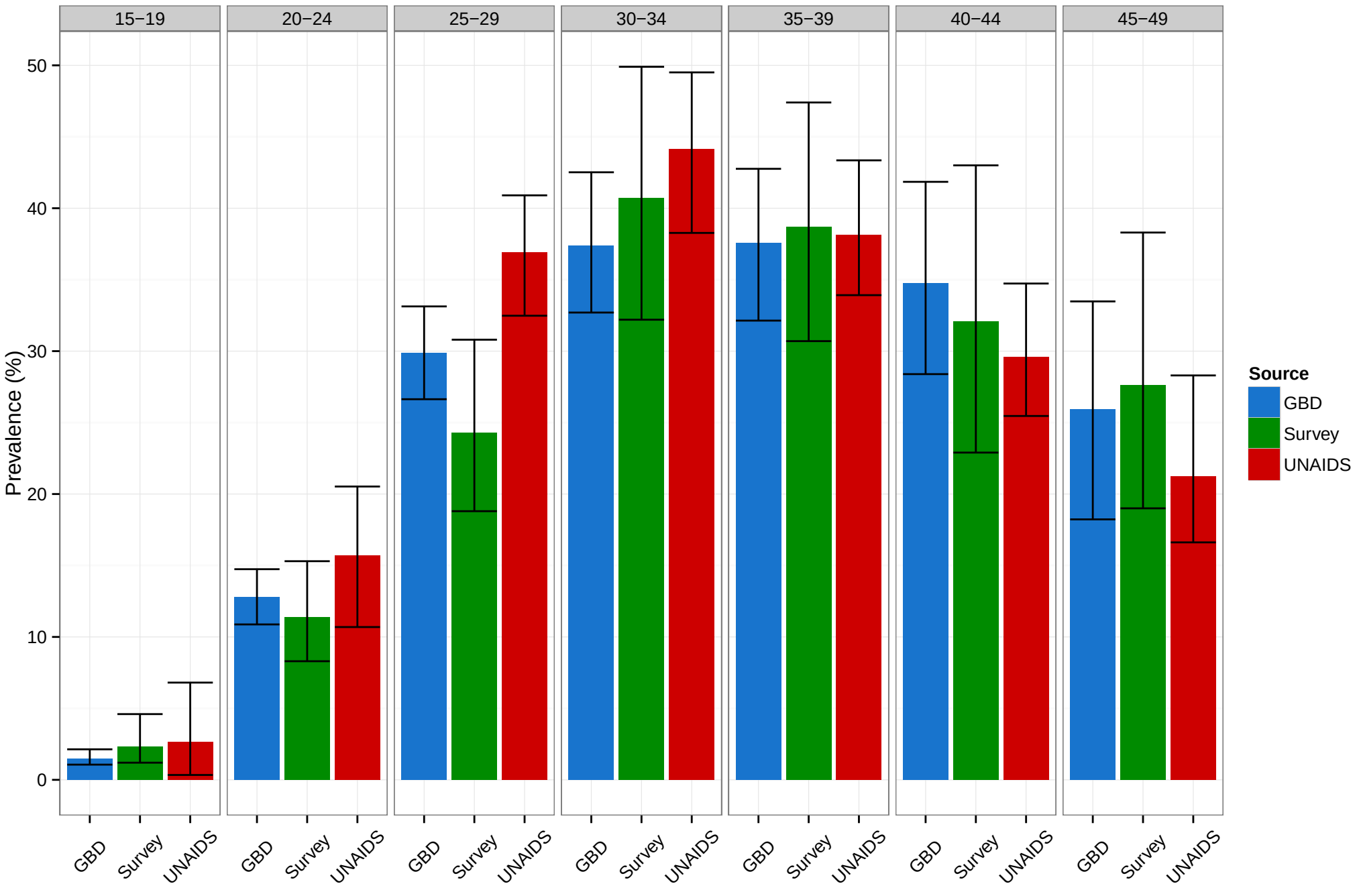

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KEN 2009 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
20
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

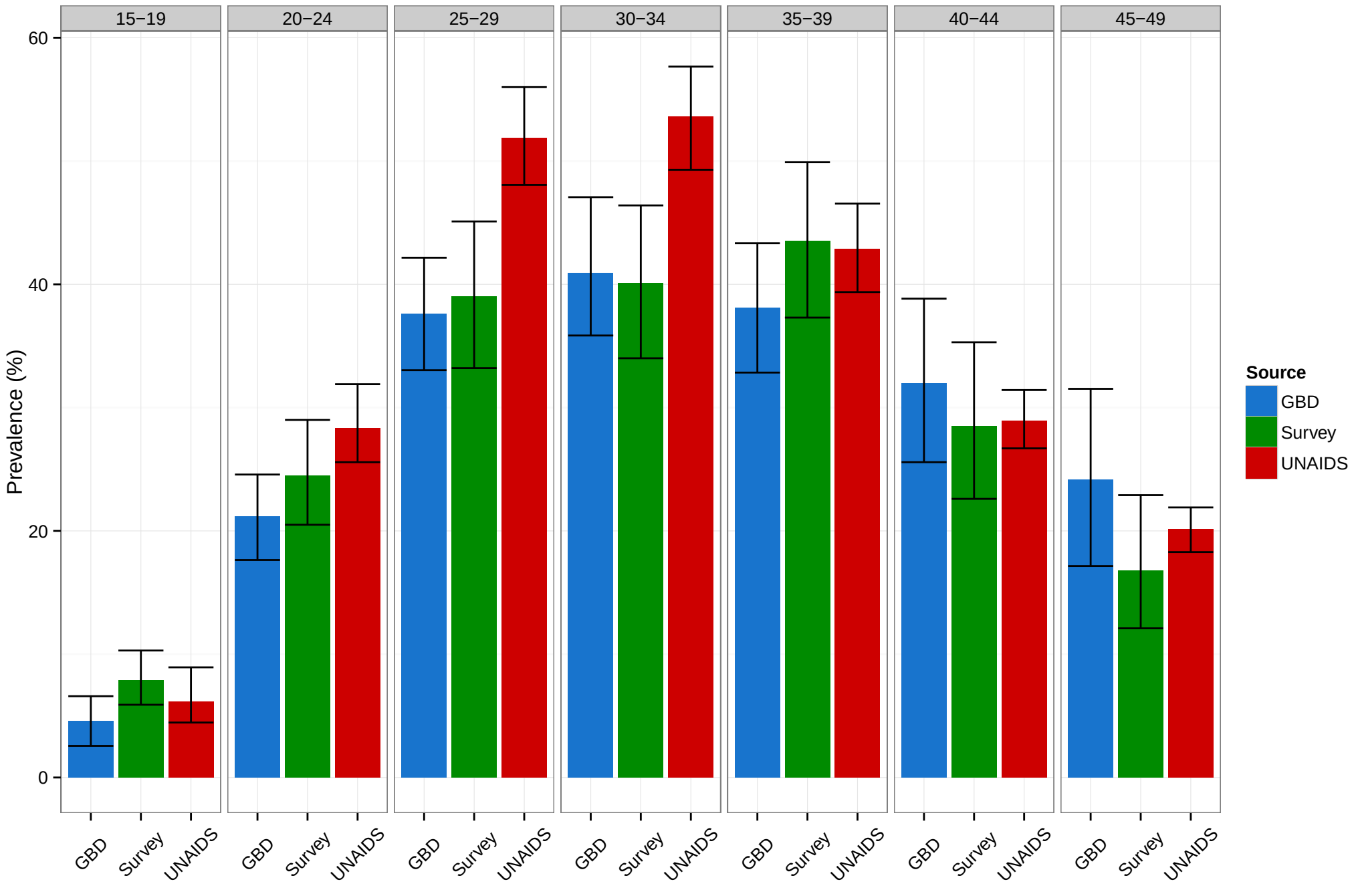

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KHM 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

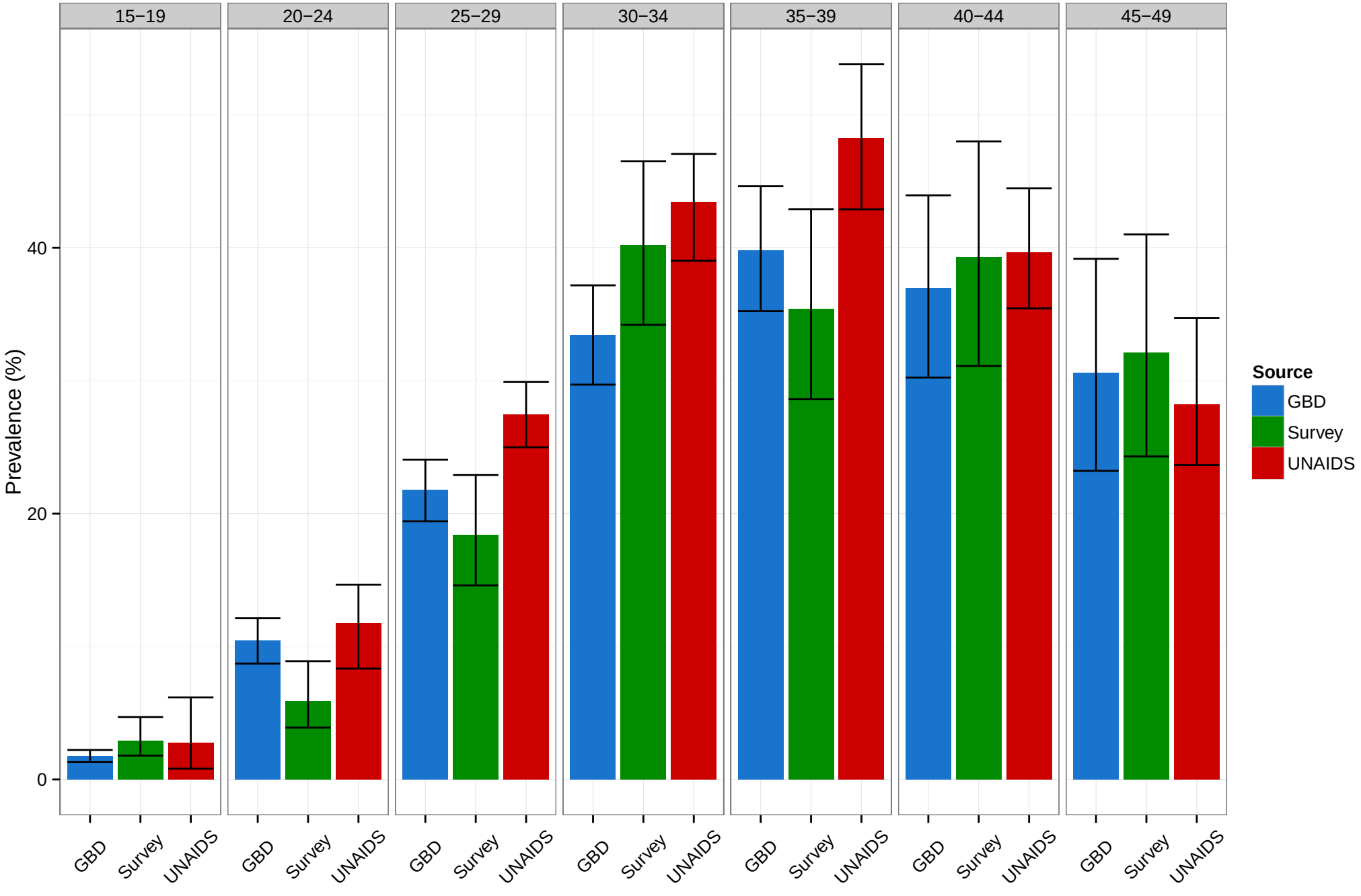

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
KHM 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
8
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

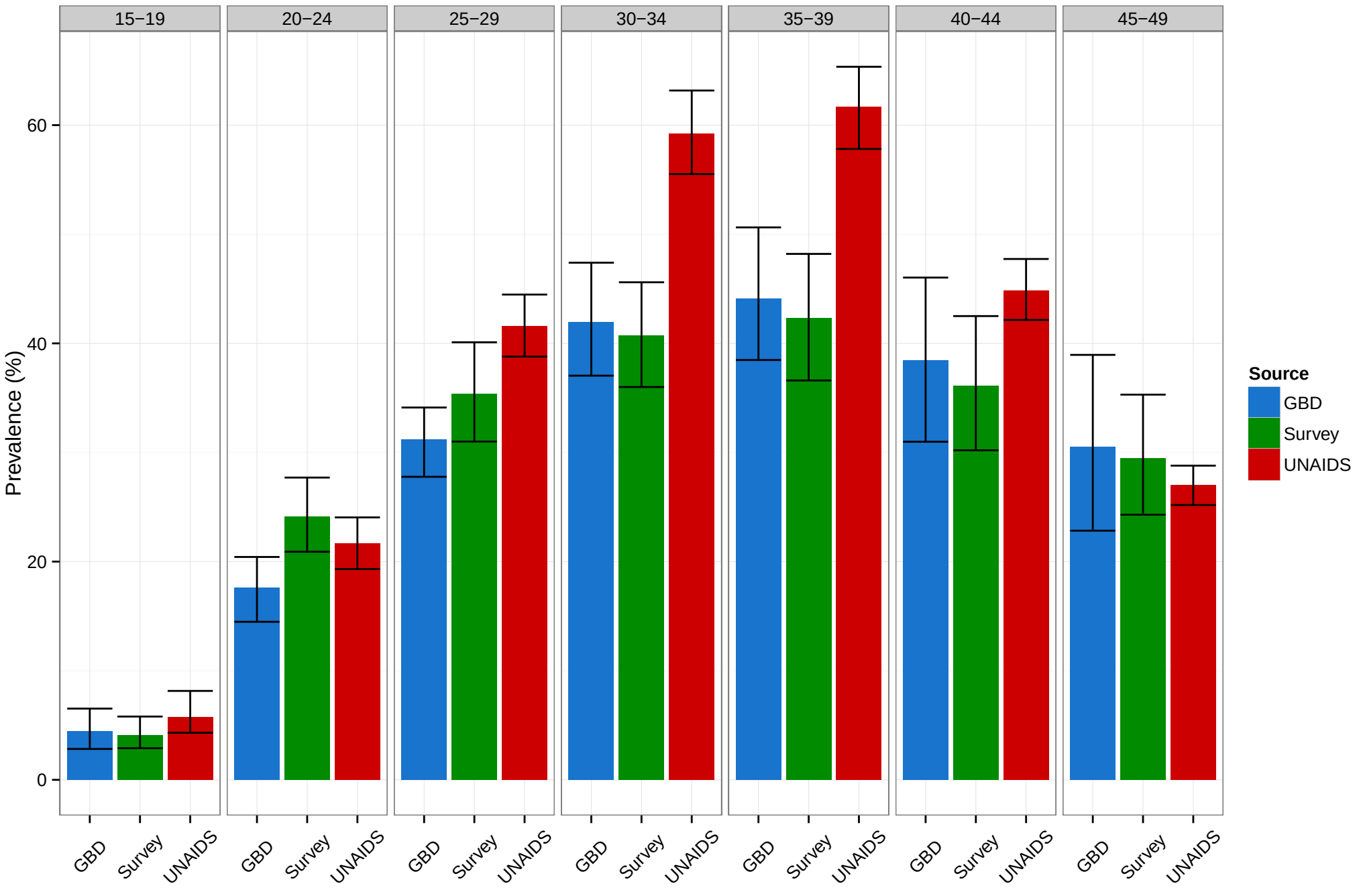

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LBR 2007 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LBR 2007 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LSO 2003 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
30
40
50
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LSO 2003 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
60
40
20
0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LSO 2009 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
20
40
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
LSO 2009 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
20
40
60
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Survey
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Source
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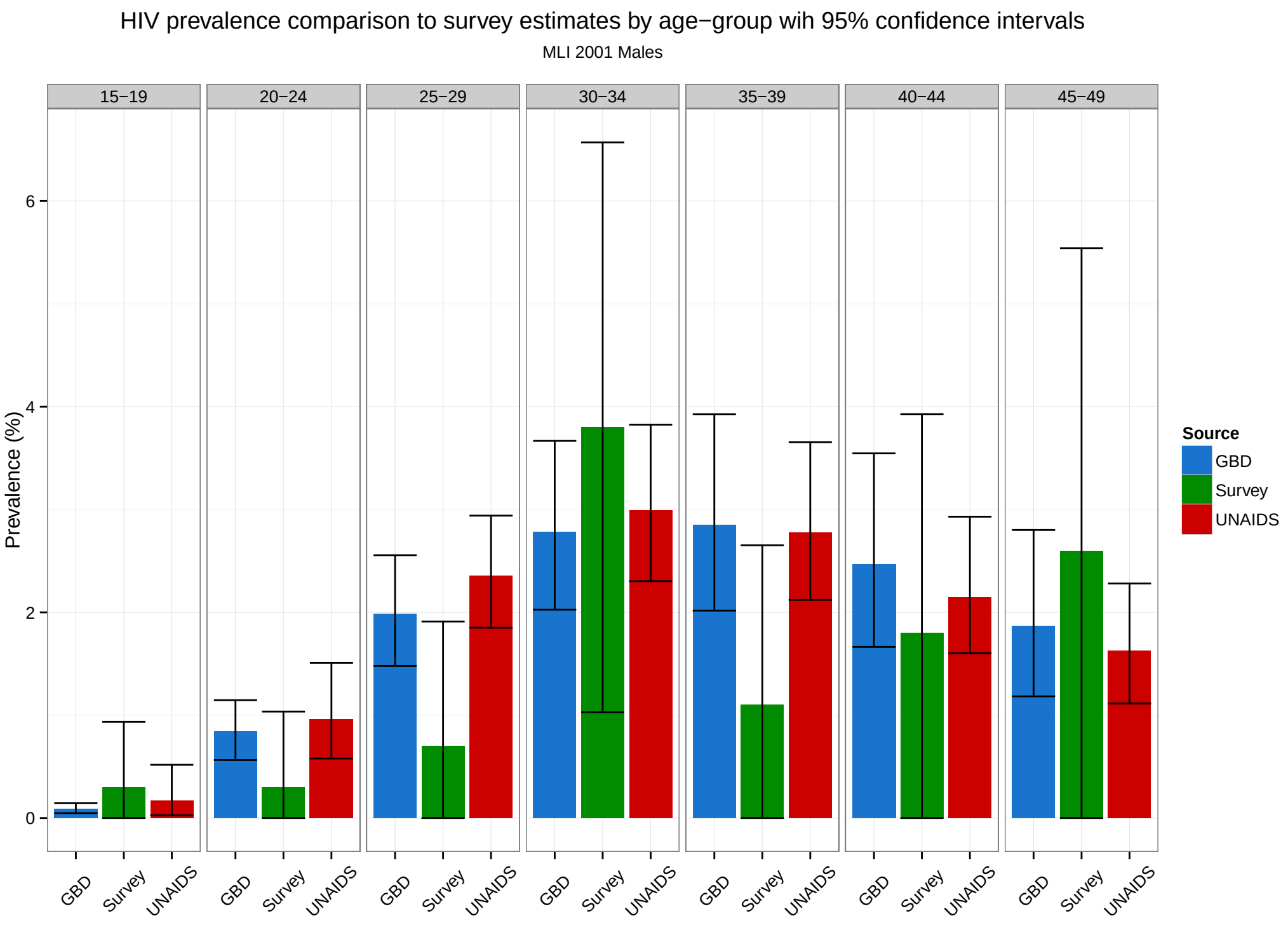
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MLI 2001 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
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Survey
UNAIDS
Source
GBD
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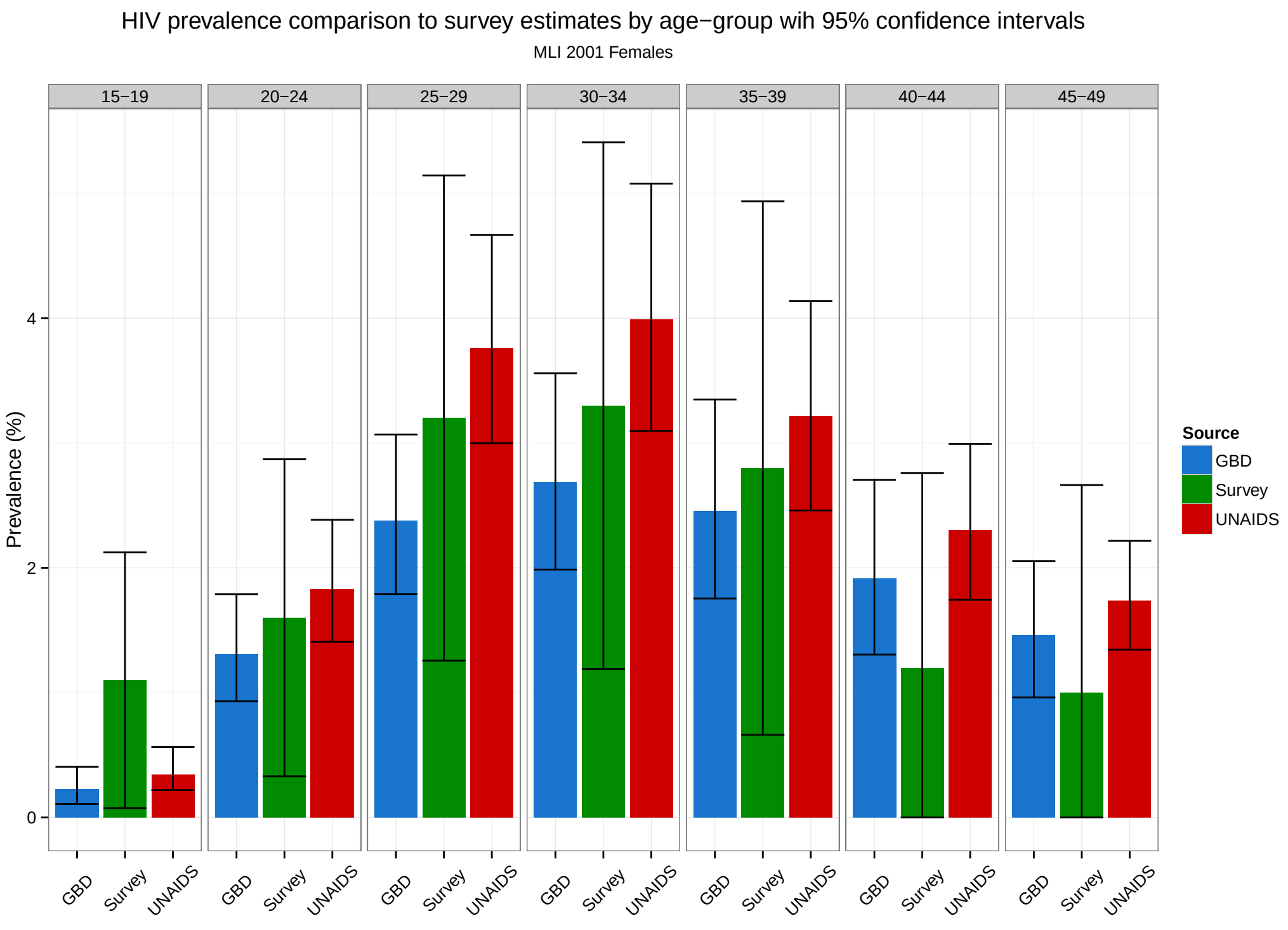
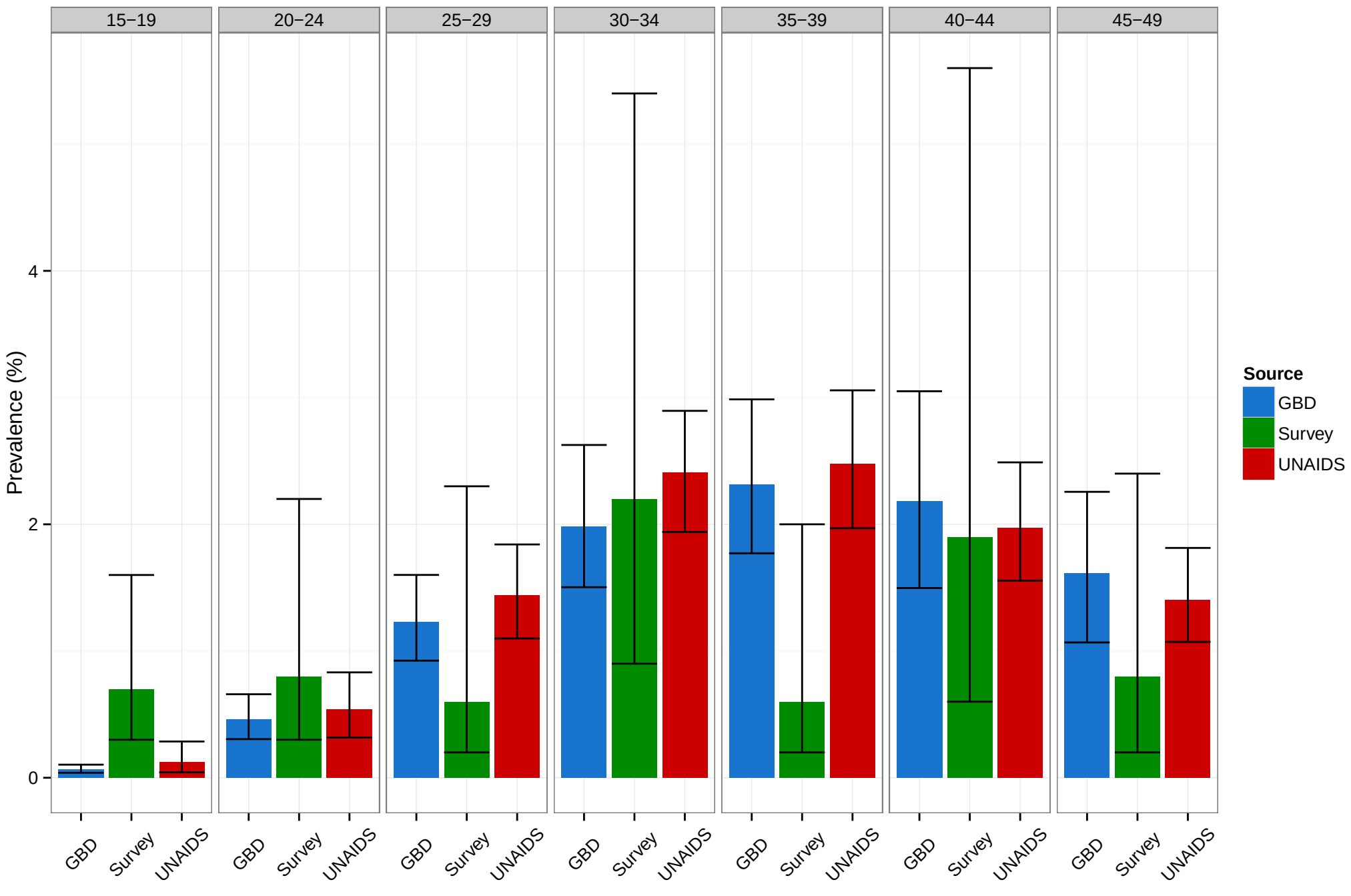
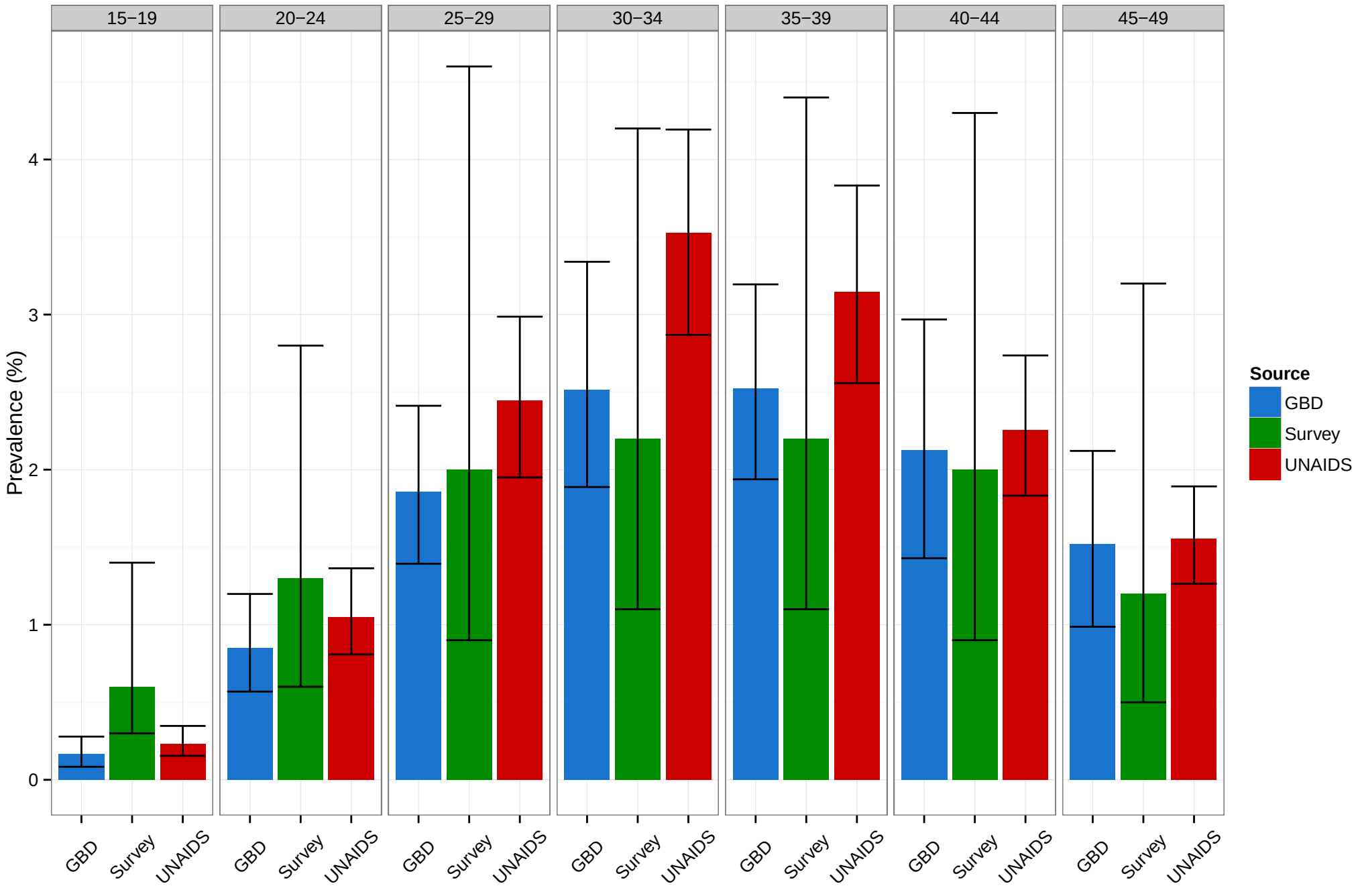
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MLI 2001 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MLI 2006 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MLI 2006 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
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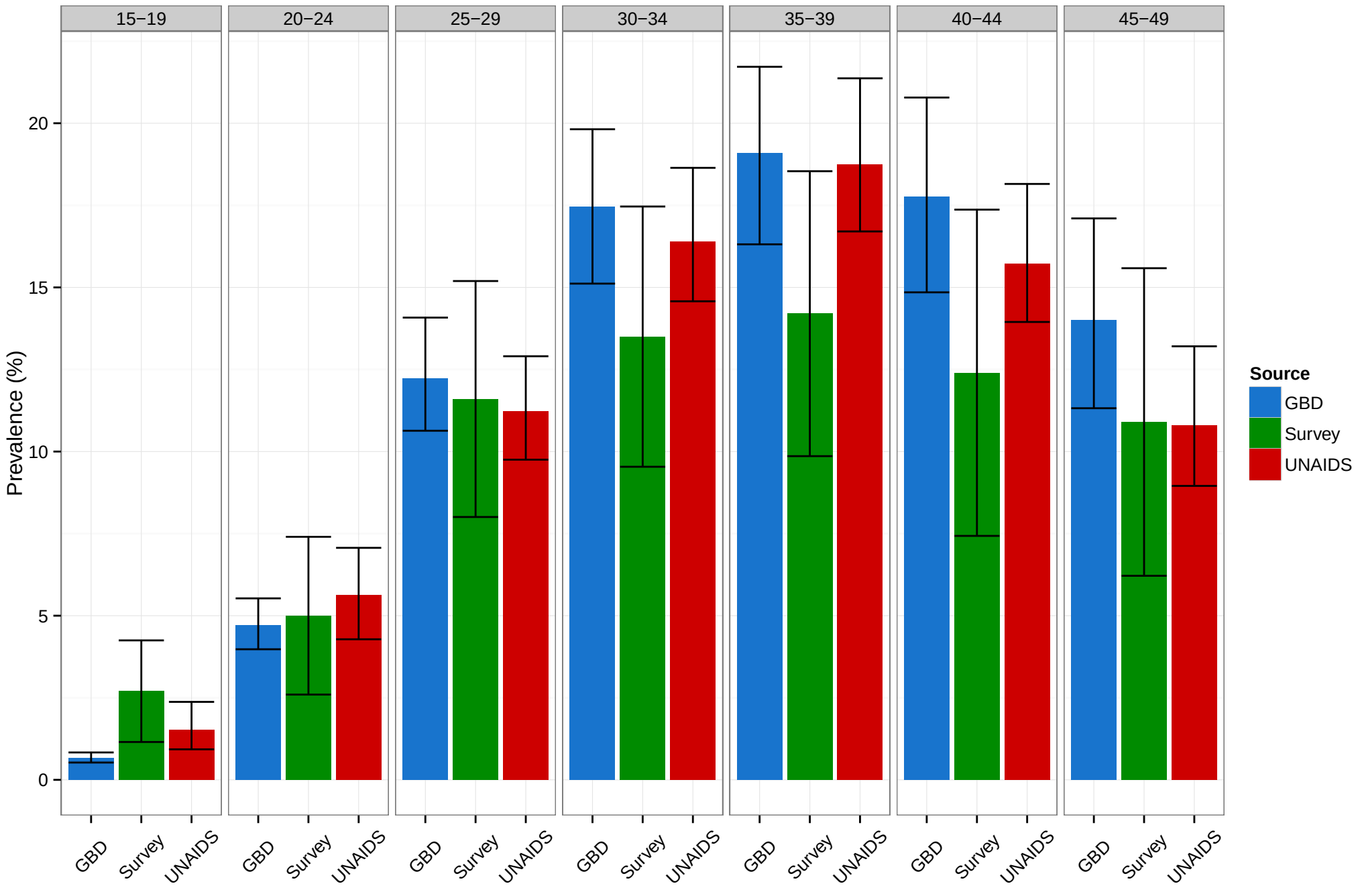
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MOZ 2009 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
20
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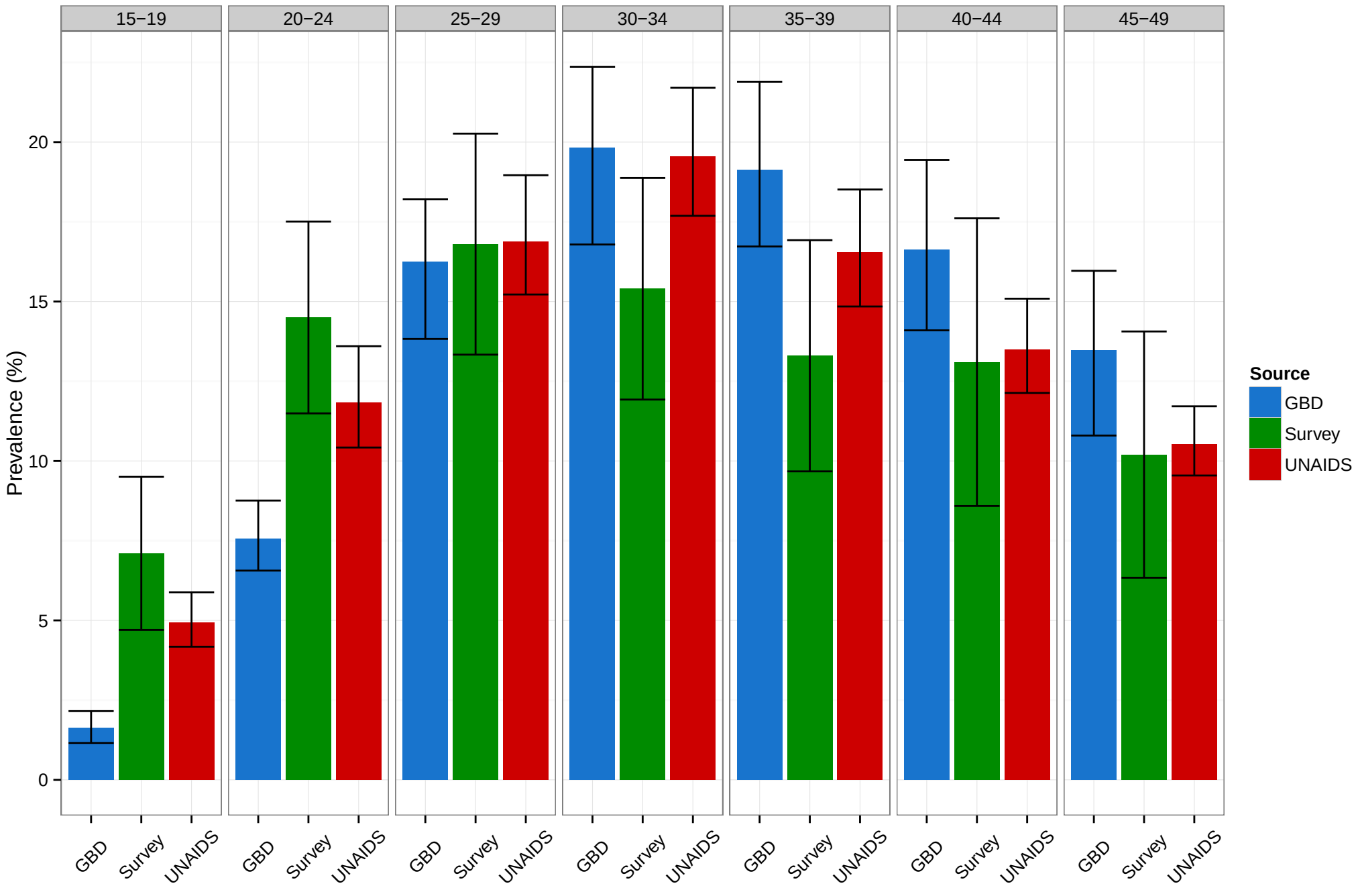
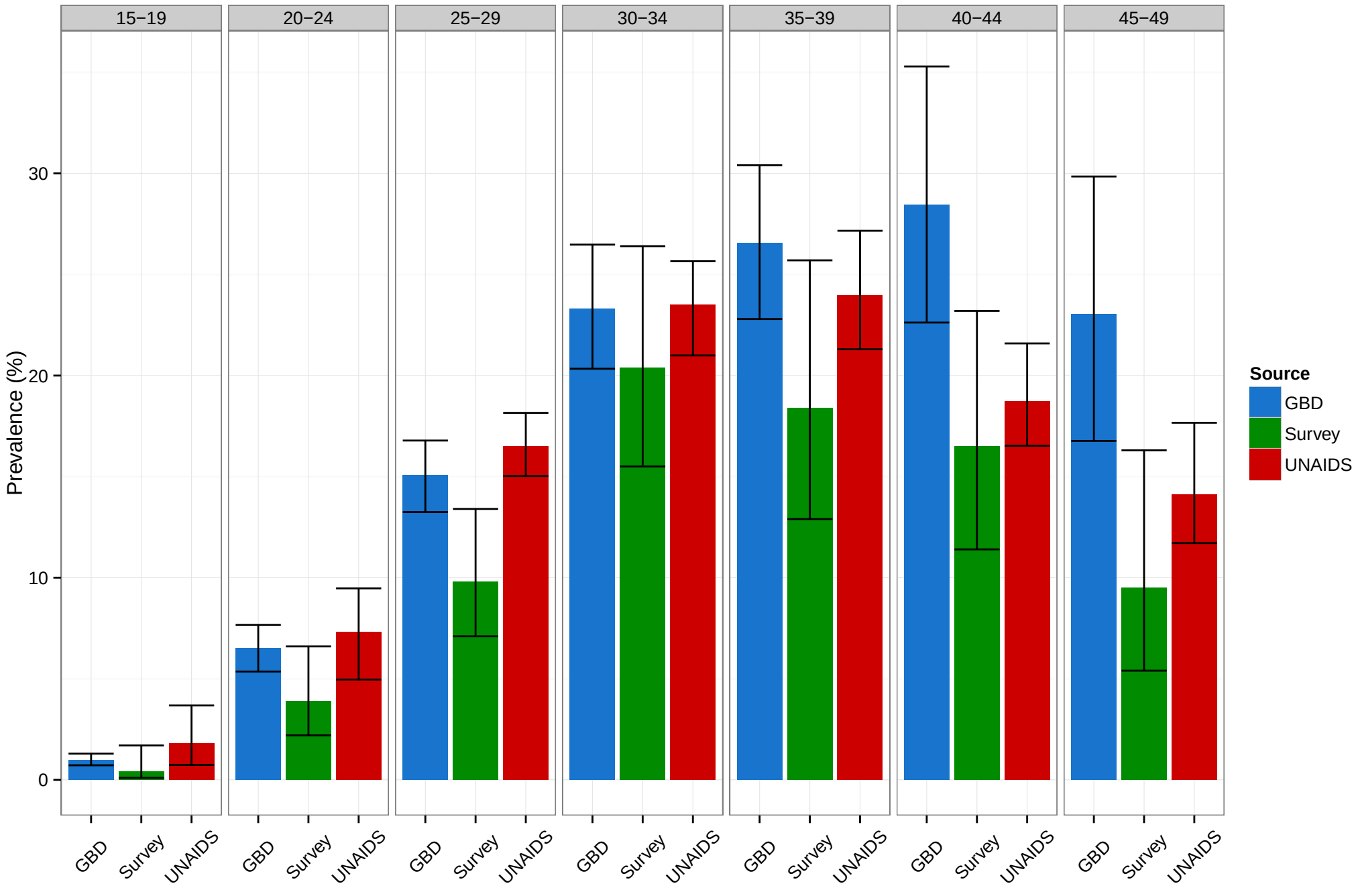
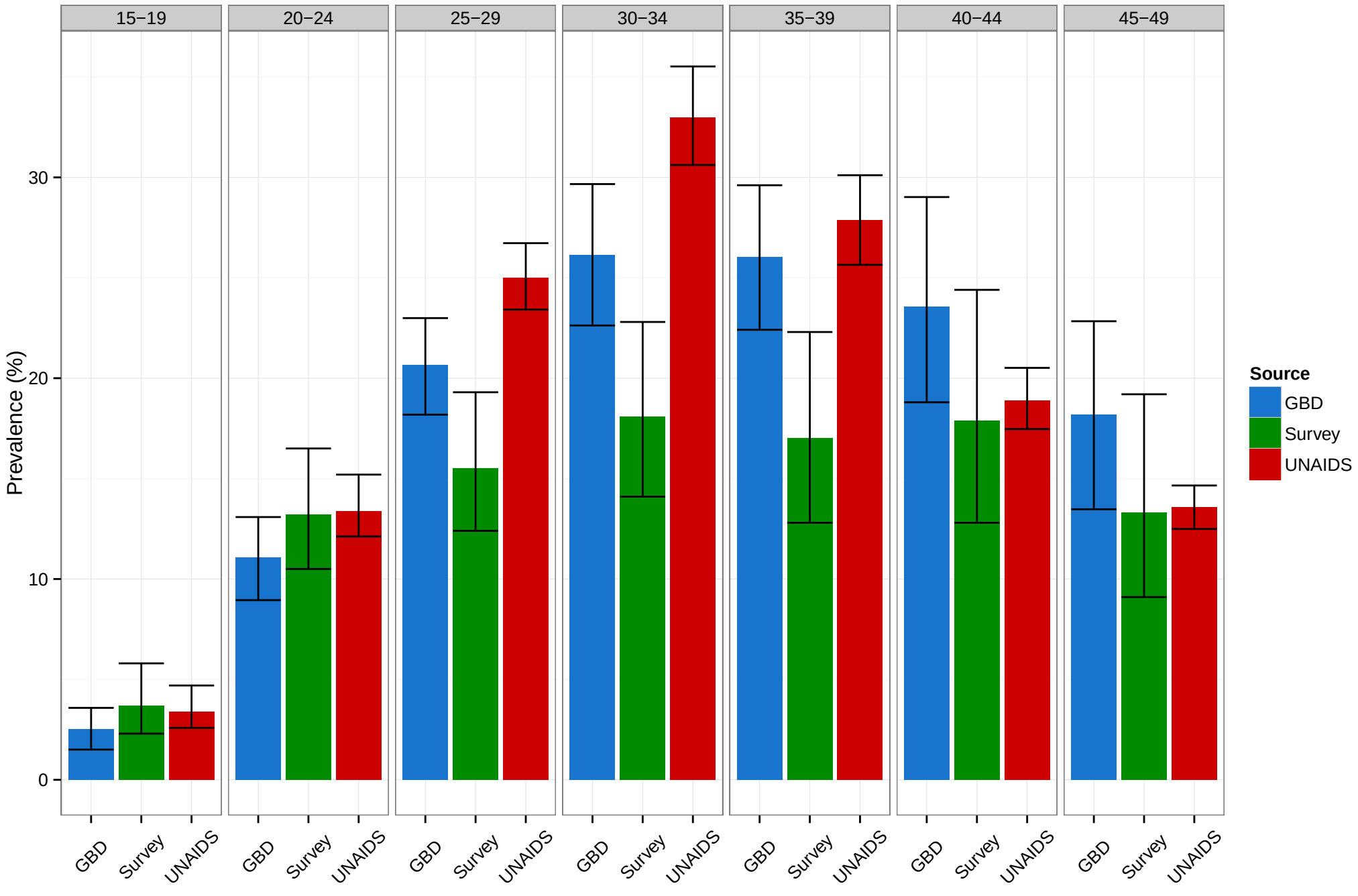
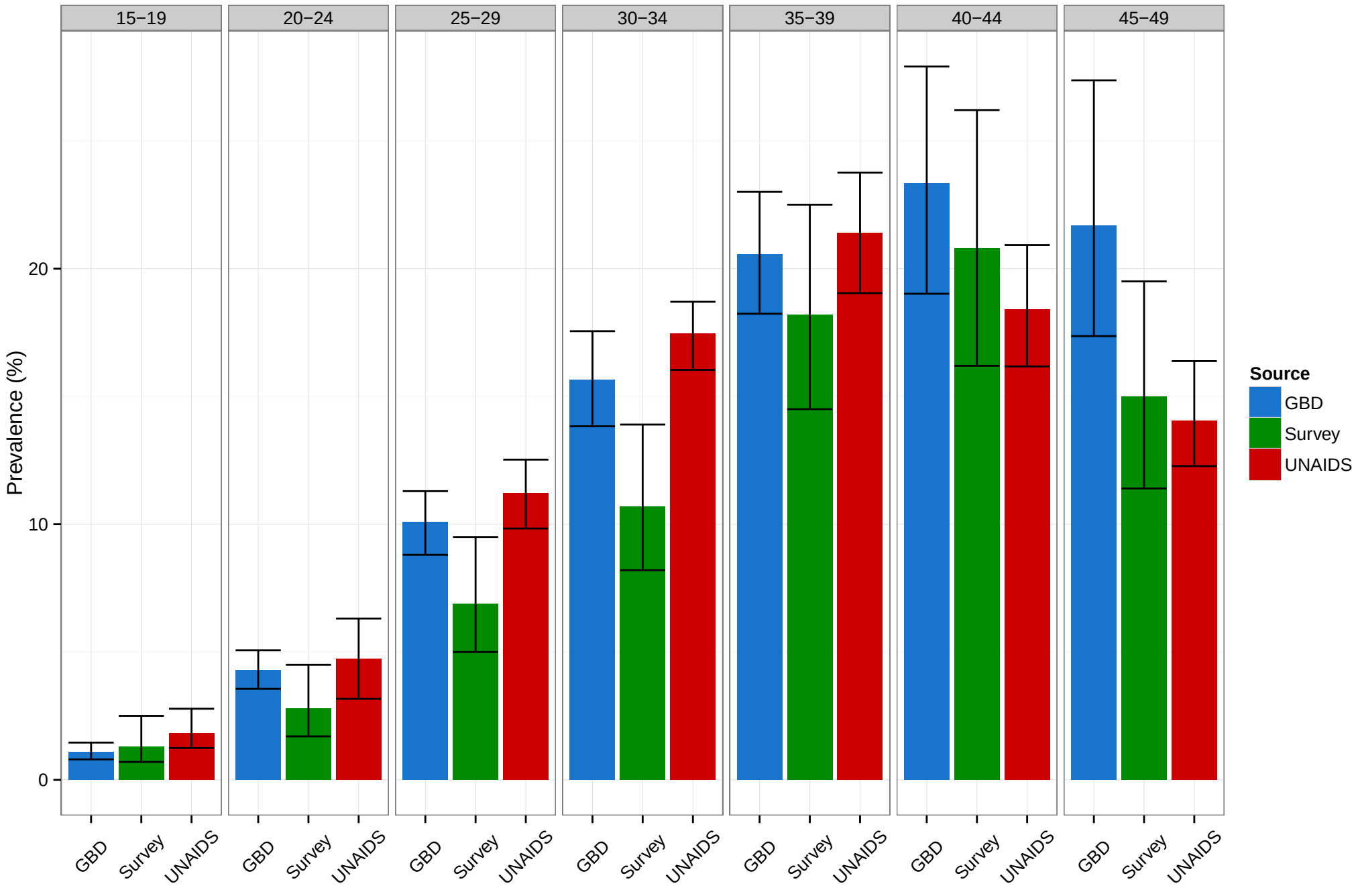
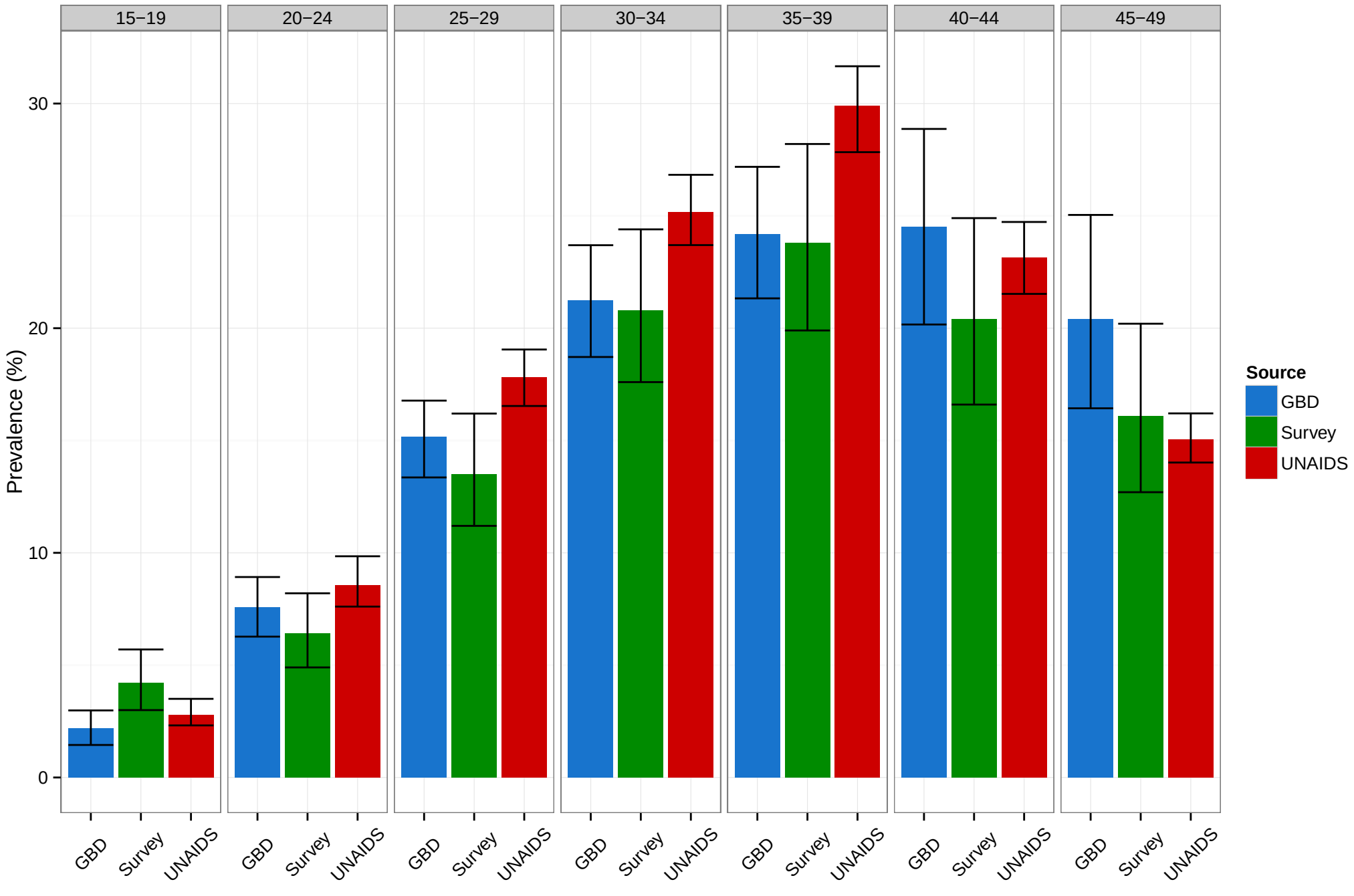
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

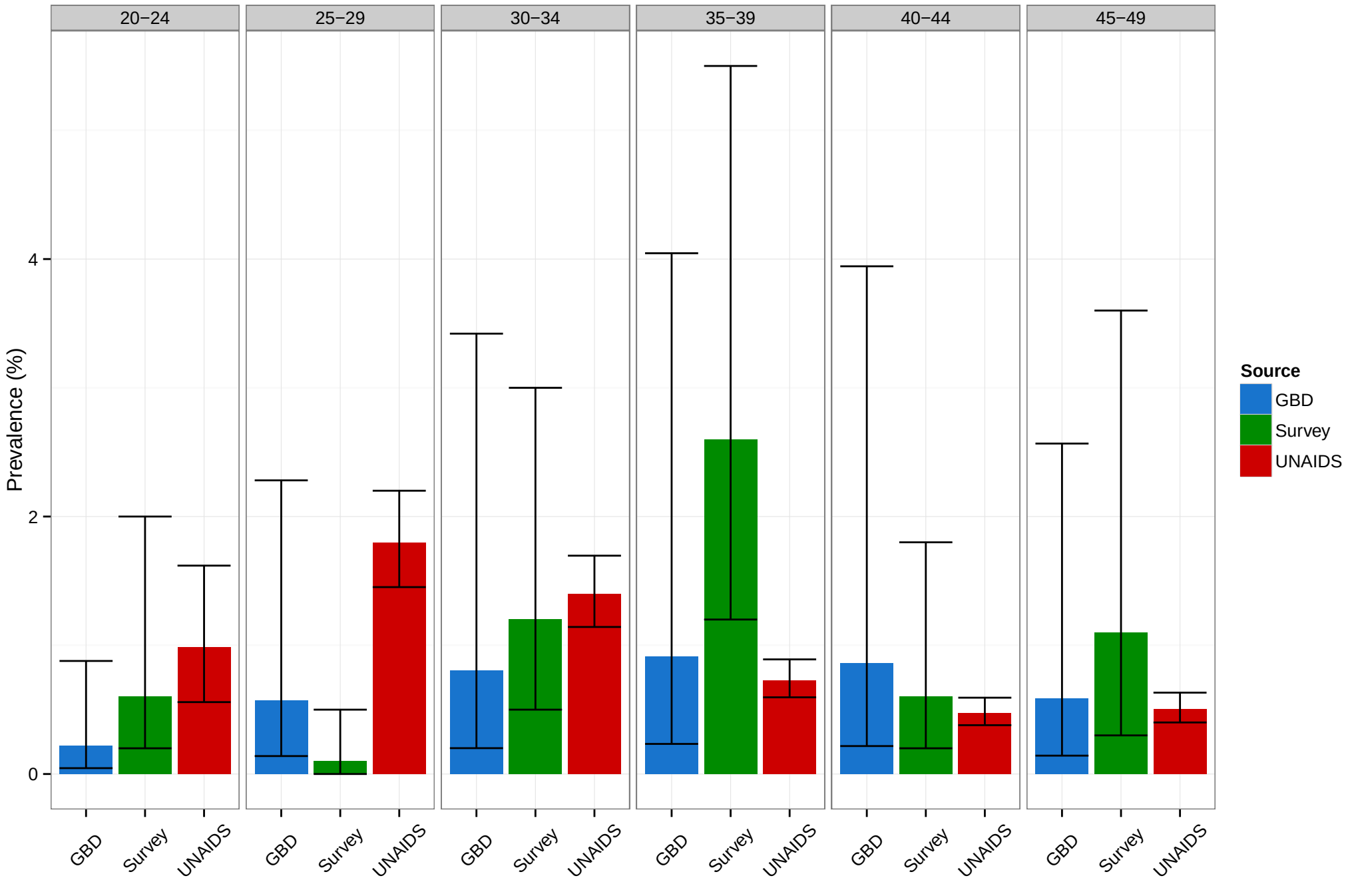

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MOZ 2009 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
20
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

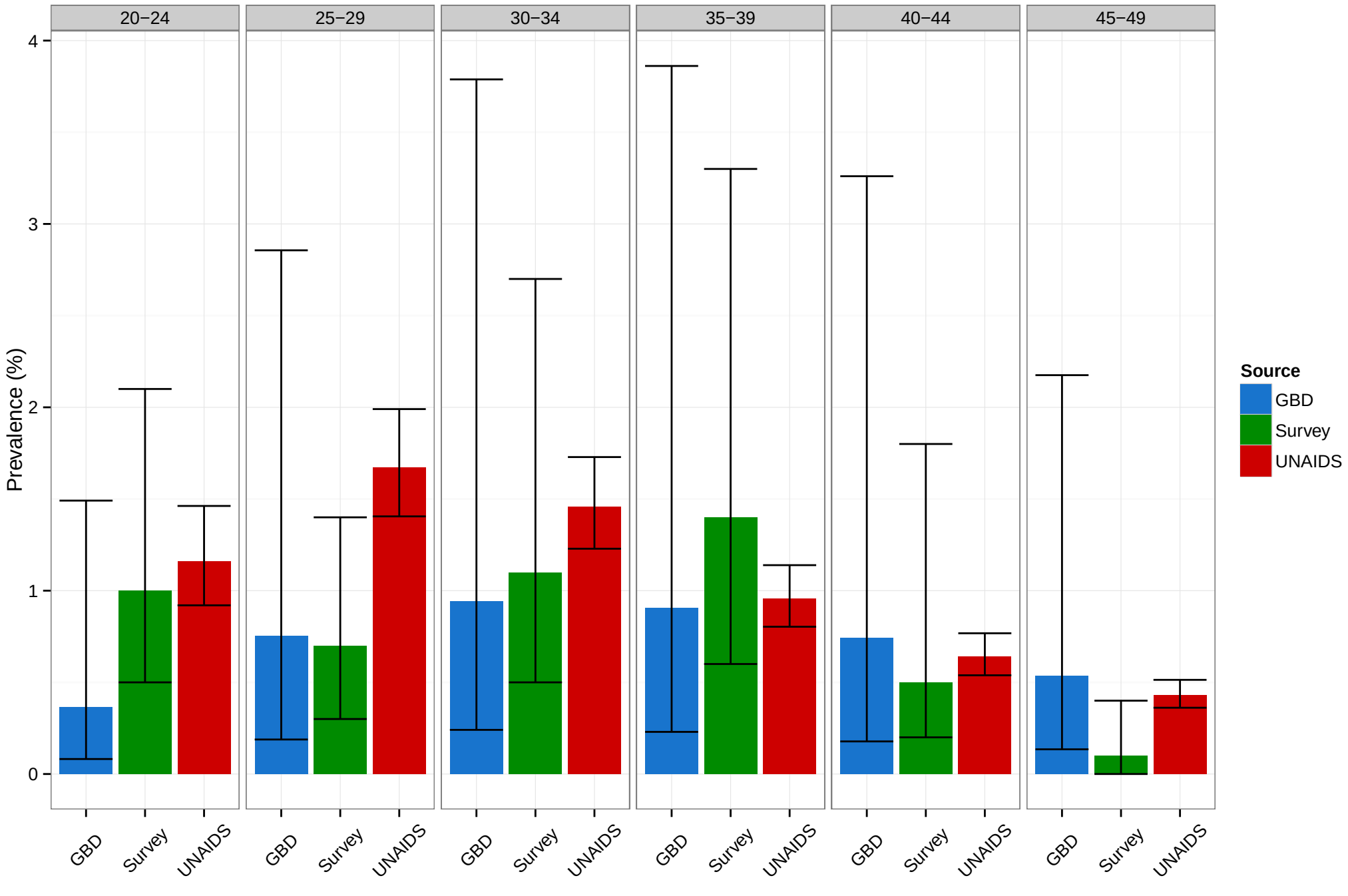

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MWI 2004 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
30
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

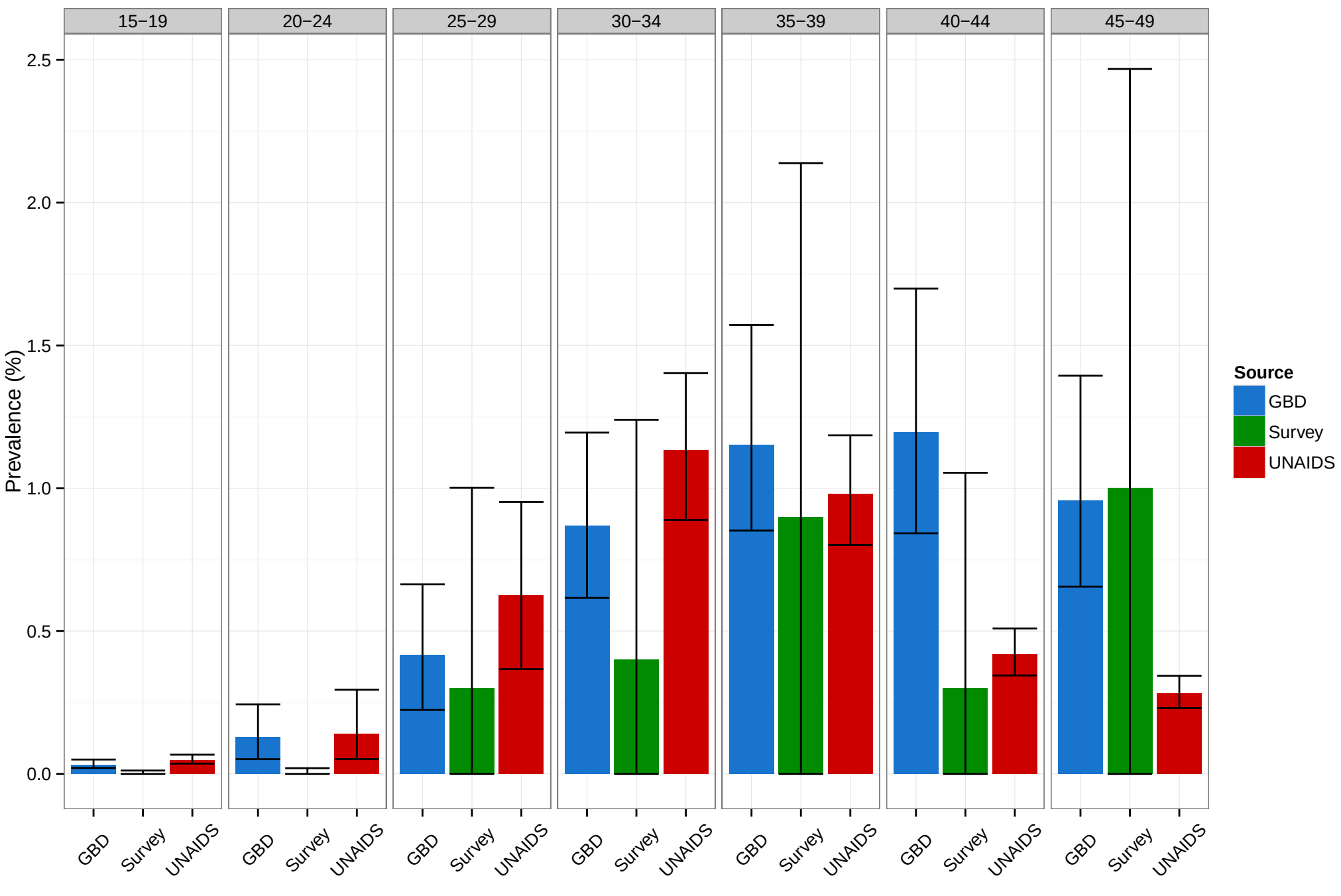

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MWI 2004 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
30
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

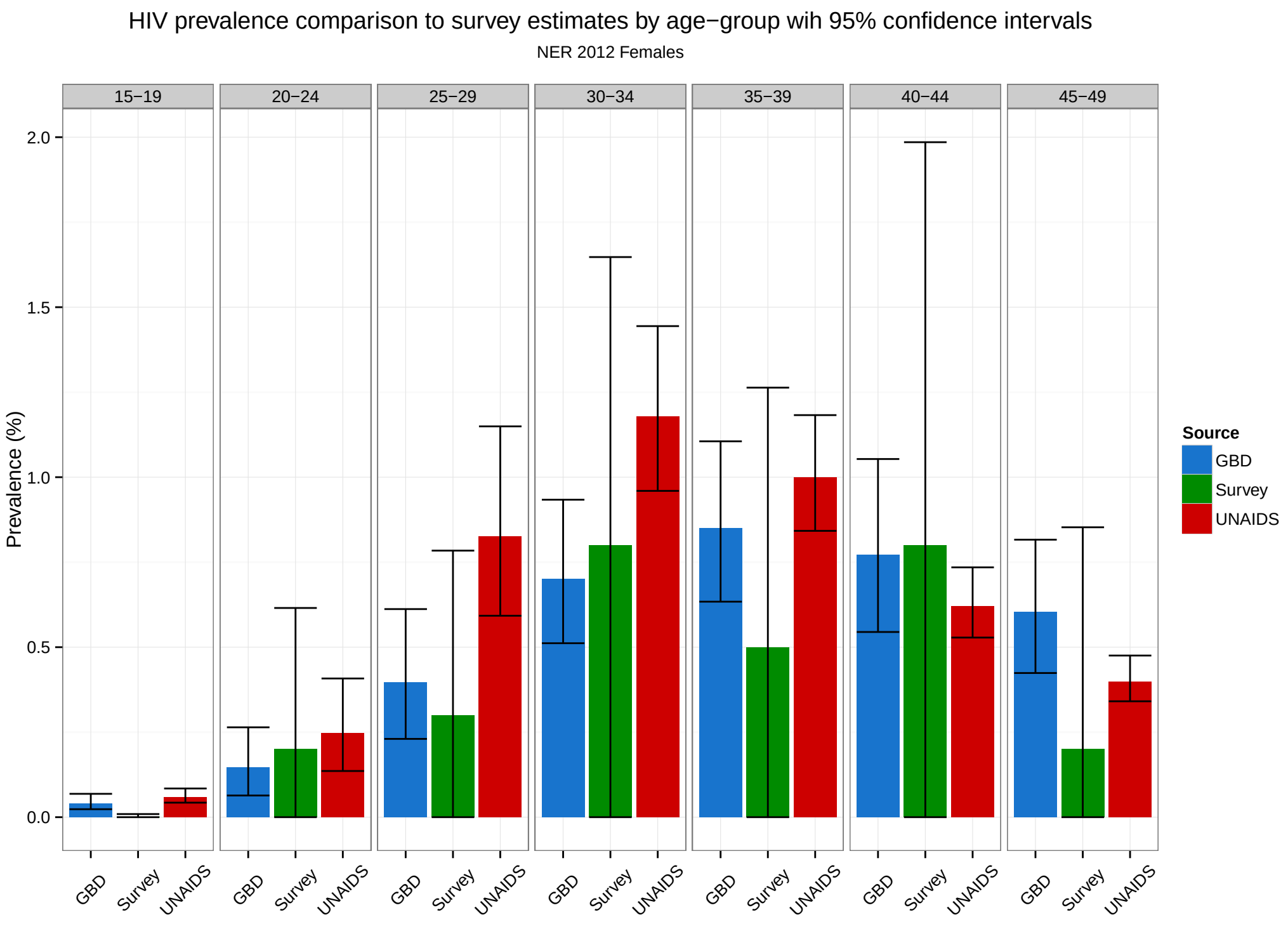

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MWI 2010 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

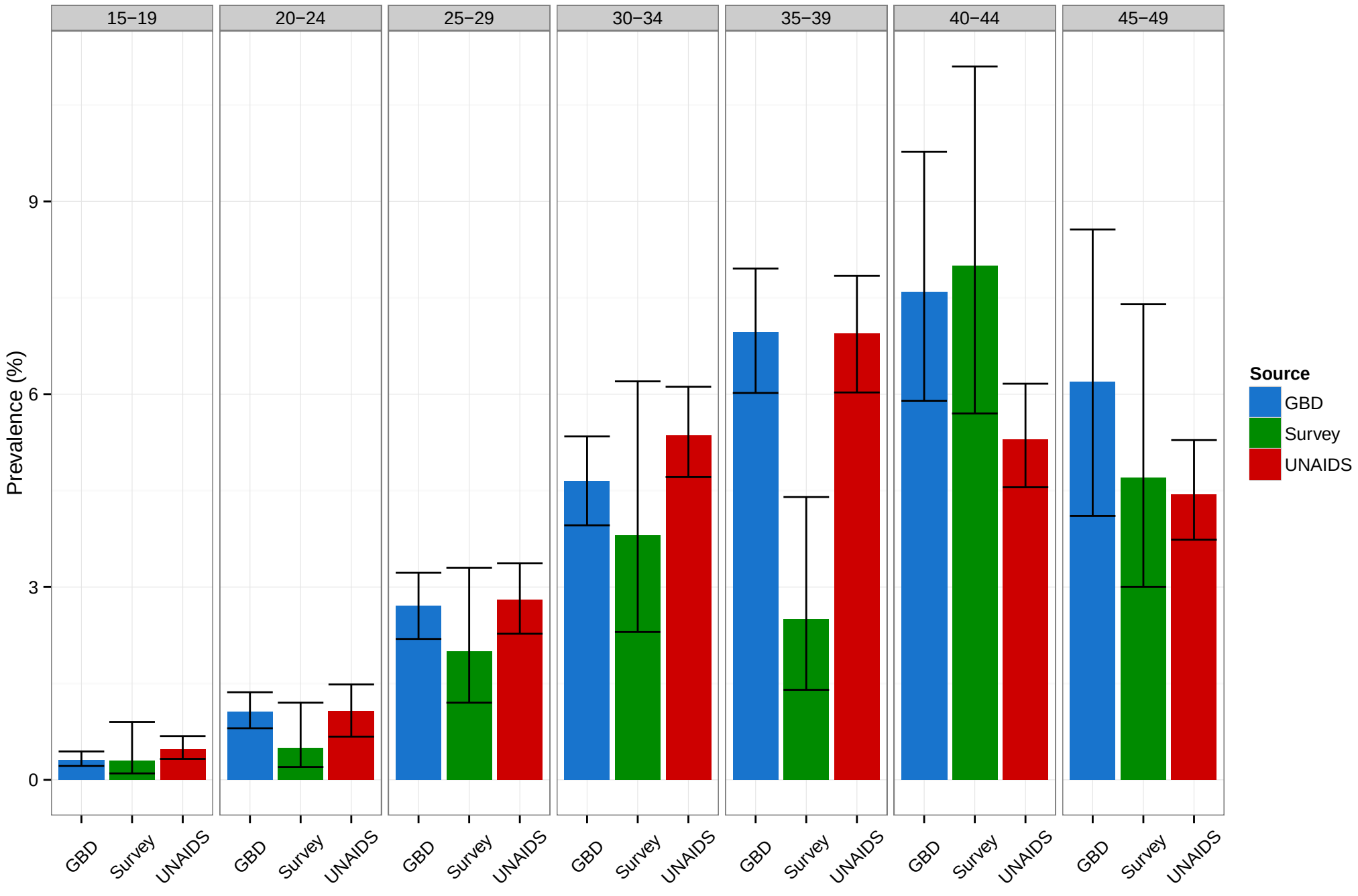

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
MWI 2010 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
30
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

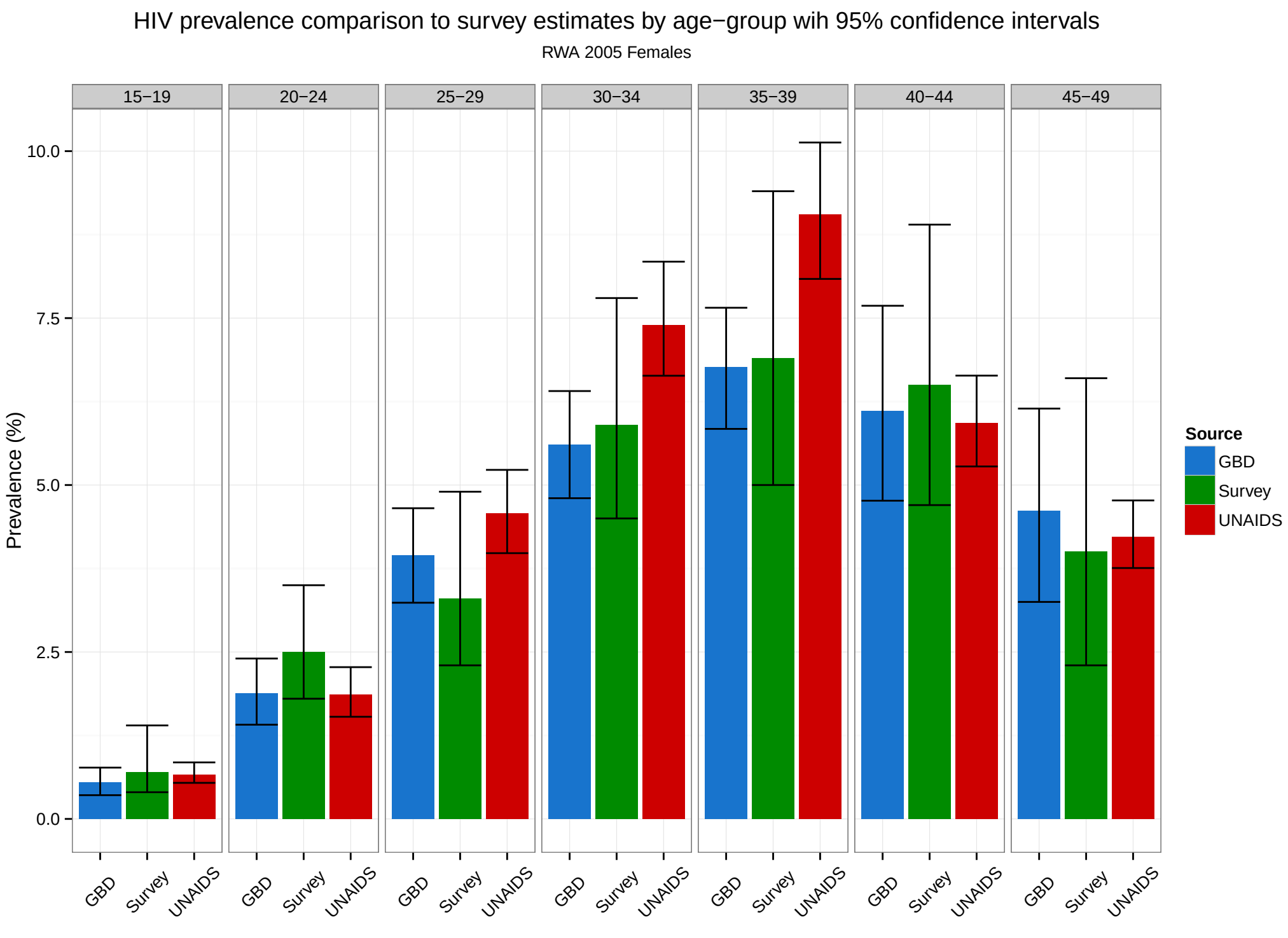

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
NER 2006 Males
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

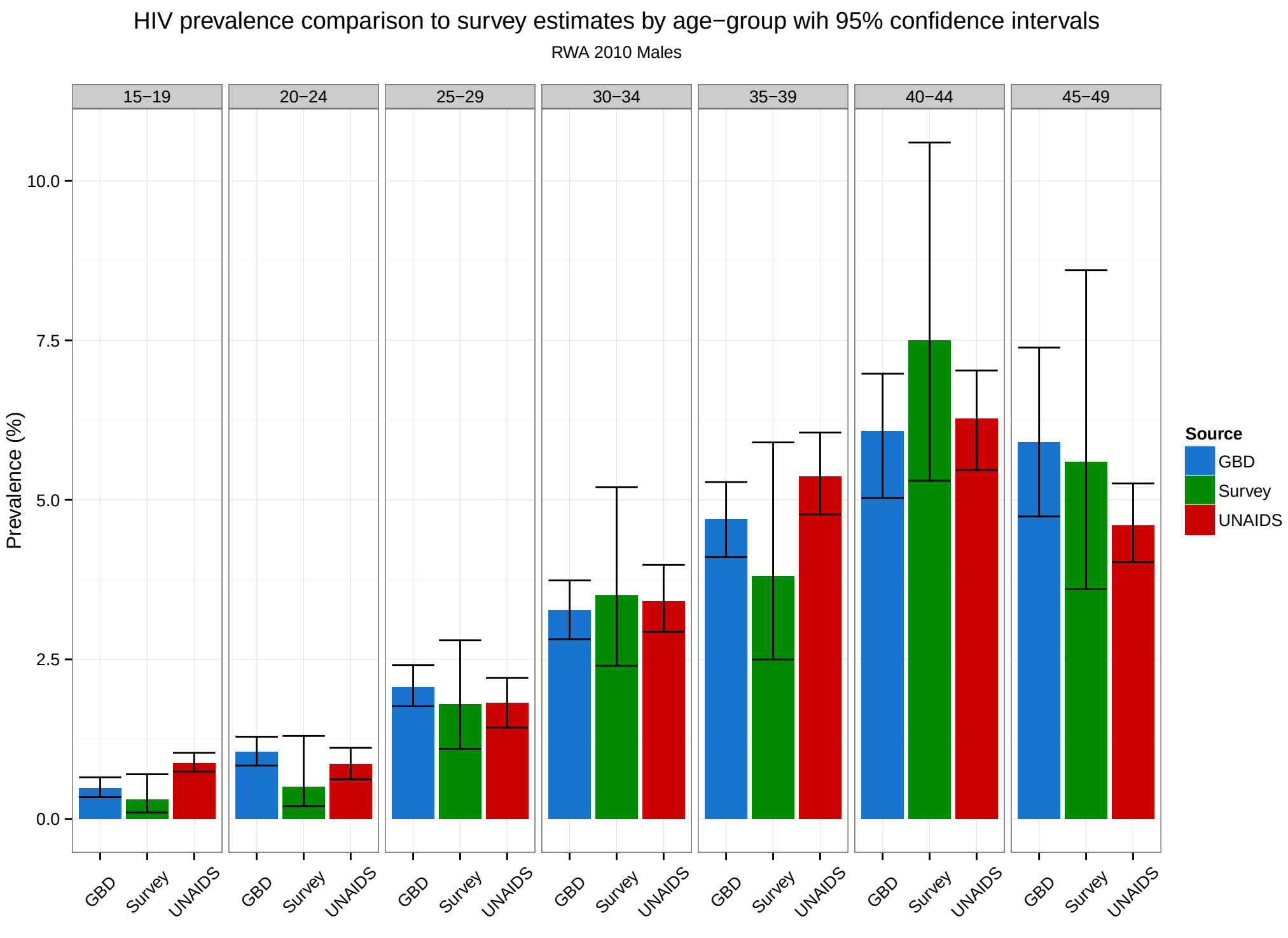

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
NER 2006 Females
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

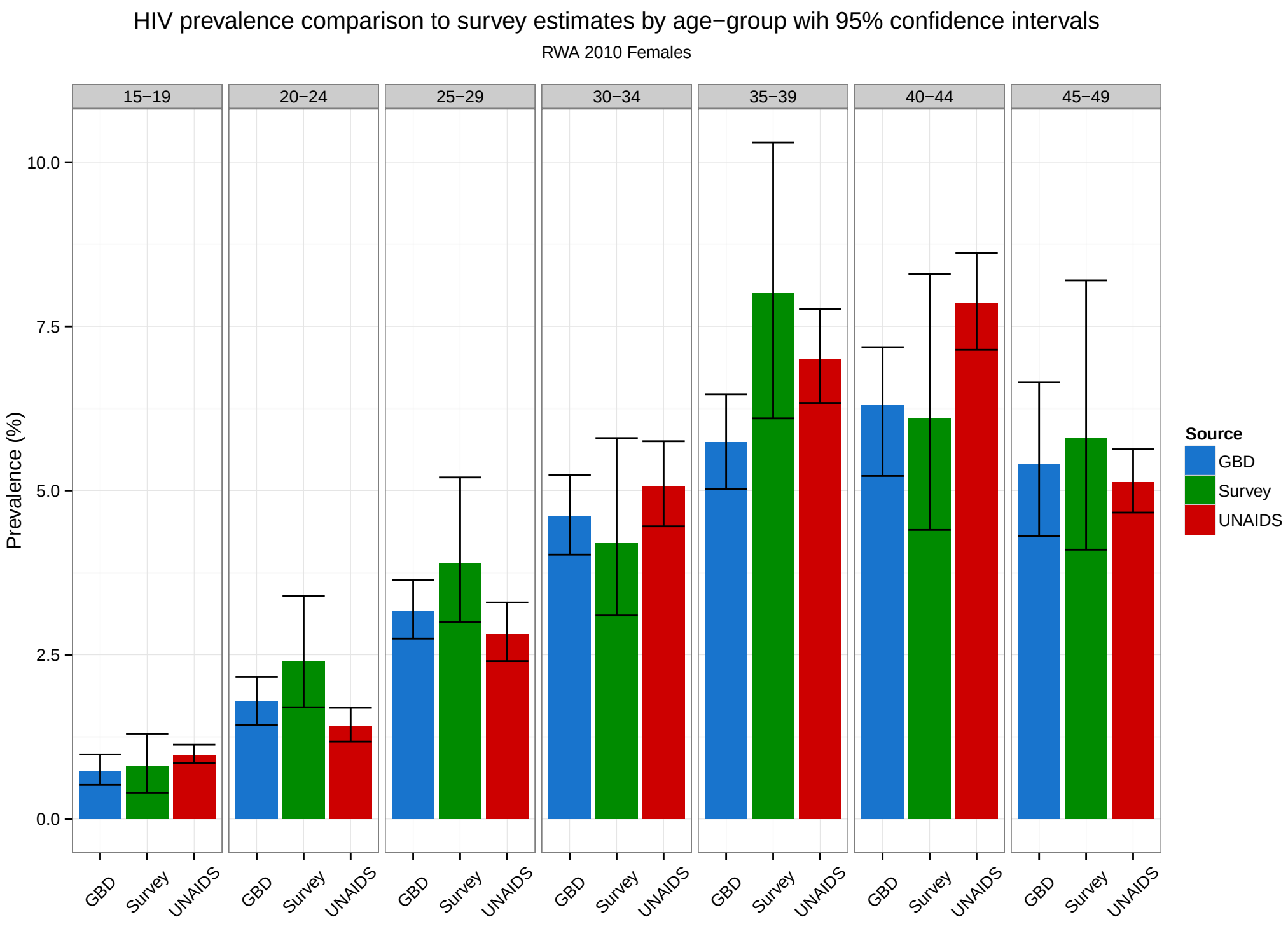

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
NER 2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
2.5
2.0
1.5
1.0
0.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

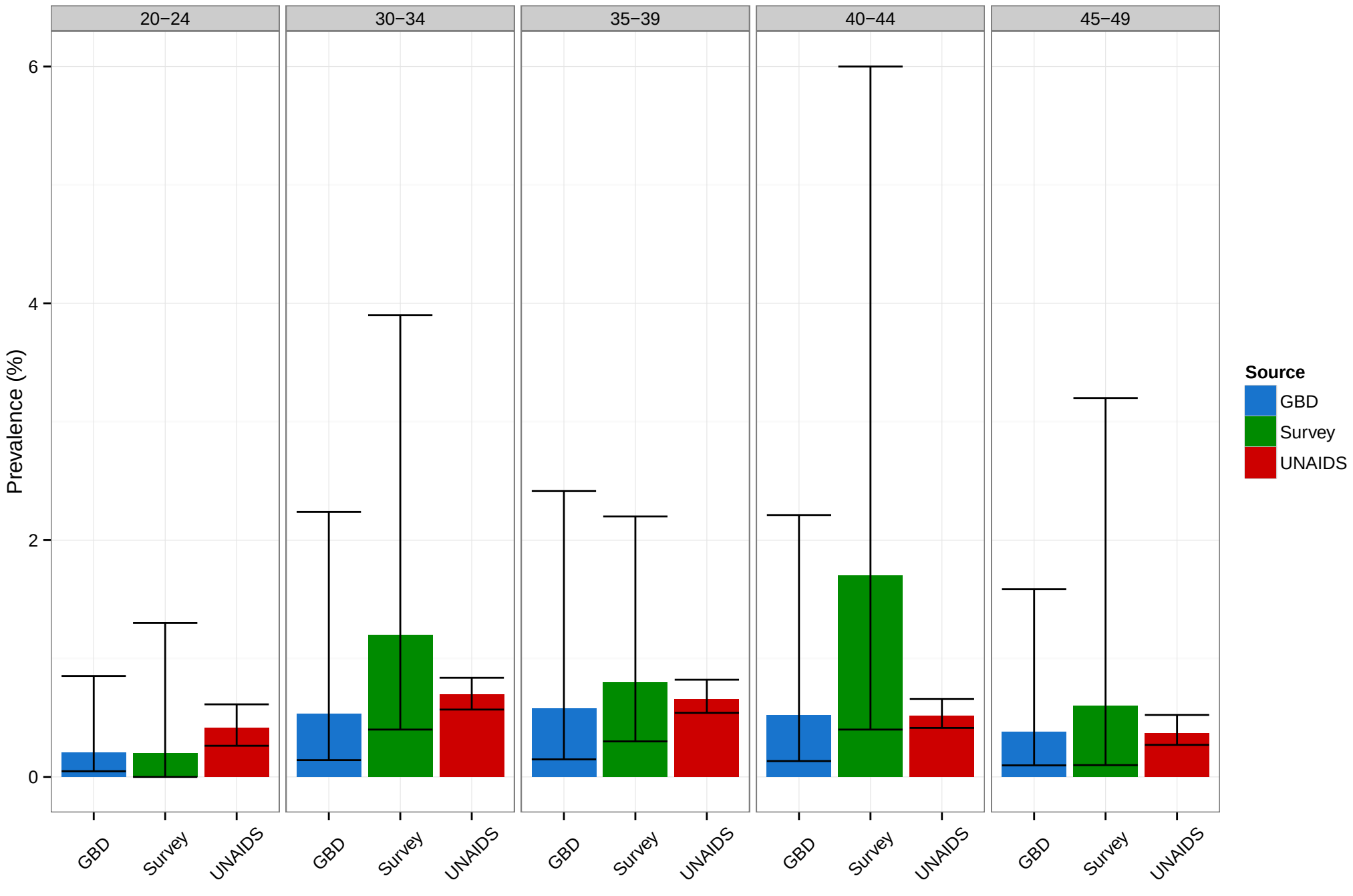

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
NER 2012 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
2.0
1.5
1.0
0.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

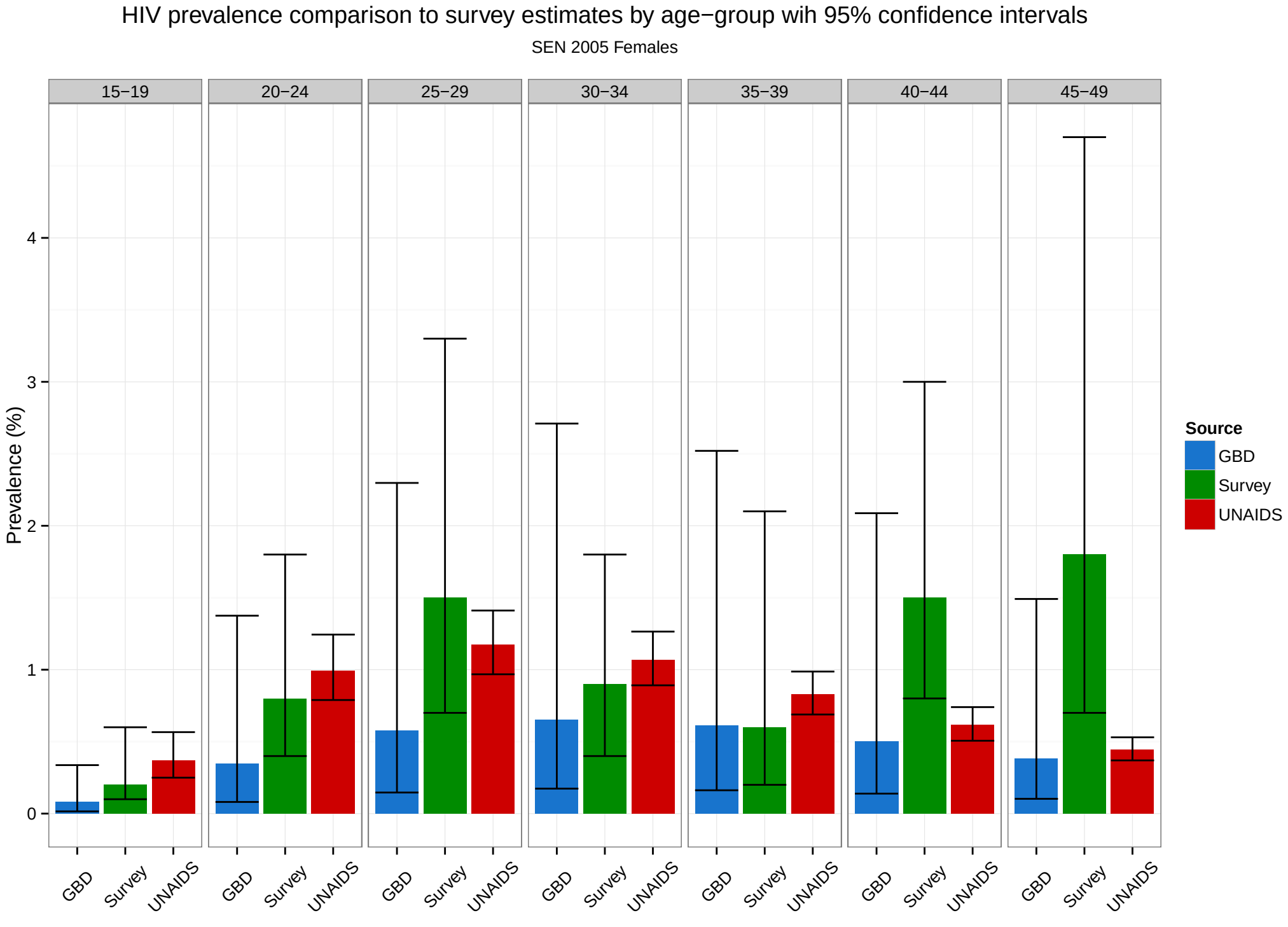

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
RWA 2005 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
3
6
9
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

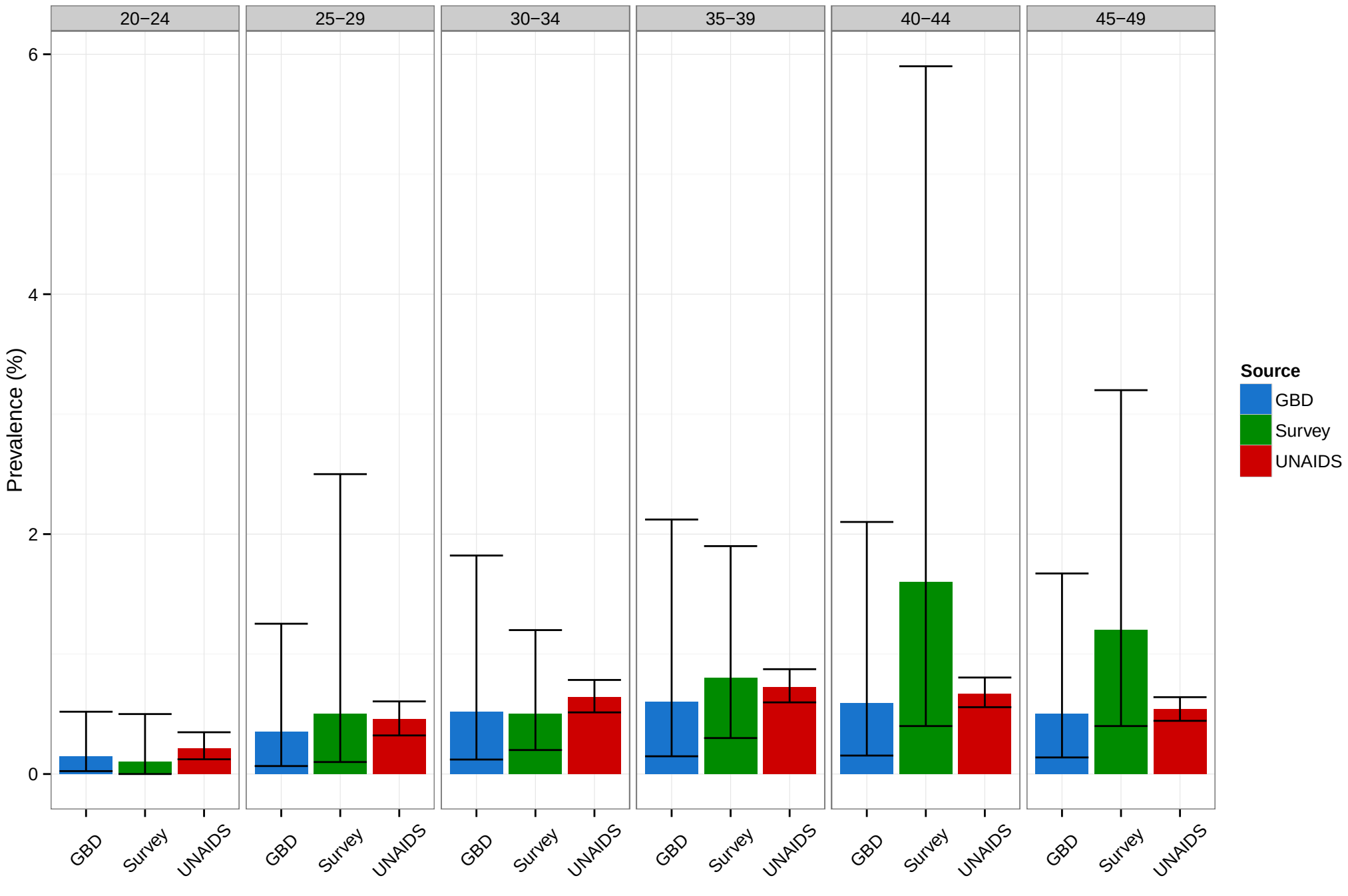

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
RWA 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

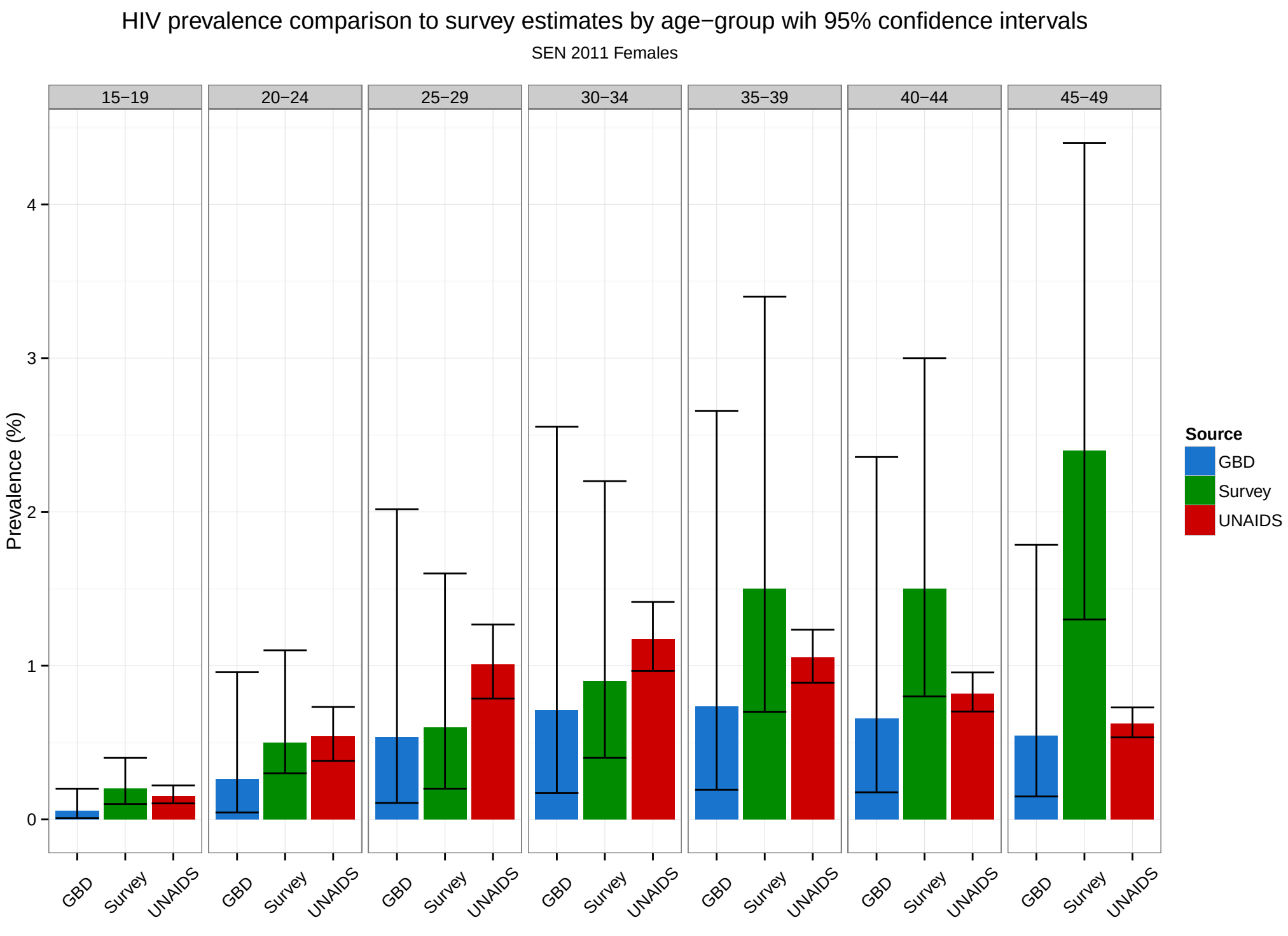

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
RWA 2010 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
RWA 2010 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
10.0
7.5
5.0
2.5
0.0
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SEN 2005 Males
20−24
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SEN 2005 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SEN 2011 Males
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SEN 2011 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
1
2
3
4
GBD
Survey
UNAIDS
Source
GBD
Survey
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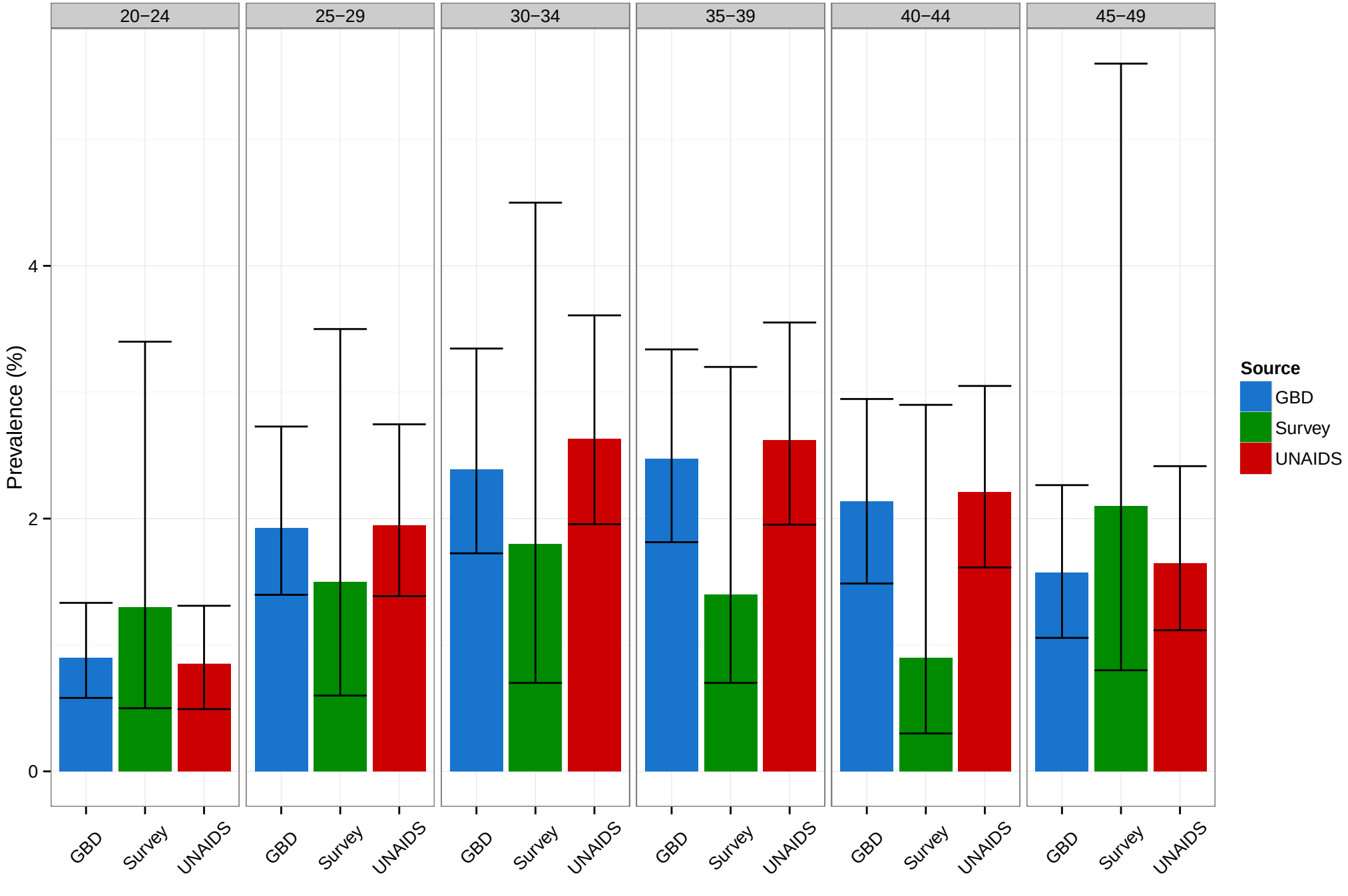
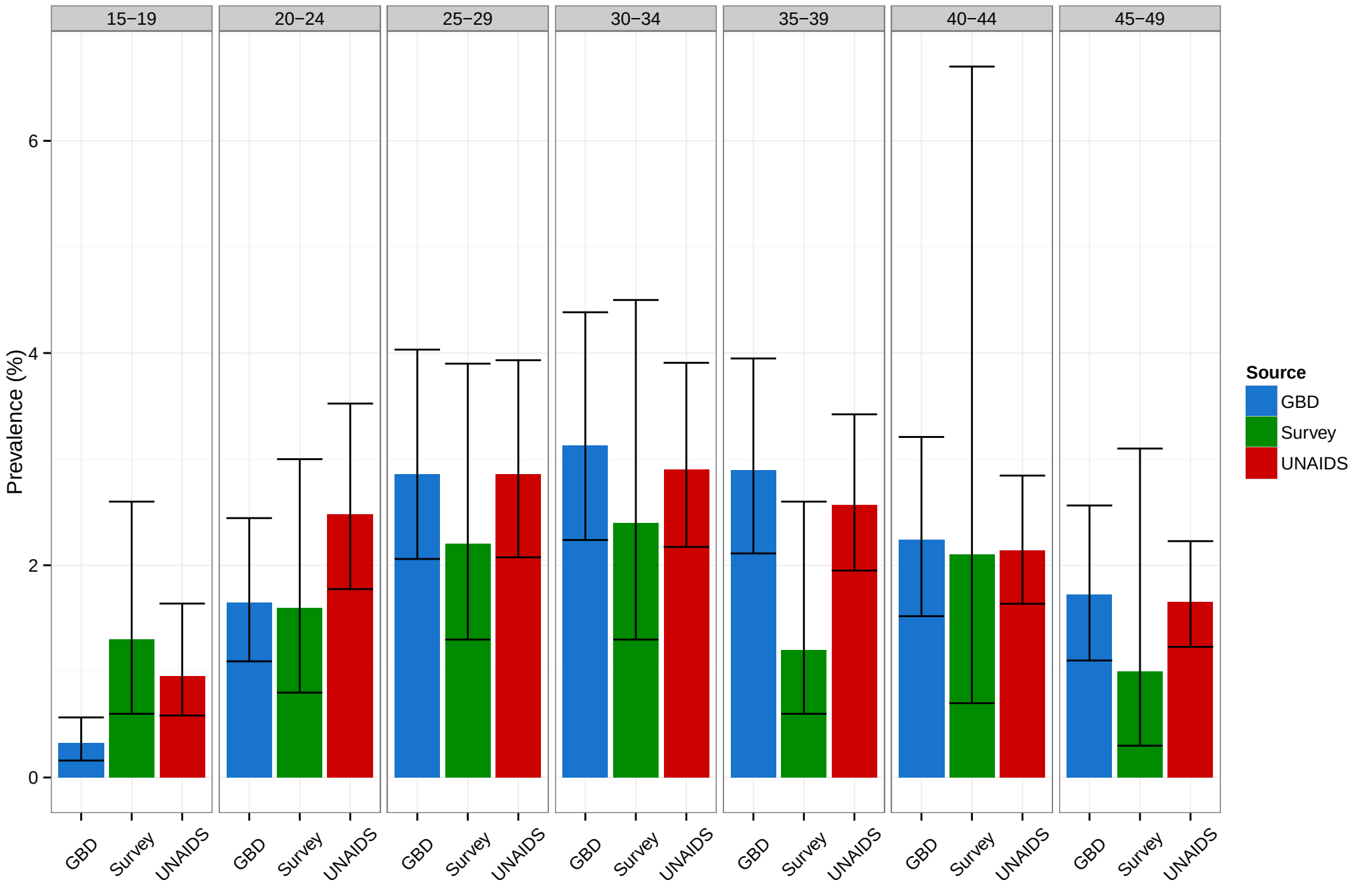
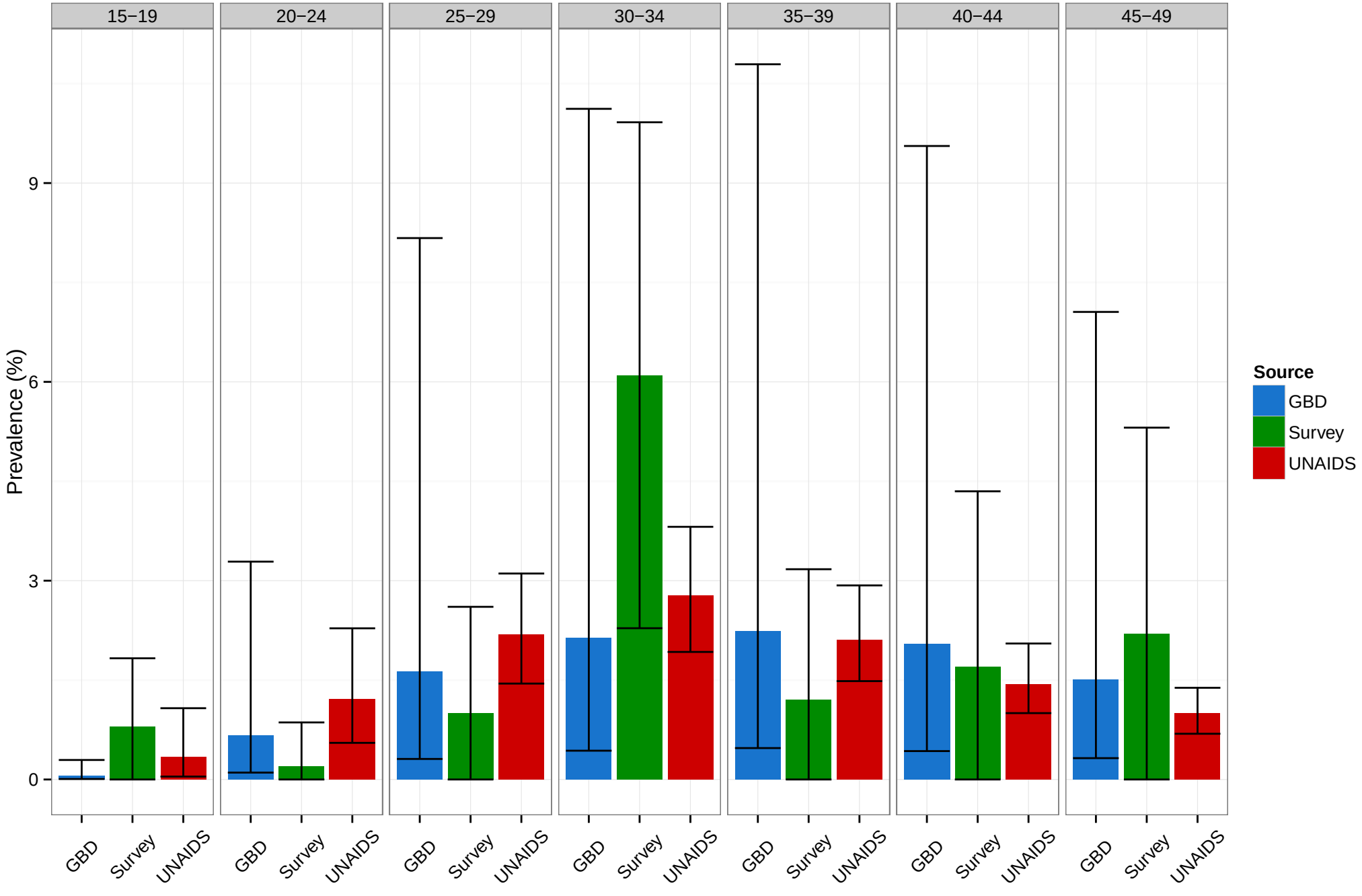
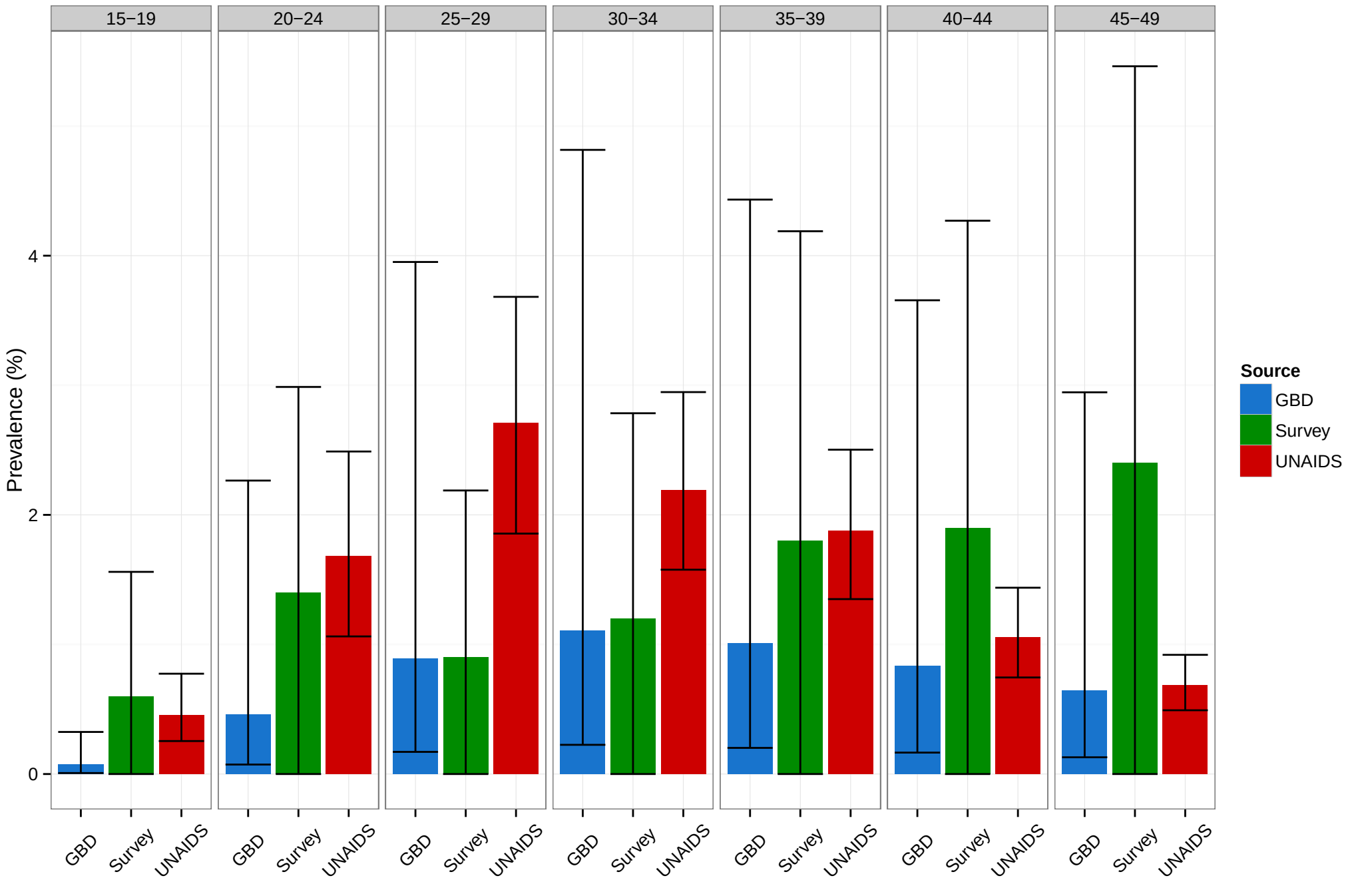
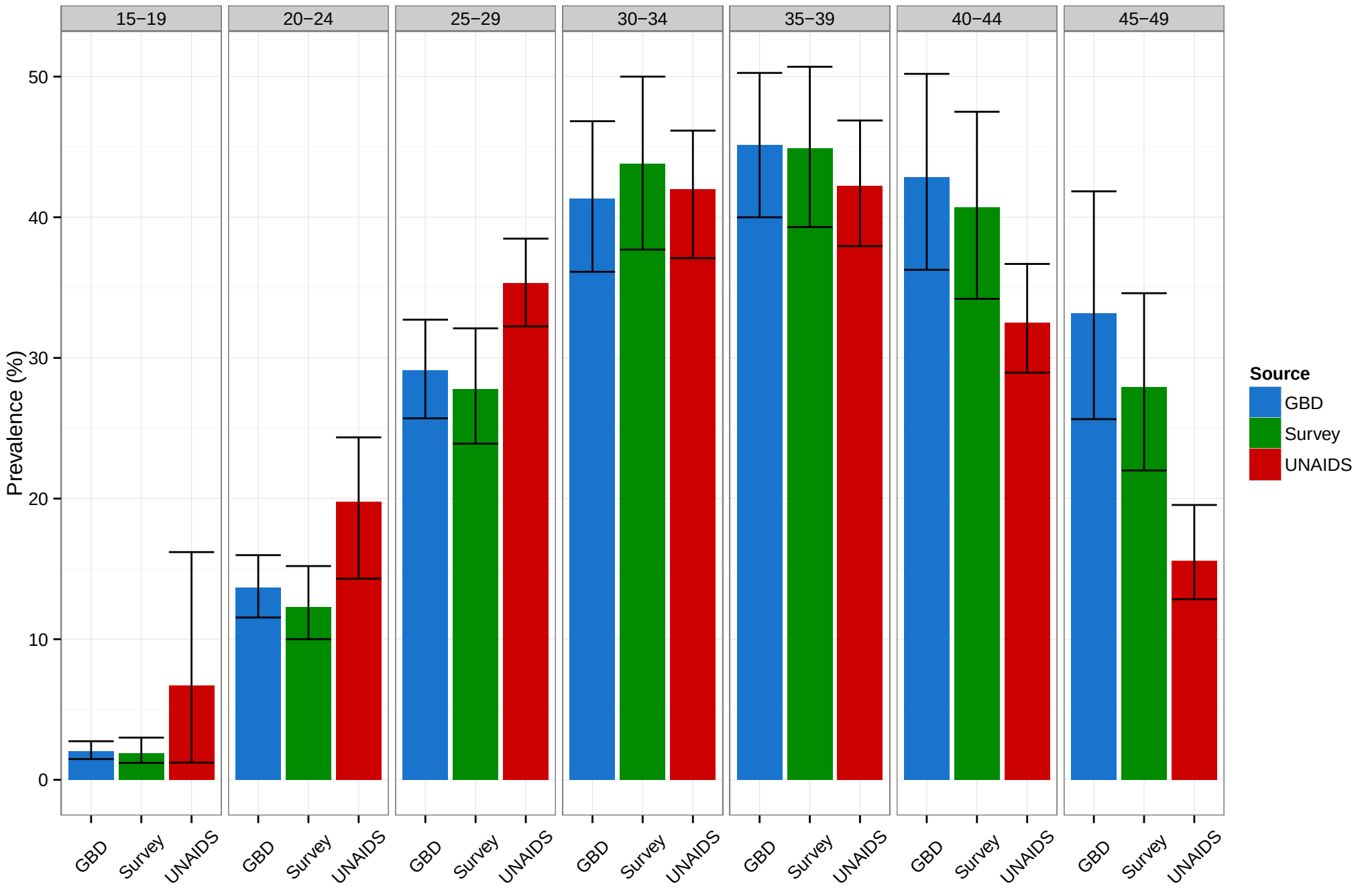
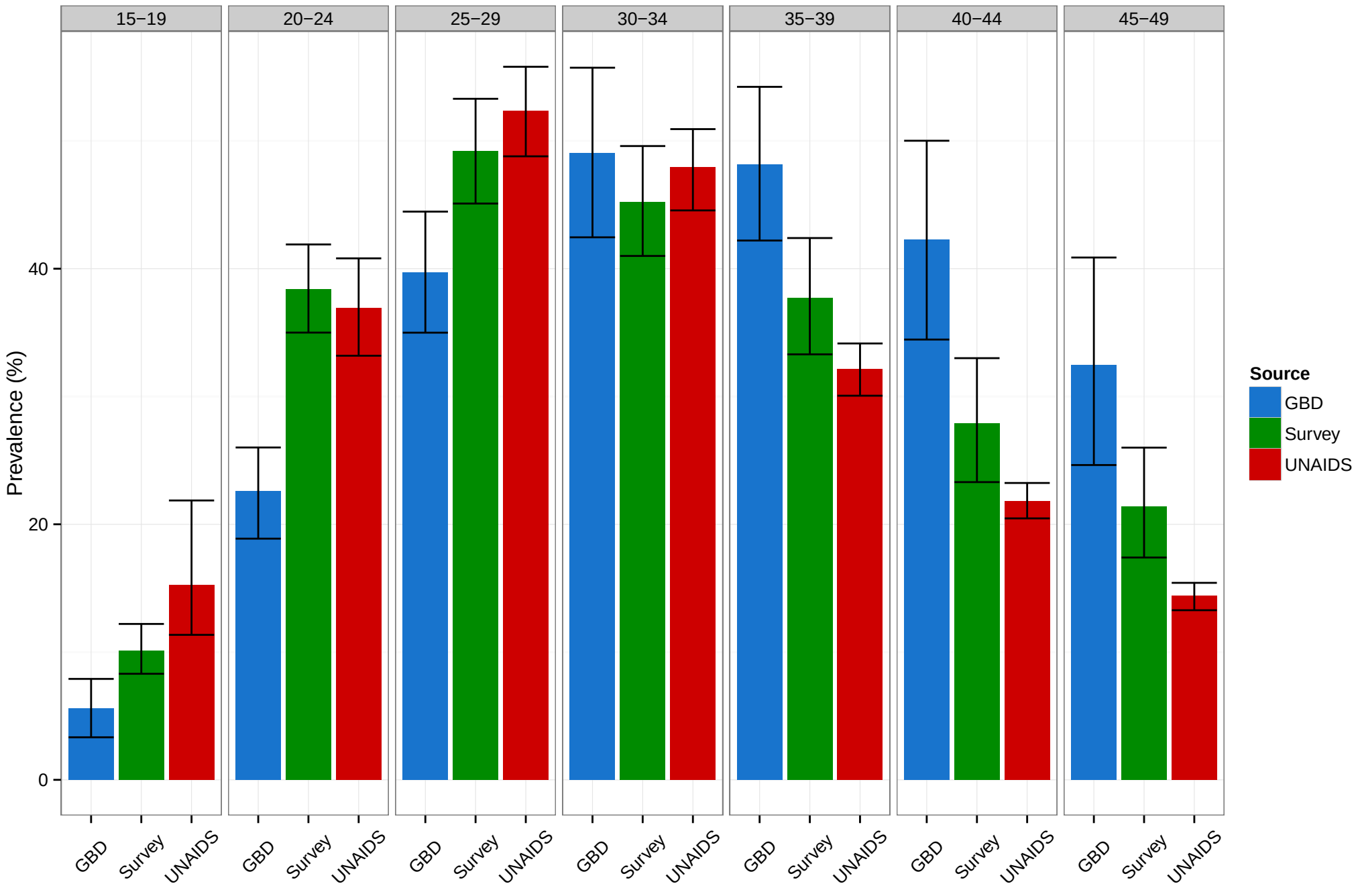

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SLE 2008 Males
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

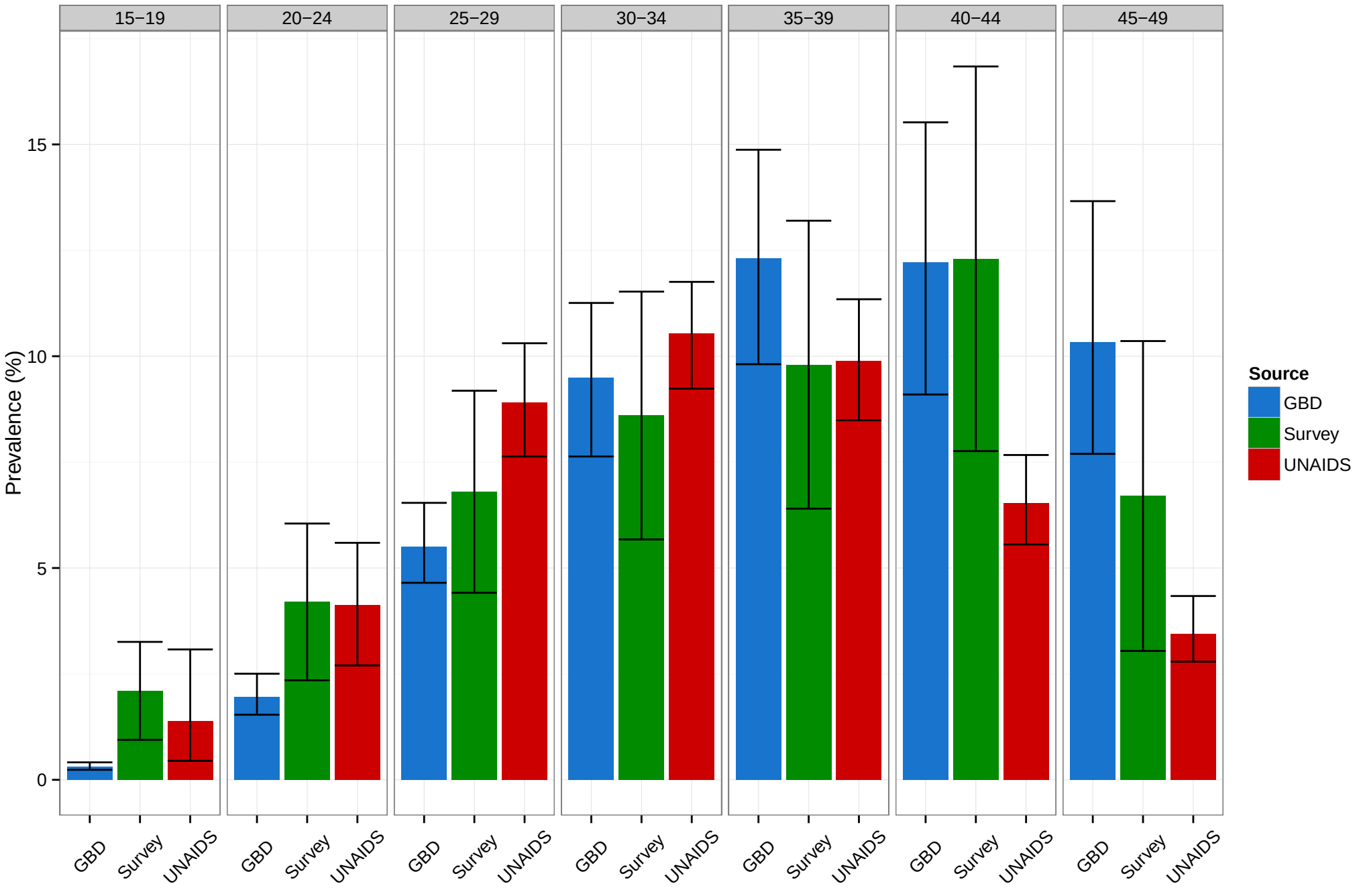

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SLE 2008 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
6
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

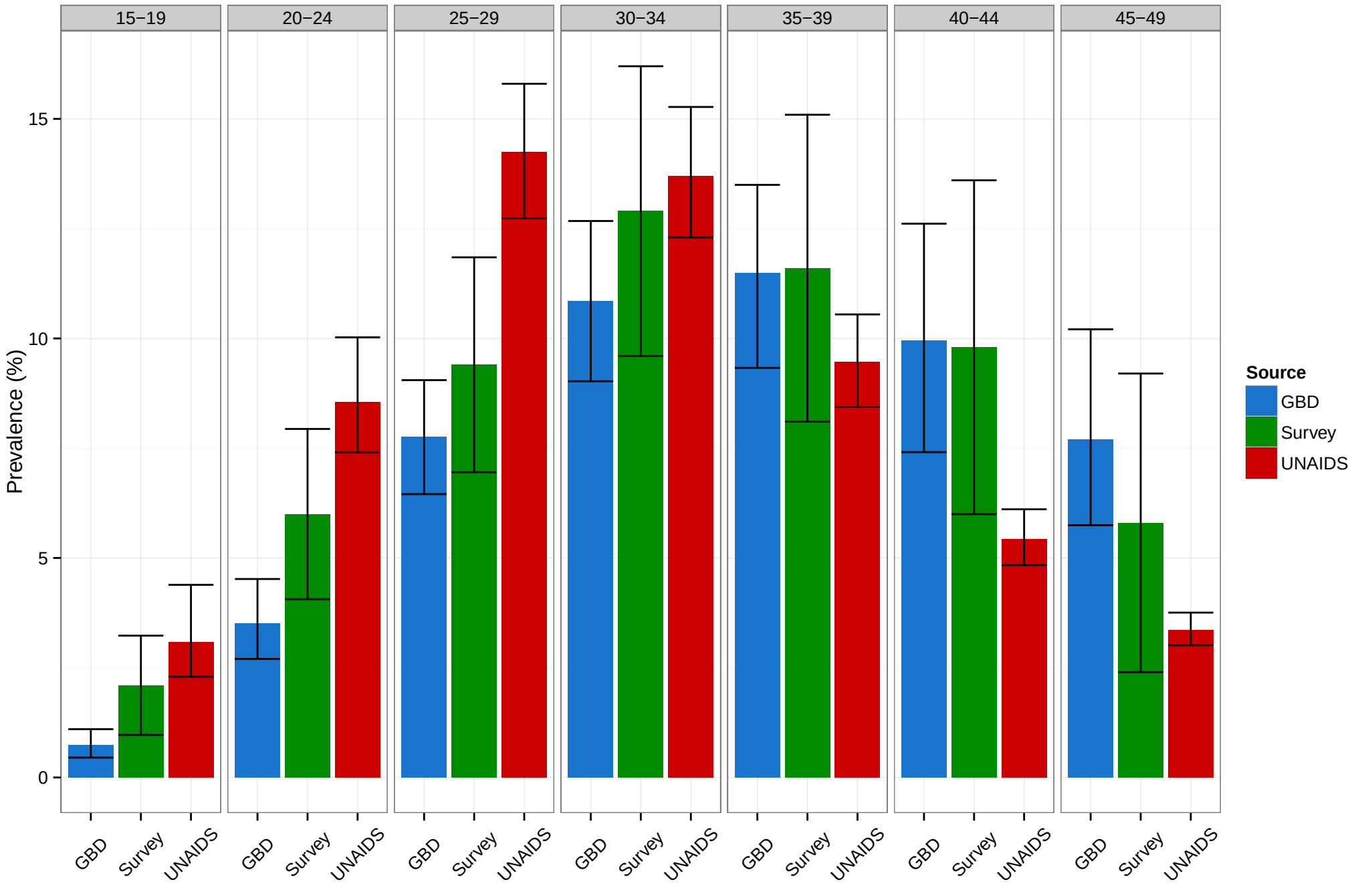

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
STP 2008−2009 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
3
6
9
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

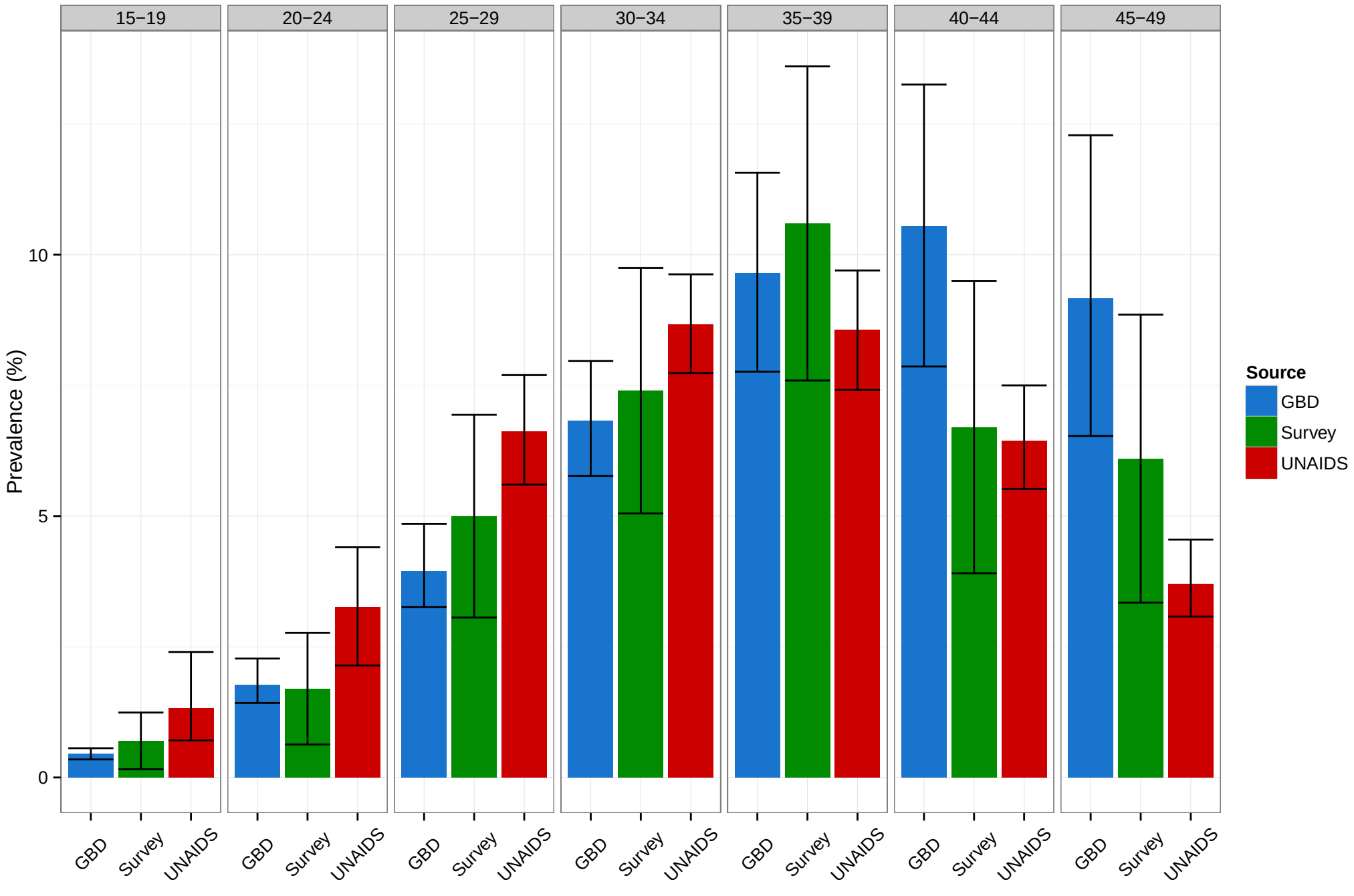

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
STP 2008−2009 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
2
4
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

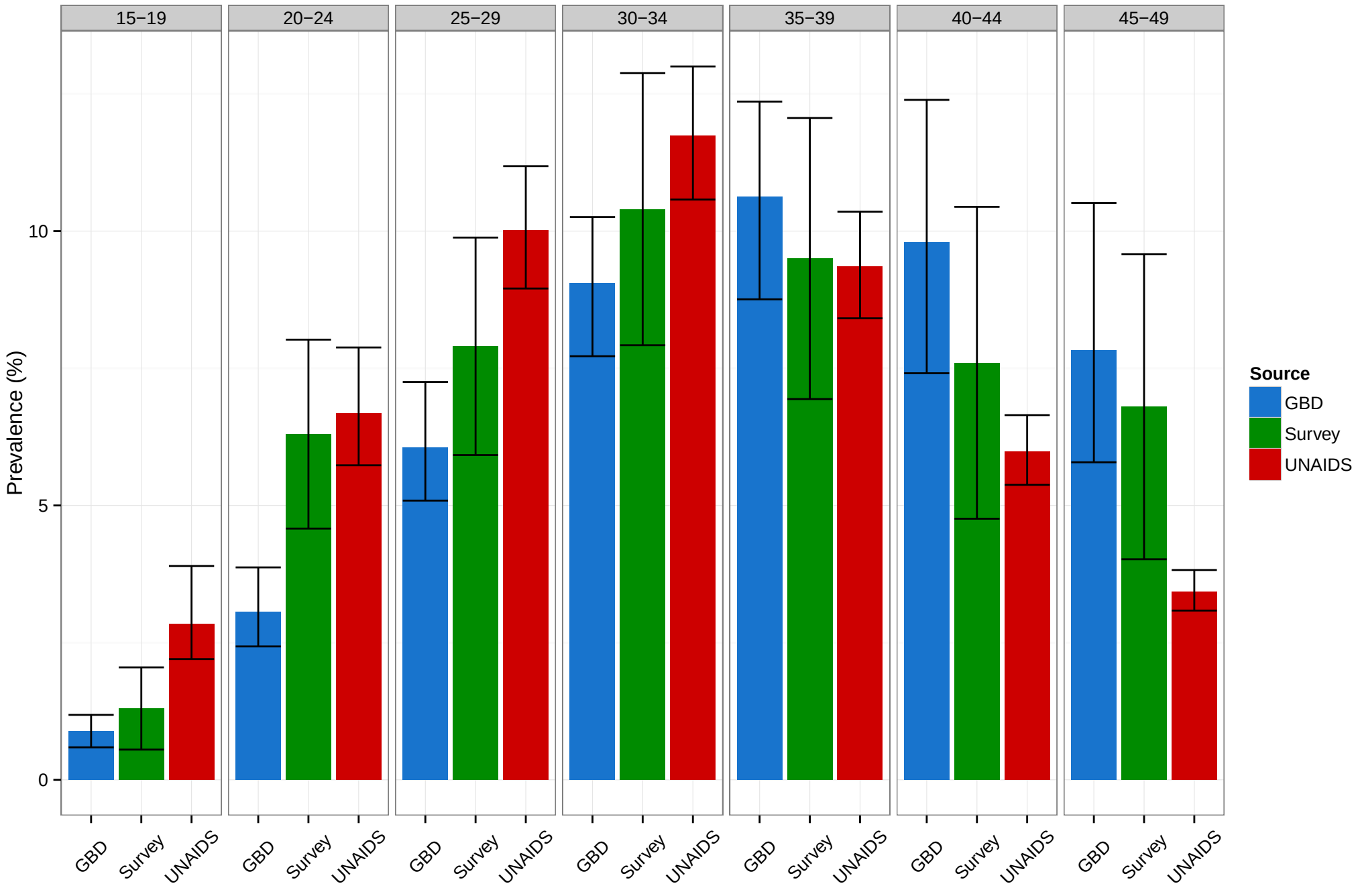

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SWZ 2007 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
10
20
30
40
50
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS

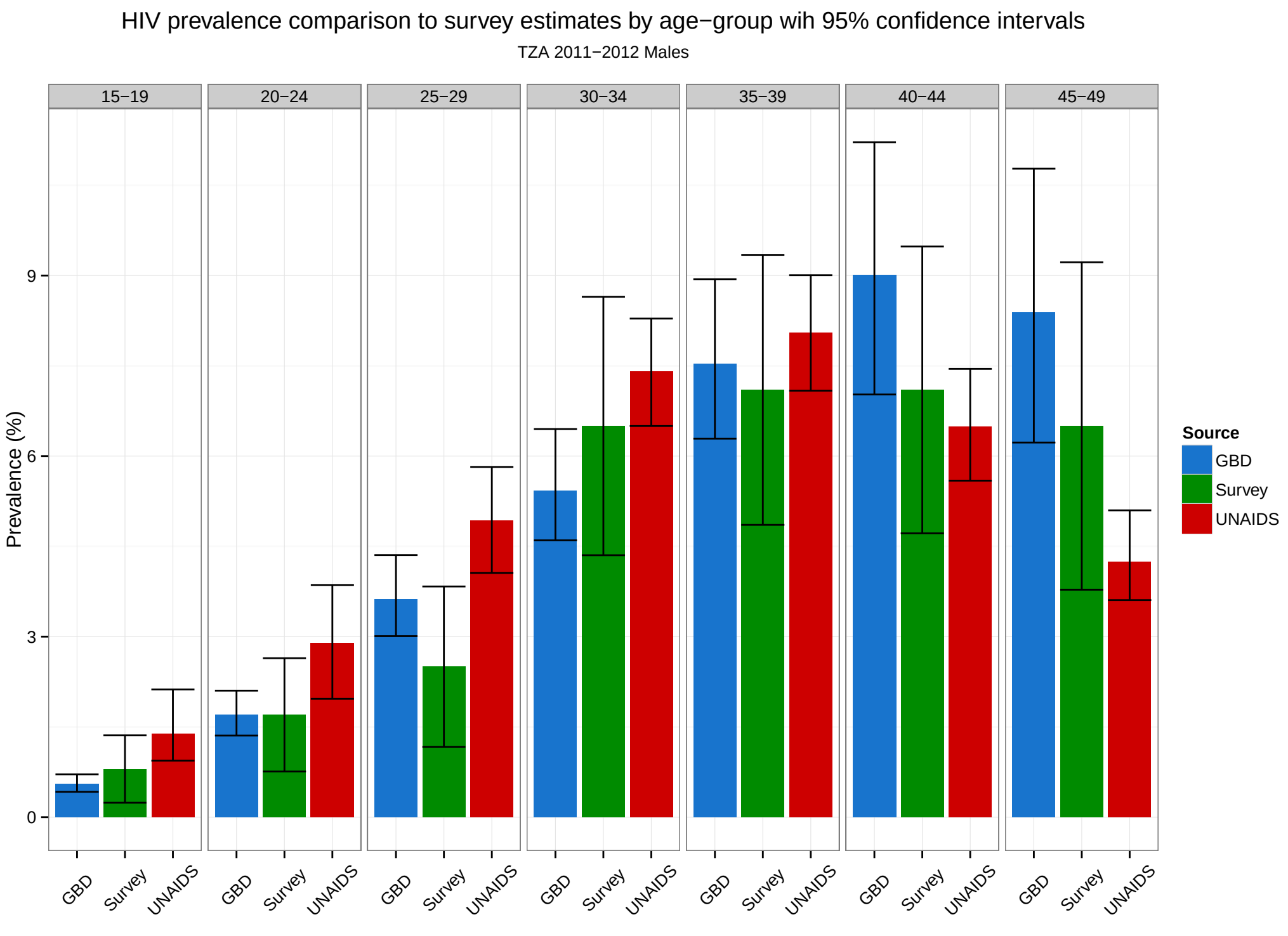

HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
SWZ 2007 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
20
40
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2003−2004 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2003−2004 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
15
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2007−2008 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2007−2008 Females
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
0
5
10
GBD
Survey
UNAIDS
Source
GBD
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2011−2012 Males
15−19
20−24
25−29
30−34
35−39
40−44
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Prevalence (%)
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GBD
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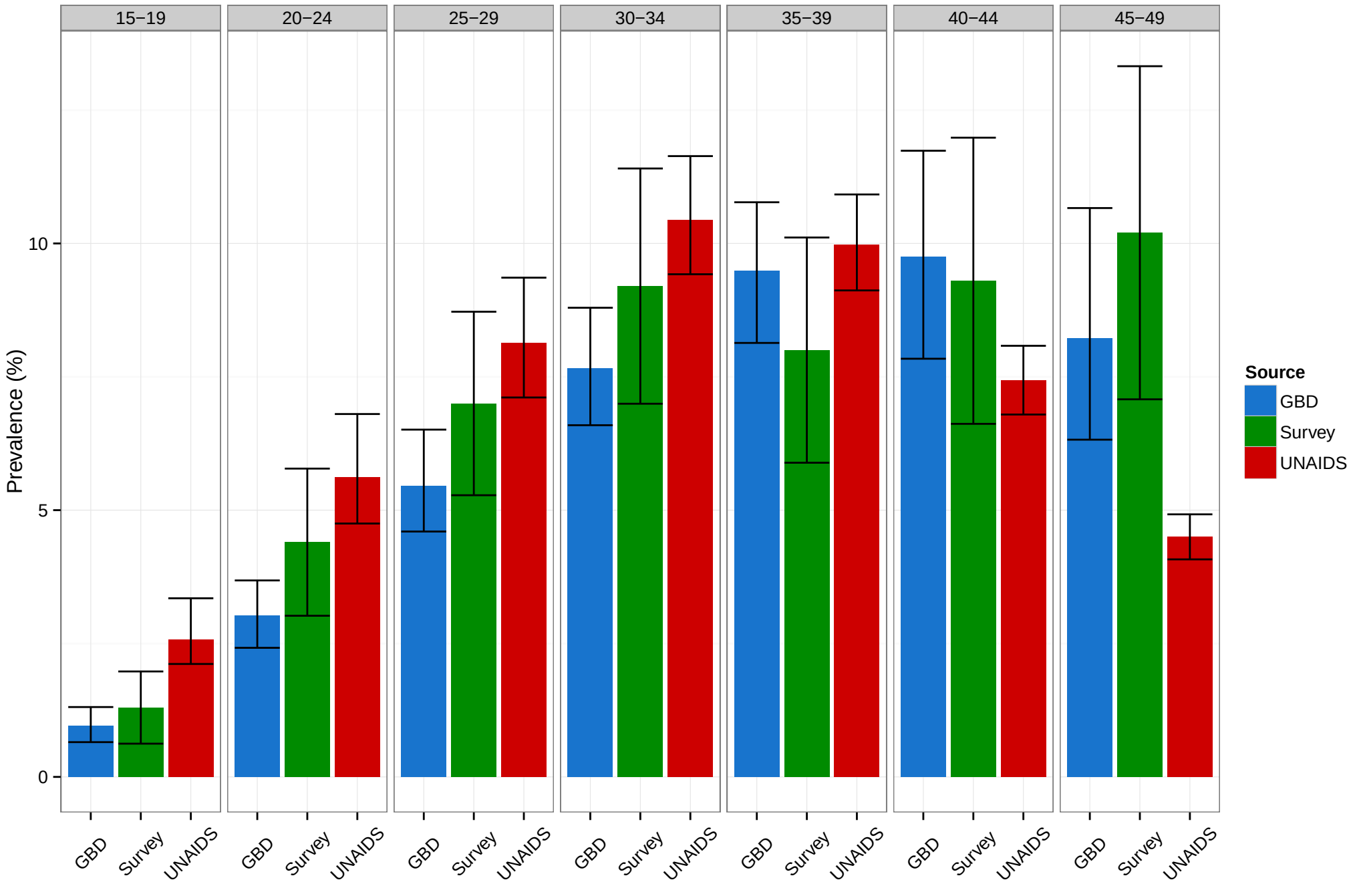
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
TZA 2011−2012 Females
15−19
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Prevalence (%)
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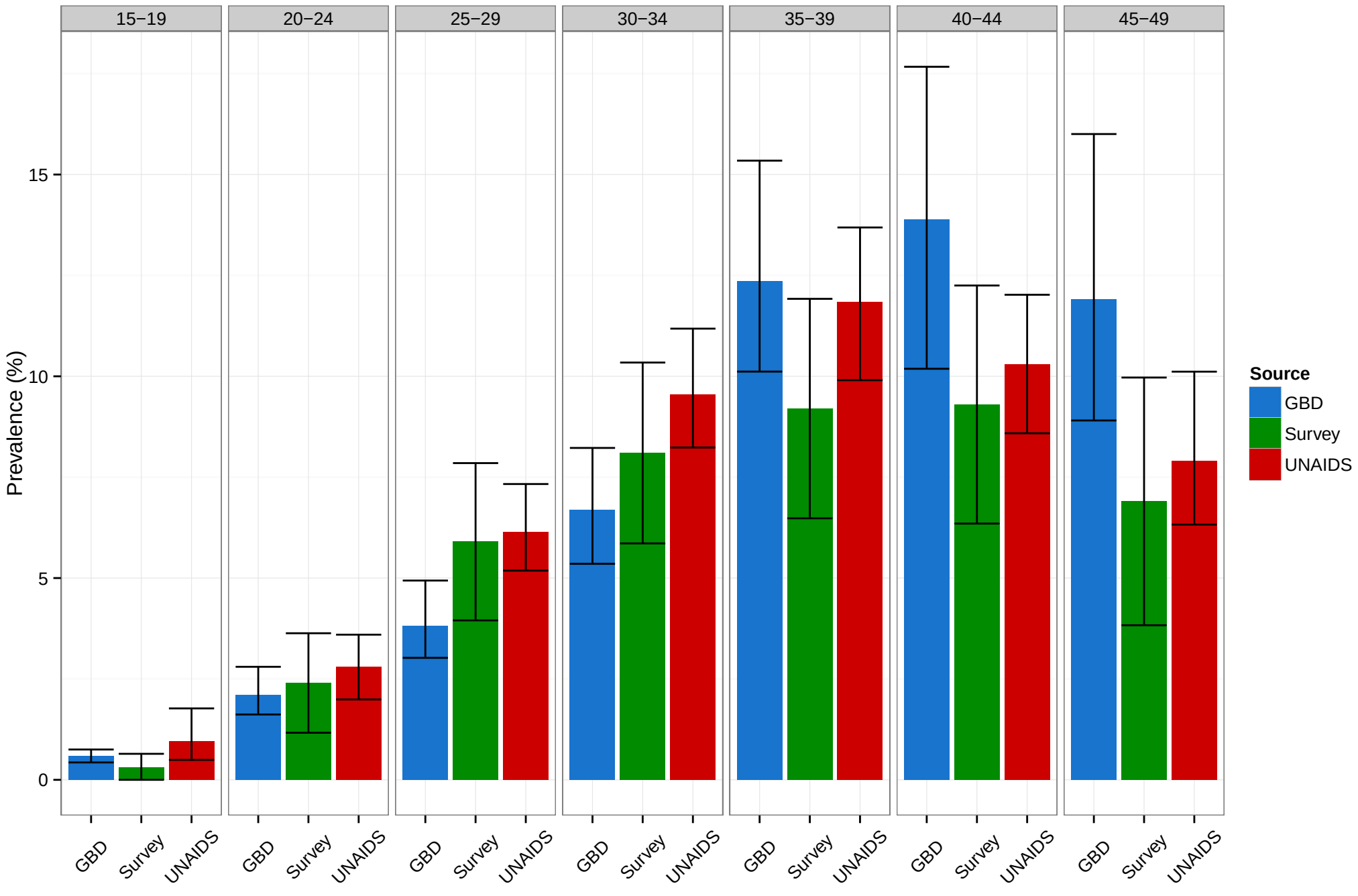
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
UGA 2004−2005 Males
15−19
20−24
25−29
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Prevalence (%)
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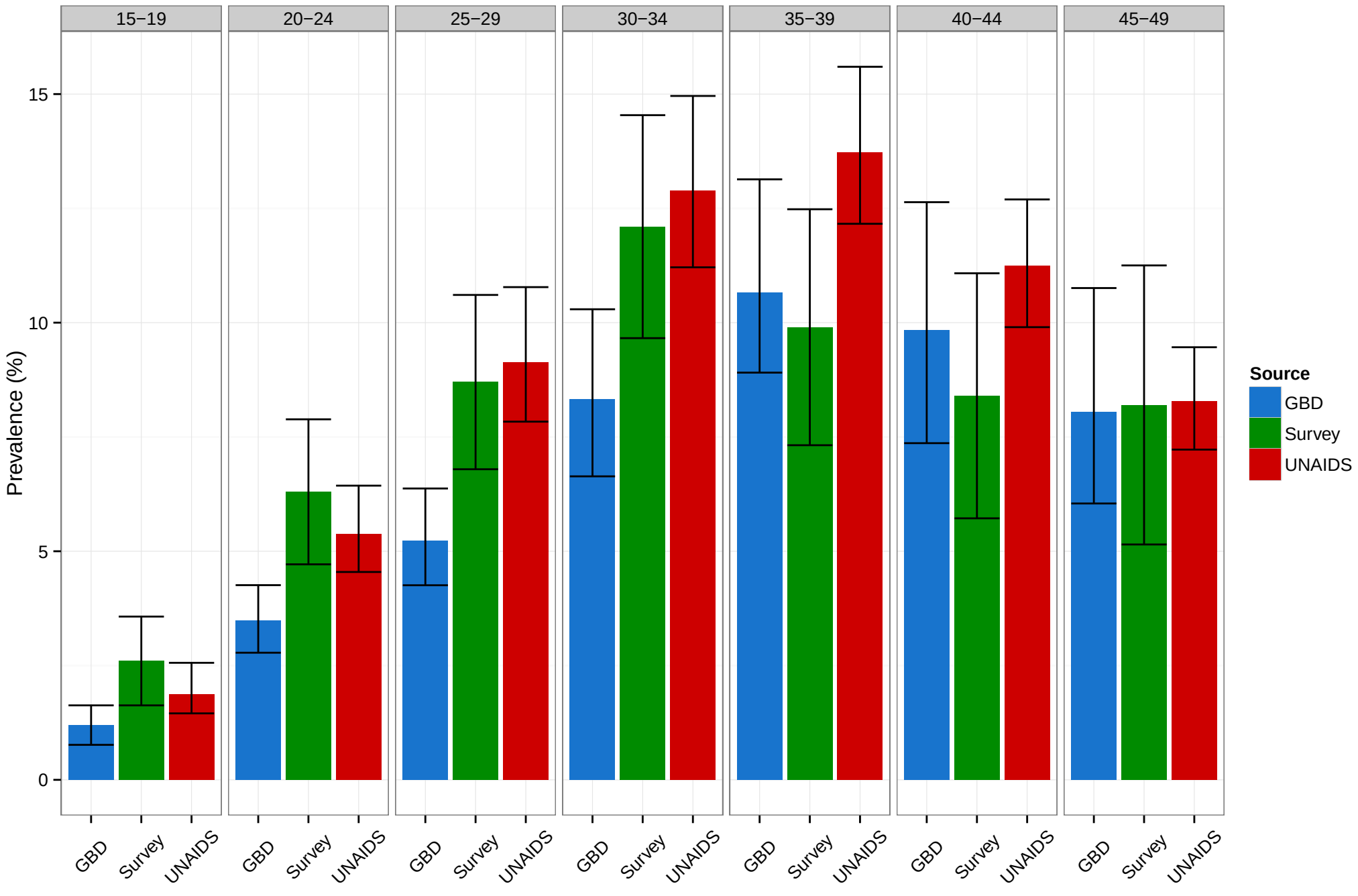
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
UGA 2004−2005 Females
15−19
20−24
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Prevalence (%)
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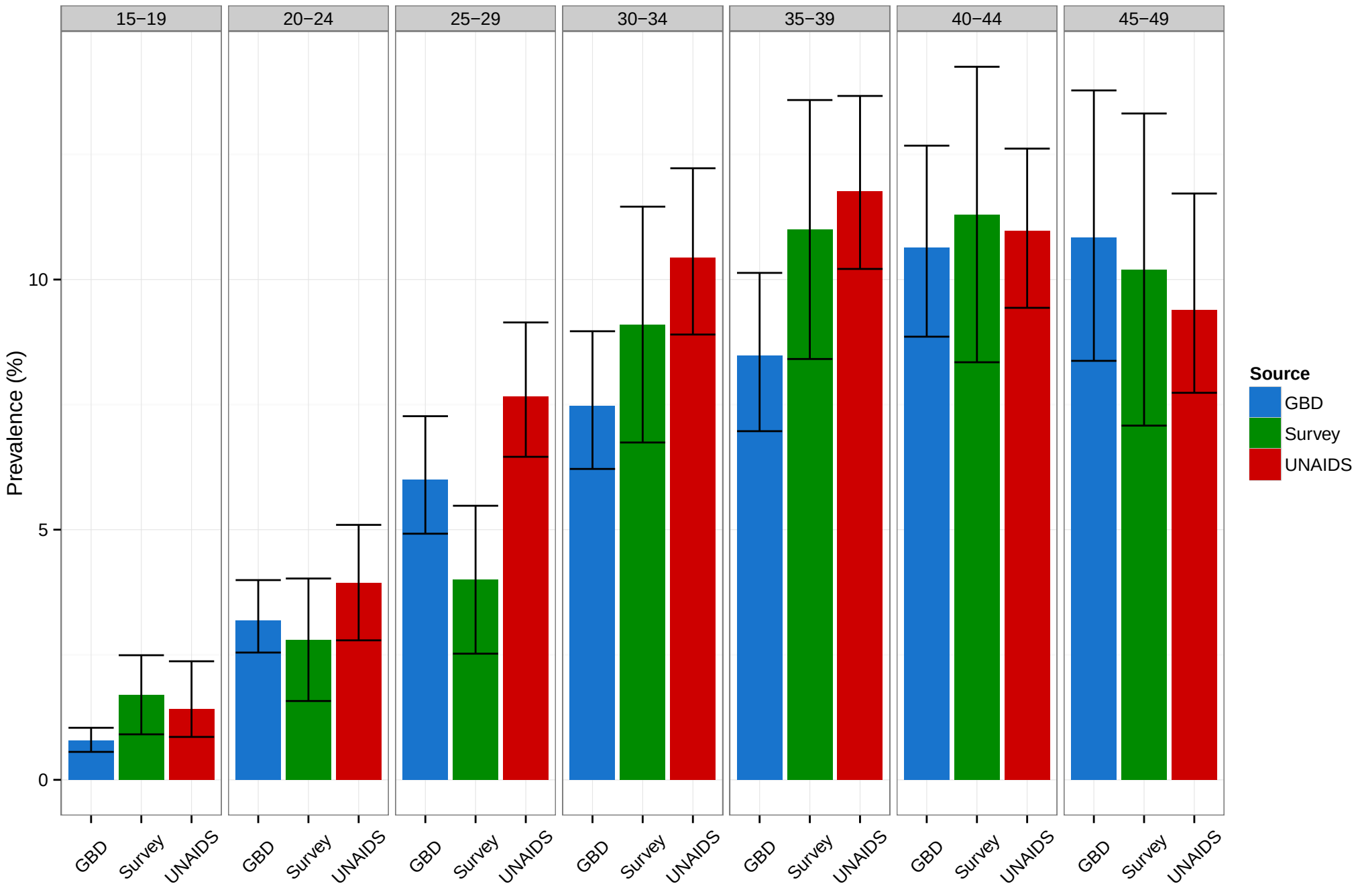
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
UGA 2011 Males
15−19
20−24
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Prevalence (%)
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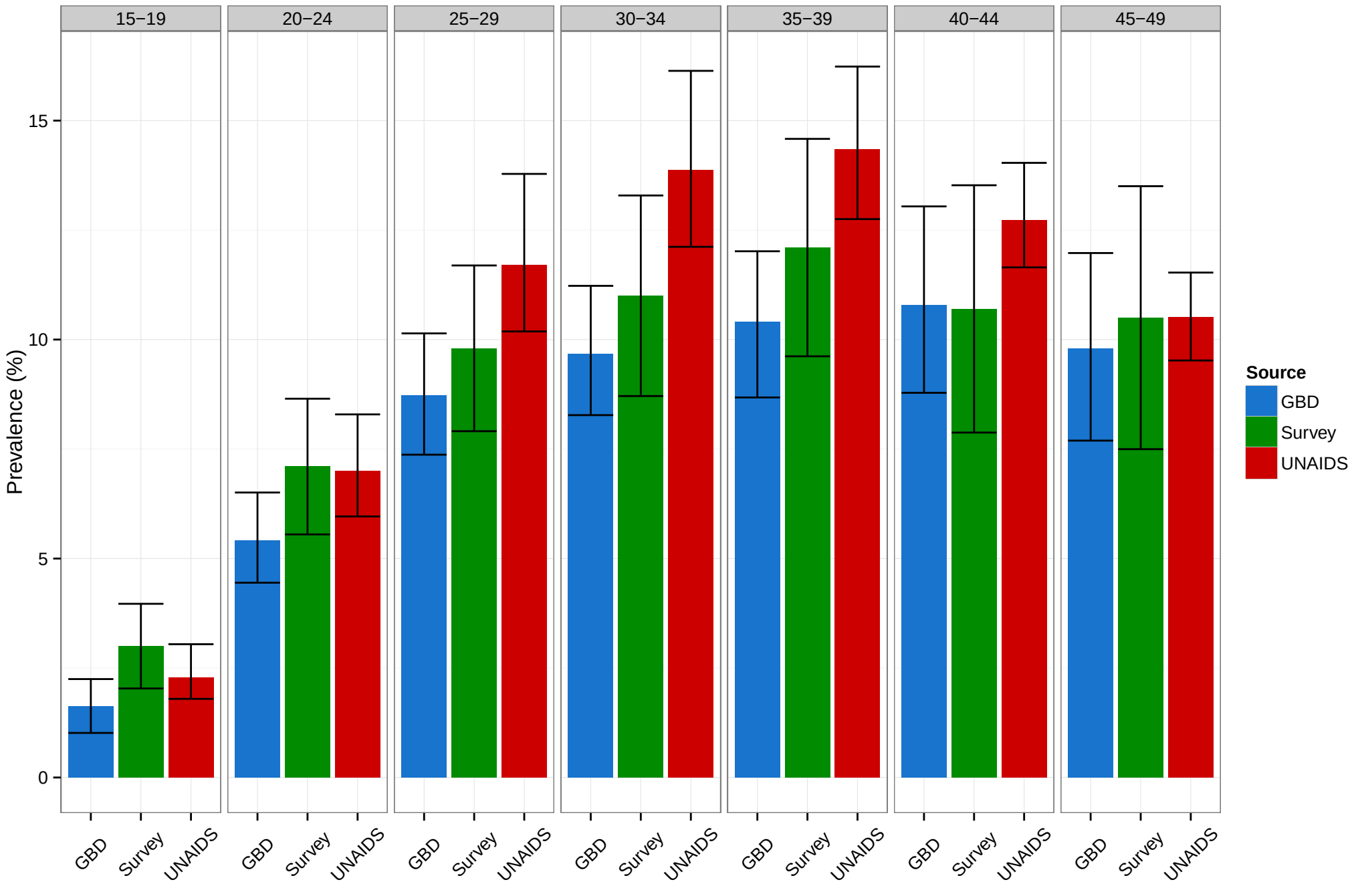
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
UGA 2011 Females
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Prevalence (%)
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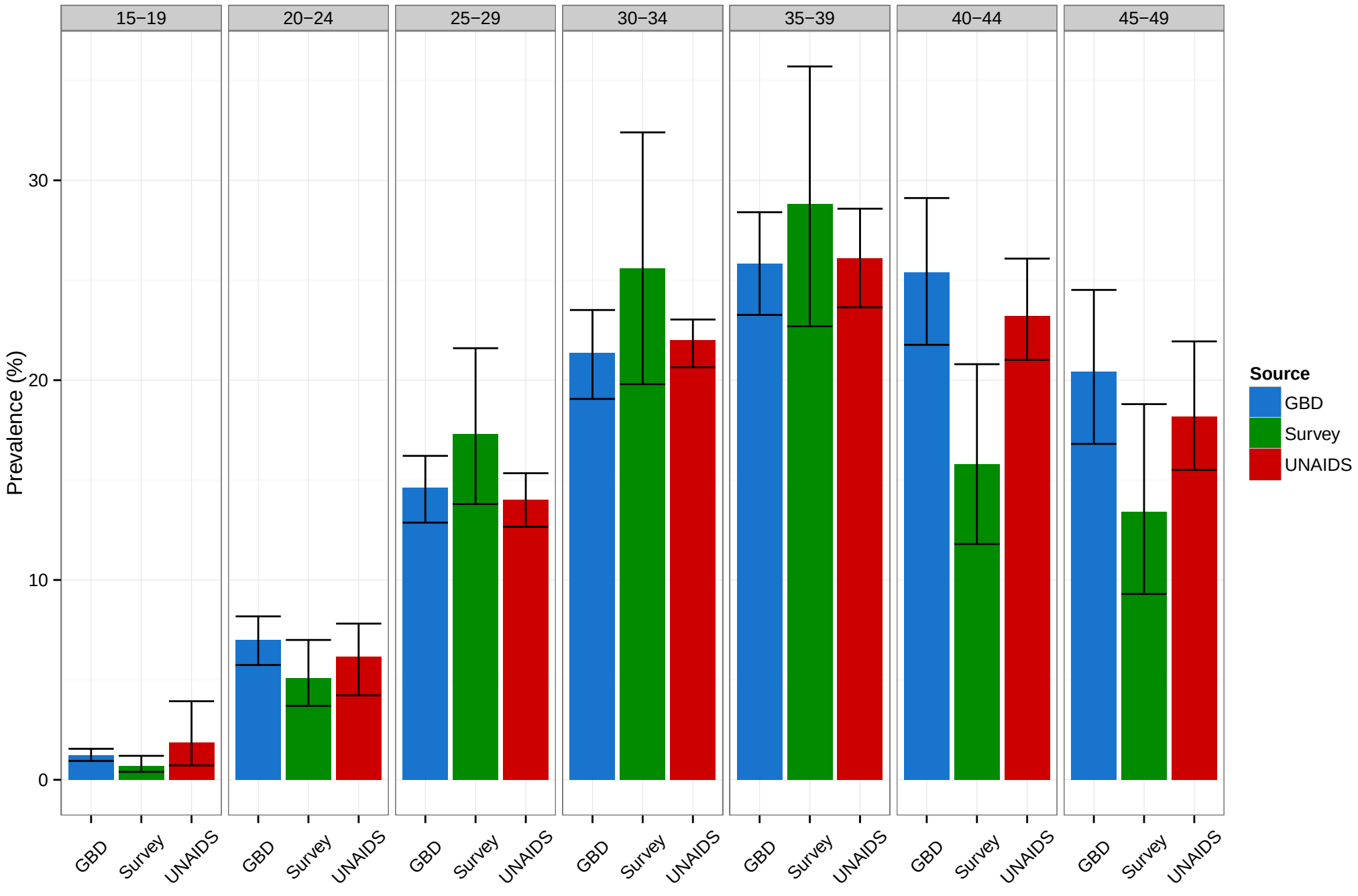
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZAF 2012 Males
15−19
20−24
25−29
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35−39
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Prevalence (%)
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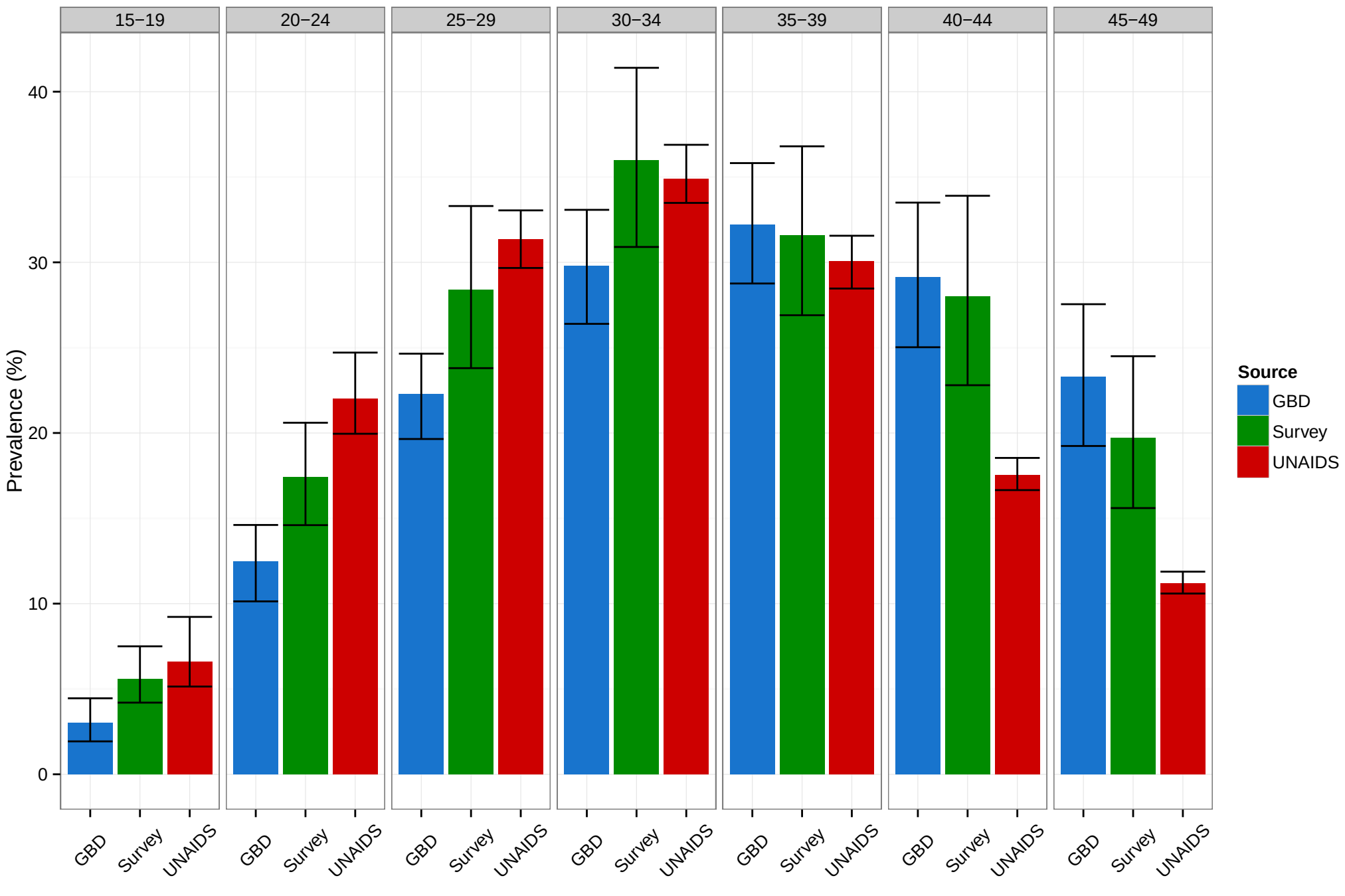
Survey
UNAIDS


HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZAF 2012 Females
15−19
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Prevalence (%)
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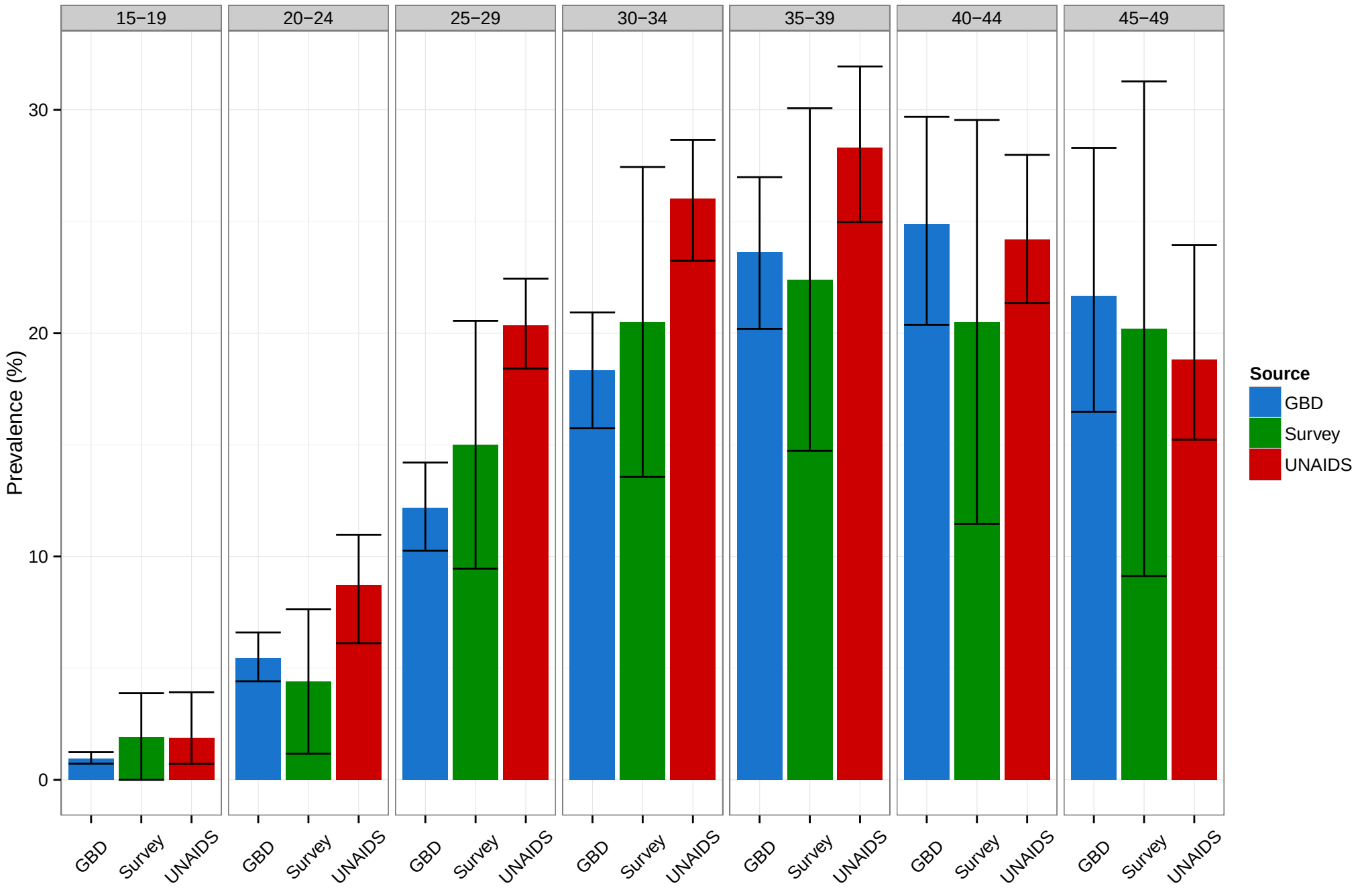
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZMB 2001−2002 Males
15−19
20−24
25−29
30−34
35−39
40−44
45−49
Prevalence (%)
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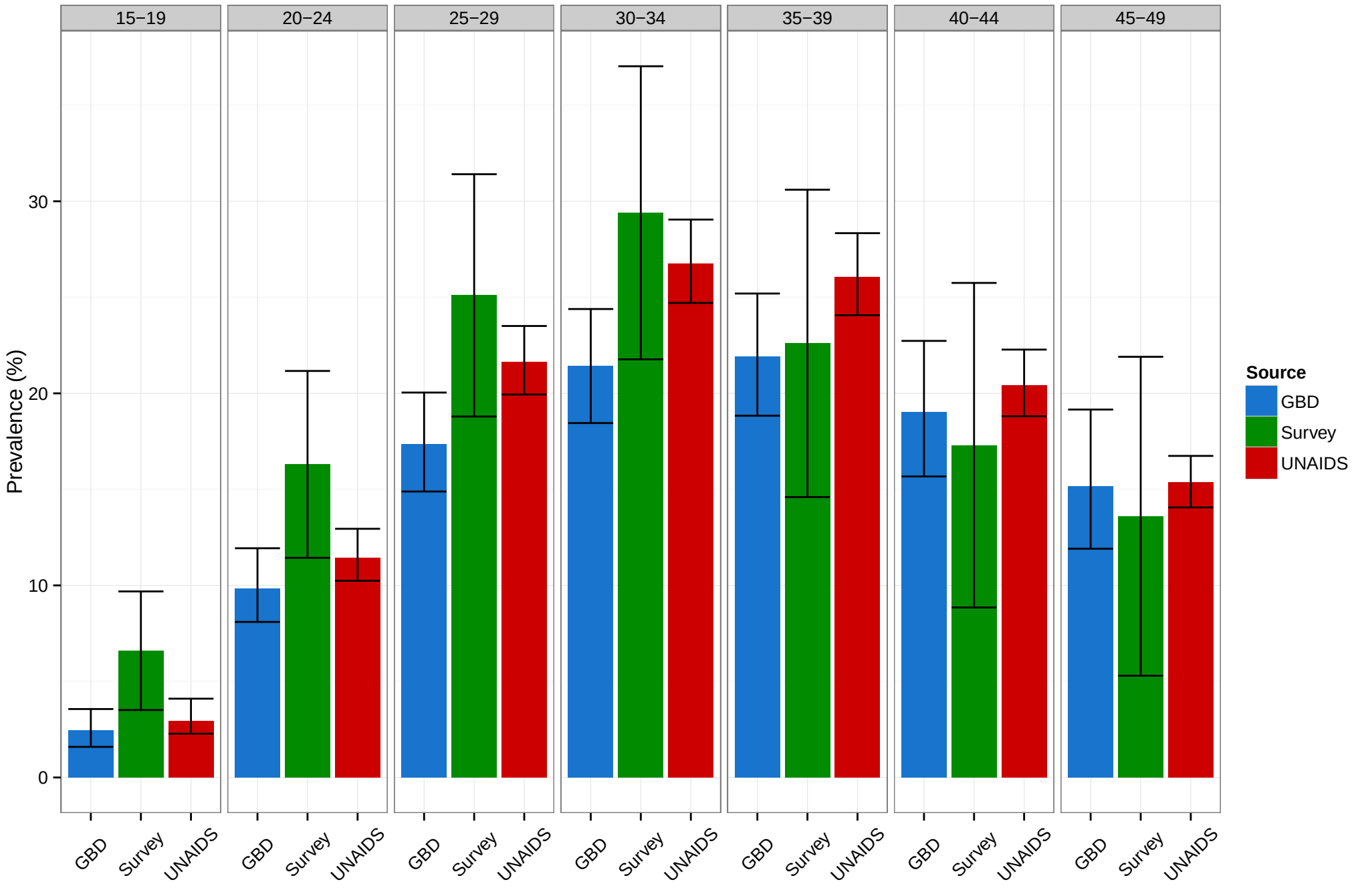
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZMB 2001−2002 Females
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Prevalence (%)
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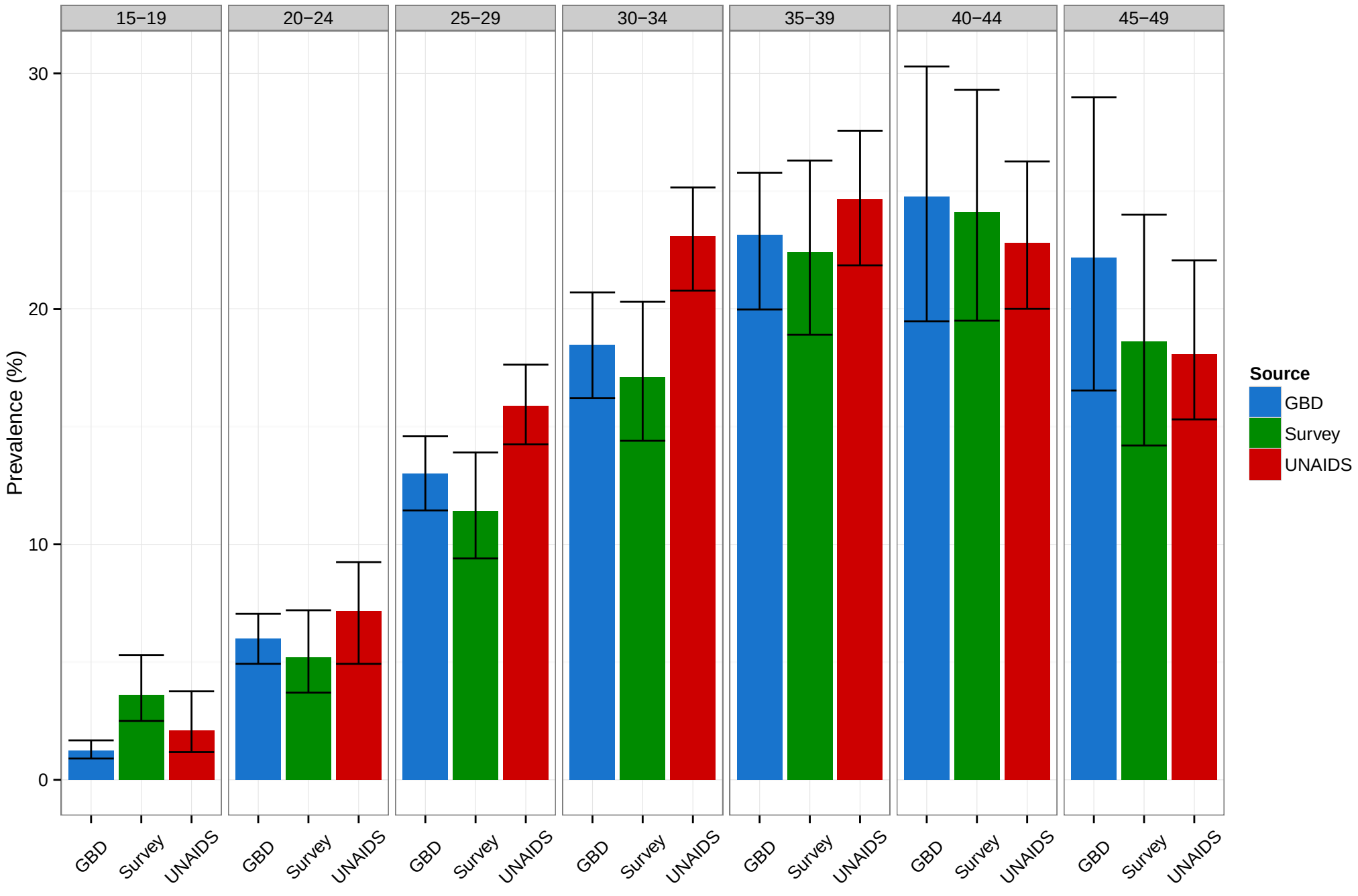
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZMB 2007 Males
15−19
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Prevalence (%)
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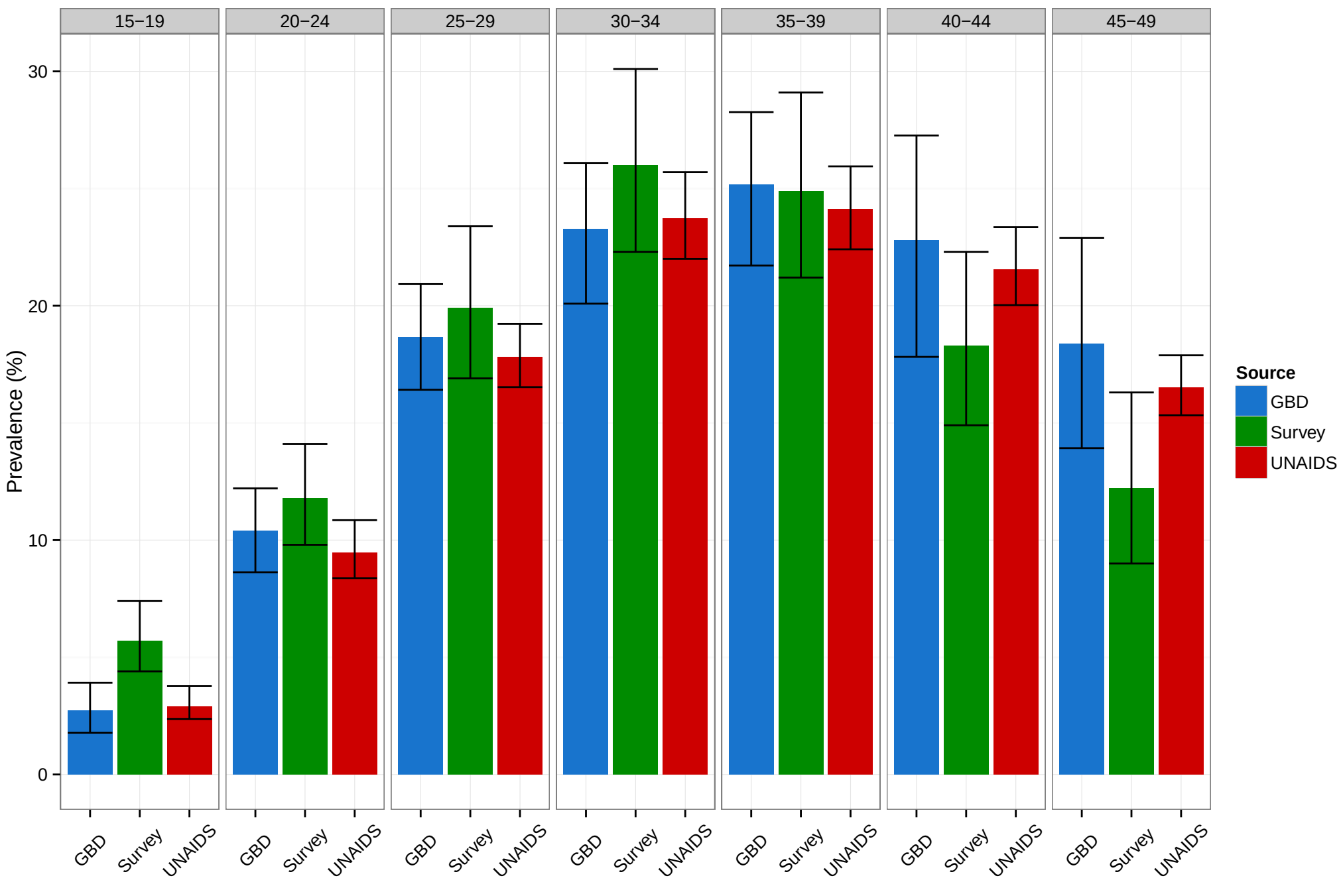
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZMB 2007 Females
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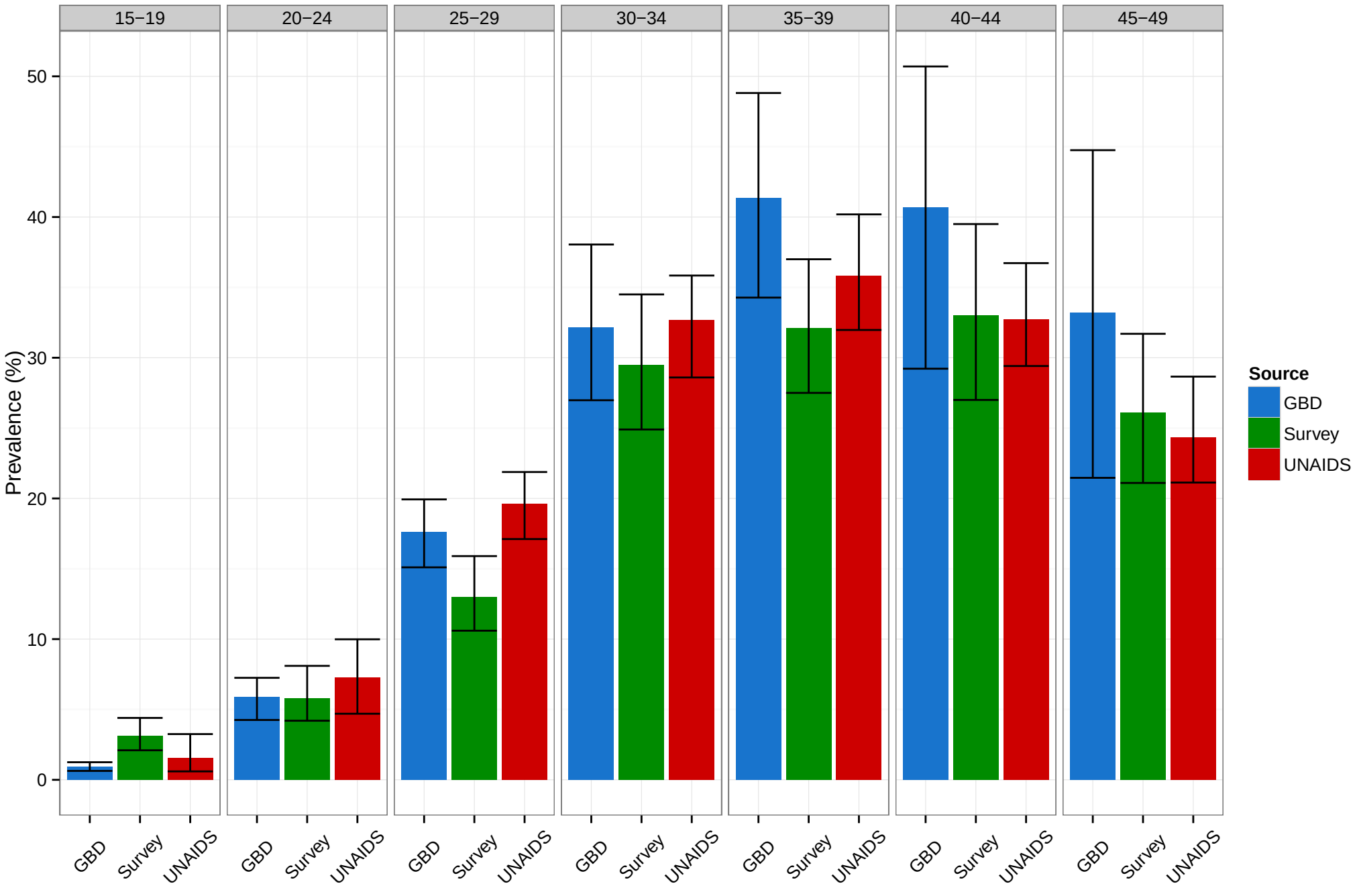
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZWE 2005 Males
15−19
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Prevalence (%)
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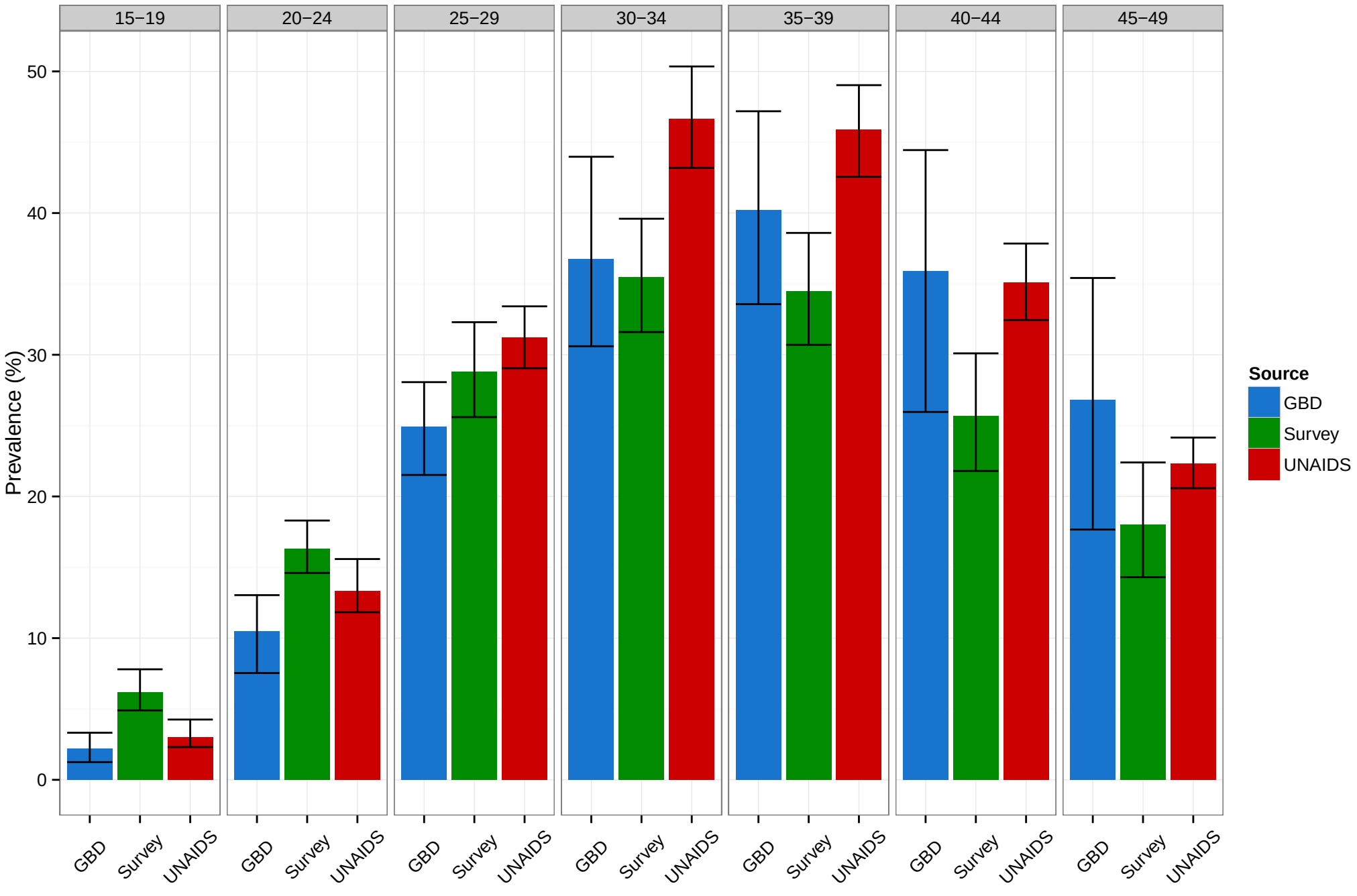
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZWE 2005 Females
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Prevalence (%)
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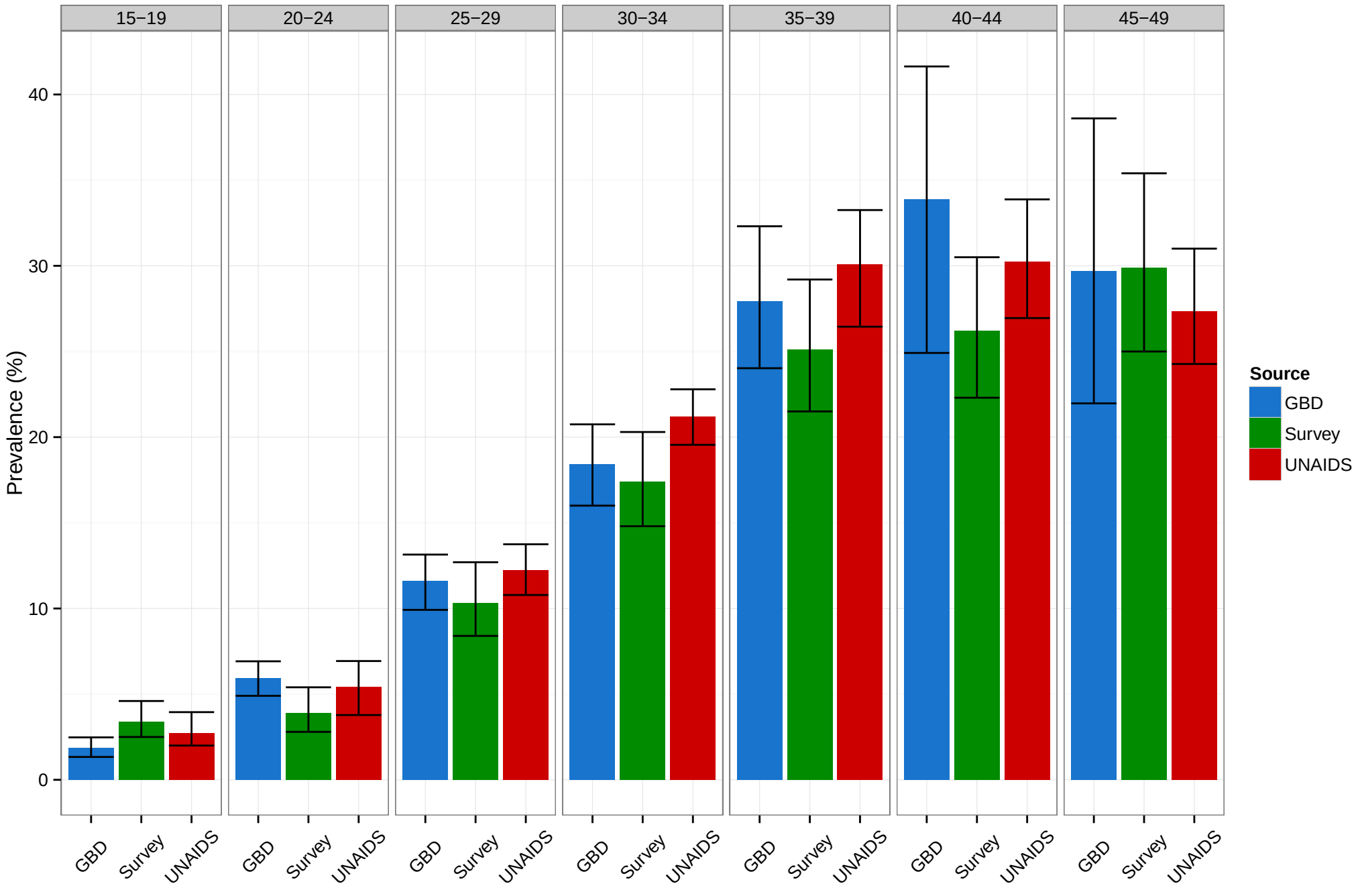
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZWE 2011 Males
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Prevalence (%)
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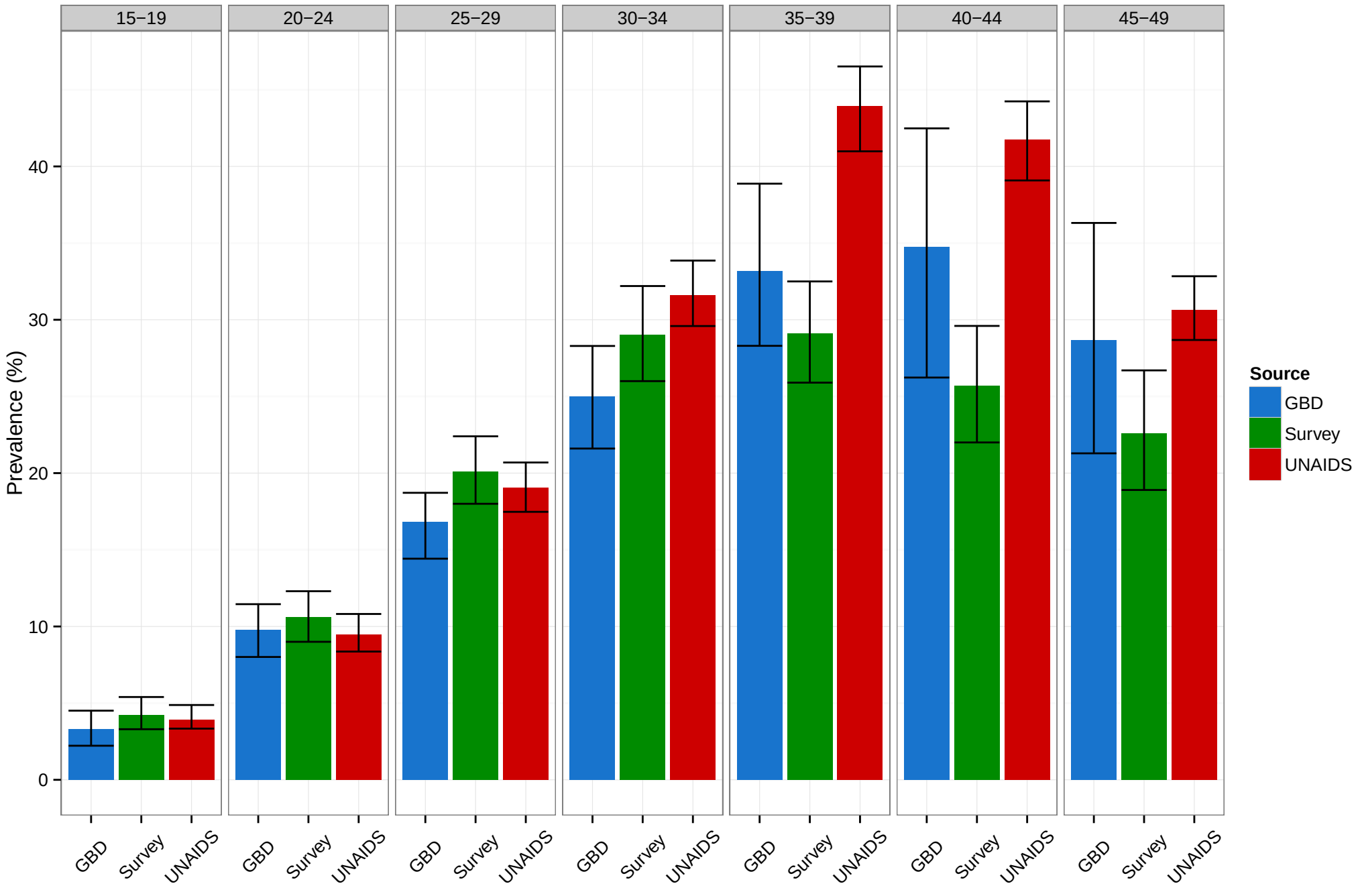
HIV prevalence comparison to survey estimates by age−group wih 95% confidence intervals
ZWE 2011 Females
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Prevalence (%)
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Appendix Table 1. Data sources used in the mortality without ART analysis
Collaborative Group on AIDS Incubation and HIV Survival * including the CASCADE EU Concerted Action. Time from HIV-1 seroconversion to AIDS and death before widespread use of highly-active antiretroviral therapy: a collaborative re-analysis. Collaborative Group on AIDS Incubation and HIV Survival including the CASCADE EU Concerted Action. Concerted Action on SeroConversion to AIDS and Death in Europe. Lancet 2000; 355: 1131–7.
Deschamps MM, Fitzgerald DW, Pape JW, Johnson WD Jr. HIV infection in Haiti: natural history and disease progression. AIDS 2000; 14: 2515–21.
Glynn JR, Sonnenberg P, Nelson G, Bester A, Shearer S, Murray J. Survival from HIV-1 seroconversion in Southern Africa: a retrospective cohort study in nearly 2000 gold-miners over 10 years of follow-up. AIDS 2007; 21: 625–32.
Isingo R, Zaba B, Marston M, et al. Survival after HIV infection in the pre-antiretroviral therapy era in a rural Tanzanian cohort. AIDS 2007; 21 Suppl 6: S5–S13.
Kilmarx PH, Limpakarnjanarat K, Kaewkungwal J, et al. Disease progression and survival with human immunodeficiency virus type 1 subtype E infection among female sex workers in Thailand. J Infect Dis 2000; 181: 1598–606.
Lutalo T, Gray RH, Wawer M, et al. Survival of HIV-infected treatment-naive individuals with documented dates of seroconversion in Rakai, Uganda. AIDS 2007; 21 Suppl 6: S15–19.
Manaloto CR, Perrault JG, Caringal LT, et al. Natural history of HIV infection in Filipino female commercial sex workers. J Acquir Immune Defic Syndr 1994; 7: 1157–68.
Minga A, Danel C, Abo Y, et al. Progression to WHO criteria for antiretroviral therapy in a 7-year cohort of adult HIV-1 seroconverters in Abidjan, Côte d'Ivoire. Bull World Health Organ 2007; 85: 116–23.
Nelson KE, Costello C, Suriyanon V, Sennun S, Duerr A. Survival of blood donors and their spouses with HIV-1 subtype E (CRF01 A_E) infection in northern Thailand, 1992-2007. AIDS 2007; 21 Suppl 6: S47–54.
Peters PJ, Karita E, Kayitenkore K, et al. HIV-infected Rwandan women have a high frequency of long-term survival. AIDS 2007; 21 Suppl 6: S31–37.
Porter K, Zaba B. The empirical evidence for the impact of HIV on adult mortality in the developing world: data from serological studies. AIDS 2004; 18 Suppl 2: S9–S17.
Rangsin R, Piyaraj P, Sirisanthana T, Sirisopana N, Short O, Nelson KE. The natural history of HIV-1 subtype E infection in young men in Thailand with up to 14 years of follow-up. AIDS 2007; 21 Suppl 6: S39–46.
Van der Paal L, Shafer LA, Todd J, Mayanja BN, Whitworth JAG, Grosskurth H. HIV-1 disease progression and mortality before the introduction of highly active antiretroviral therapy in rural Uganda. AIDS 2007; 21 Suppl 6: S21–29.

Appendix Table 2. Data sources used in the mortality on ART analysis	Mortality and LTFU rates	Sex hazard ratios	Age hazard ratios
Abaasa AM, Todd J, Ekoru K, et al. Good adherence to HAART and improved survival in a community HIV/AIDS treatment and care programme: the experience of The AIDS Support Organization (TASO), Kampala, Uganda. BMC Health Serv Res 2008; 8: 241.		x	x
Alvarez-Uria G, Naik PK, Pakam R, Midde M. Factors associated with attrition, mortality, and loss to follow up after antiretroviral therapy initiation: data from an HIV cohort study in India. Glob Health Action 2013; 6: 21682.	x	x	x
Amuron B, Levin J, Birunghi J, et al. Mortality in an antiretroviral therapy programme in Jinja, south-east Uganda: a prospective cohort study. AIDS Res Ther 2011; 8: 39.		x	
Antiretroviral Therapy Cohort Collaboration. Causes of death in HIV-1-infected patients treated with antiretroviral therapy, 1996-2006: collaborative analysis of 13 HIV cohort studies. Clin Infect Dis 2010; 50: 1387–96.		x	
Assefa Y, Kiflie A, Tesfaye D, et al. Outcomes of antiretroviral treatment program in Ethiopia: retention of patients in care is a major challenge and varies across health facilities. BMC Health Serv Res 2011; 11: 81.	x		
Badie BM, Nabaei G, Rasoolinejad M, Mirzazadeh A, McFarland W. Early loss to follow-up and mortality of HIV-infected patients diagnosed after the era of antiretroviral treatment scale up: a call for re-invigorating the response in Iran. Int J STD AIDS 2013; 24: 926–30.		x	
Bakanda C, Birungi J, Mwesigwa R, et al. Survival of HIV-infected adolescents on antiretroviral therapy in Uganda: findings from a nationally representative cohort in Uganda. PLoS ONE 2011; 6: e19261.	x		
Biadgilign S, Reda AA, Digaffe T. Predictors of mortality among HIV infected patients taking antiretroviral treatment in Ethiopia: a retrospective cohort study. AIDS Res Ther 2012; 9: 15.		x	
Bisson GP, Gaolathe T, Gross R, et al. Overestimates of survival after HAART: implications for global scale-up efforts. PLoS ONE 2008; 3: e1725.		x	
Boulle A, Van Cutsem G, Hilderbrand K, et al. Seven-year experience of a primary care antiretroviral treatment programme in Khayelitsha, South Africa. AIDS 2010; 24: 563–72.	x	x	x
Boyles TH, Wilkinson LS, Leisegang R, Maartens G. Factors influencing retention in care after starting antiretroviral therapy in a rural South African programme. PLoS ONE 2011; 6: e19201.	x		
Brennan AT, Maskew M, Sanne I, Fox MP. The interplay between CD4 cell count, viral load suppression and duration of antiretroviral therapy on mortality in a resource-limited setting. Trop Med Int Health 2013; 18: 619–31.		x	x
Brinkhof MWG, Boulle A, Weigel R, et al. Mortality of HIV-infected patients starting antiretroviral therapy in sub-Saharan Africa: comparison with HIV-unrelated mortality. PLoS Med 2009; 6: e1000066.		x	x
Brinkhof MWG, Dabis F, Myer L, et al. Early loss of HIV-infected patients on potent antiretroviral therapy programmes in lower-income countries. Bull World Health Organ 2008; 86: 559–67.	x	x	x
Chang LW, Alamo S, Guma S, et al. Two-year virologic outcomes of an alternative AIDS care model: evaluation of a peer health worker and nurse-staffed community-based program in Uganda. J Acquir Immune Defic Syndr 2009; 50: 276–82.	x		
Chasombat S, McConnell MS, Siangphoe U, et al. National expansion of antiretroviral treatment in Thailand, 2000-2007: program scale-up and patient outcomes. J Acquir Immune Defic Syndr 2009; 50: 506–12.		x	x
Chen J, Yu B, Wang Y, et al. Expansion of HIV care and treatment in Yunnan Province, China: Treatment outcomes with scale up of combination antiretroviral therapy. AIDS Care 2014; 26: 633–41.		x	x
Chen SC-C, Yu JK-L, Harries AD, et al. Increased mortality of male adults with AIDS related to poor compliance to antiretroviral therapy in Malawi. Trop Med Int Health 2008; 13: 513–9.		x	x
Chi BH, Mwango A, Giganti M, et al. Early clinical and programmatic outcomes with tenofovir-based antiretroviral therapy in Zambia. J Acquir Immune Defic Syndr 2010; 54: 63–70.		x	x
Chi BH, Mwango A, Giganti MJ, et al. Comparative outcomes of tenofovir-based and zidovudine-based antiretroviral therapy regimens in Lusaka, Zambia. J Acquir Immune Defic Syndr 2011; 58: 475–81.	x		
Corey DM, Kim HW, Salazar R, et al. Brief report: effectiveness of combination antiretroviral therapy on survival and opportunistic infections in a developing world setting: an observational cohort study. J Acquir Immune Defic Syndr 2007; 44: 451–5.	x		
Cornell M, Grimsrud A, Fairall L, et al. Temporal changes in programme outcomes among adult patients initiating antiretroviral therapy across South Africa, 2002-2007. AIDS 2010; 24: 2263–70.	x		
Cornell M, Myer L, Kaplan R, Bekker L-G, Wood R. The impact of gender and income on survival and retention in a South African antiretroviral therapy programme. Trop Med Int Health 2009; 14: 722–31.		x	
Cornell M, Schomaker M, Garone DB, et al. Gender differences in survival among adult patients starting antiretroviral therapy in South Africa: a multicentre cohort study. PLoS Med 2012; 9: e1001304.		x	
DeSilva MB, Merry SP, Fischer PR, Rohrer JE, Isichei CO, Cha SS. Youth, unemployment, and male gender predict mortality in AIDS patients started on HAART in Nigeria. AIDS Care 2009; 21: 70–7.		x	x
Egger M, May M, Chêne G, et al. Prognosis of HIV-1-infected patients starting highly active antiretroviral therapy: a collaborative analysis of prospective studies. Lancet 2002; 360: 119–29.	x		
Fatti G, Grimwood A, Bock P. Better antiretroviral therapy outcomes at primary healthcare facilities: an evaluation of three tiers of ART services in four South African provinces. PLoS ONE 2010; 5: e12888.	x	x	
Ford N, Kranzer K, Hilderbrand K, et al. Early initiation of antiretroviral therapy and associated reduction in mortality, morbidity and defaulting in a nurse-managed, community cohort in Lesotho. AIDS 2010; 24: 2645–50.	x	x	x
Fregonese F, Collins IJ, Jourdain G, et al. Predictors of 5-year mortality in HIV-infected adults starting highly active antiretroviral therapy in Thailand. J Acquir Immune Defic Syndr 2012; 60: 91–8.		x	
García de Olalla P, Knobel H, Carmona A, Guelar A, López-Colomés JL, Caylà JA. Impact of adherence and highly active antiretroviral therapy on survival in HIV-infected patients. J Acquir Immune Defic Syndr 2002; 30: 105–10.		x	x
Geng EH, Emenyonu N, Bwana MB, Glidden DV, Martin JN. Sampling-based approach to determining outcomes of patients lost to follow-up in antiretroviral therapy scale-up programs in Africa. JAMA 2008; 300: 506–7.	x		
Greenbaum AH, Wilson LE, Keruly JC, Moore RD, Gebo KA. Effect of age and HAART regimen on clinical response in an urban cohort of HIV-infected individuals. AIDS 2008; 22: 2331–9.		x	x
Greig J, Casas EC, O'Brien DP, Mills EJ, Ford N. Association between older age and adverse outcomes on antiretroviral therapy: a cohort analysis of programme data from nine countries. AIDS 2012; 26 Suppl 1: S31–37.		x	x
Hambisa MT, Ali A, Dessie Y. Determinants of Mortality among HIV Positives after Initiating Antiretroviral Therapy in Western Ethiopia: A Hospital-Based Retrospective Cohort Study. ISRN AIDS 2013; 2013: 491601.		x	x

Hawkins C, Chalamilla G, Okuma J, et al. Sex differences in antiretroviral treatment outcomes among HIV-infected adults in an urban Tanzanian setting. AIDS 2011; 25: 1189–97.			x	
Hermans S, van Leth F, Manabe Y, Hoepelman A, Lange J, Kambugu A. Earlier initiation of antiretroviral therapy, increased tuberculosis case finding and reduced mortality in a setting of improved HIV care: a retrospective cohort study. HIV Medicine 2012; 13: 337–44.			x	
HIV-CAUSAL Collaboration, Ray M, Logan R, et al. The effect of combined antiretroviral therapy on the overall mortality of HIV-infected individuals. AIDS 2010; 24: 123–37.	x			
Hoffmann CJ, Fielding KL, Charalambous S, et al. Reducing mortality with cotrimoxazole preventive therapy at initiation of antiretroviral therapy in South Africa. AIDS 2010; 24: 1709–16.			x	x
Hoffmann CJ, Fielding KL, Johnston V, et al. Changing predictors of mortality over time from cART start: implications for care. J Acquir Immune Defic Syndr 2011; 58: 269–76.			x	
Hoffmann CJ, Schomaker M, Fox MP, et al. CD4 count slope and mortality in HIV-infected patients on antiretroviral therapy: multicohort analysis from South Africa. J Acquir Immune Defic Syndr 2013; 63: 34–41.			x	x
Jensen-Fangel S, Pedersen L, Pedersen C, et al. Low mortality in HIV-infected patients starting highly active antiretroviral therapy: a comparison with the general population. AIDS 2004; 18: 89–97.	x		x	x
Johannessen A, Naman E, Ngowi BJ, et al. Predictors of mortality in HIV-infected patients starting antiretroviral therapy in a rural hospital in Tanzania. BMC Infect Dis 2008; 8: 52.			x	
Kanters S, Nansubuga M, Mwehire D, et al. Increased mortality among HIV-positive men on antiretroviral therapy: survival differences between sexes explained by late initiation in Uganda. HIV AIDS (Auckl) 2013; 5: 111–9.			x	
Karcher H, Omondi A, Odera J, Kunz A, Harms G. Risk factors for treatment denial and loss to follow-up in an antiretroviral treatment cohort in Kenya. Trop Med Int Health 2007; 12: 687–94.	x			
Keiser O, Chi BH, Gsponer T, et al. Outcomes of antiretroviral treatment in programmes with and without routine viral load monitoring in Southern Africa. AIDS 2011; 25: 1761–9.	x			
Kiboneka A, Nyatia RJ, Nabiryo C, et al. Combination antiretroviral therapy in population affected by conflict: outcomes from large cohort in northern Uganda. BMJ 2009; 338: b201.			x	
Koenig SP, Rodriguez LA, Bartholomew C, et al. Long-term antiretroviral treatment outcomes in seven countries in the Caribbean. J Acquir Immune Defic Syndr 2012; 59: e60–71.	x	x		
Kouanda S, Meda IB, Nikiema L, et al. Determinants and causes of mortality in HIV-infected patients receiving antiretroviral therapy in Burkina Faso: a five-year retrospective cohort study. AIDS Care 2012; 24: 478–90.			x	x
Laurent C, Bourgeois A, Mpoudi-Ngolé E, et al. Tolerability and effectiveness of first-line regimens combining nevirapine and lamivudine plus zidovudine or stavudine in Cameroon. AIDS Res Hum Retroviruses 2008; 24: 393–9.			x	
Liao L, Xing H, Su B, et al. Impact of HIV drug resistance on virologic and immunologic failure and mortality in a cohort of patients on antiretroviral therapy in China. AIDS 2013; 27: 1815–24.			x	
Lima VD, Harrigan R, Bangsberg DR, et al. The combined effect of modern highly active antiretroviral therapy regimens and adherence on mortality over time. J Acquir Immune Defic Syndr 2009; 50: 529–36.			x	
Lima VD, Hogg RS, Harrigan PR, et al. Continued improvement in survival among HIV-infected individuals with newer forms of highly active antiretroviral therapy. AIDS 2007; 21: 685–92.			x	x
Lohse N, Ladefoged K, Pedersen L, Jensen-Fangel S, Sørensen HT, Obel N. Low effectiveness of highly active antiretroviral therapy and high mortality in the Greenland HIV-infected population. Scand J Infect Dis 2004; 36: 738–42.	x			
Loubiere S, el Filal KM, Sodqi M, et al. When to initiate highly active antiretroviral therapy in low-resource settings: the Moroccan experience. Antivir Ther (Lond) 2008; 13: 241–51.	x			
Lowrance D, Makombe S, Harries A, et al. Lower early mortality rates among patients receiving antiretroviral treatment at clinics offering cotrimoxazole prophylaxis in Malawi. J Acquir Immune Defic Syndr 2007; 46: 56–61.	x			
Lowrance DW, Ndamage F, Kayirangwa E, et al. Adult clinical and immunologic outcomes of the national antiretroviral treatment program in Rwanda during 2004-2005. J Acquir Immune Defic Syndr 2009; 52: 49–55.			x	
MacPherson P, Moshabela M, Martinson N, Pronyk P. Mortality and loss to follow-up among HAART initiators in rural South Africa. Trans R Soc Trop Med Hyg 2009; 103: 588–93.			x	
Maman D, Pujades-Rodriguez M, Nicholas S, et al. Response to antiretroviral therapy: improved survival associated with CD4 above 500 cells/µl. AIDS 2012; 26: 1393–8.			x	x
Marston BJ, Macharia DK, Nga'nga L, et al. A program to provide antiretroviral therapy to residents of an urban slum in nairobi, kenya. J Int Assoc Physicians AIDS Care (Chic) 2007; 6: 106–12.	x			
Martin LJ, Houston S, Yasui Y, Wild TC, Saunders LD. All-cause and HIV-related mortality rates among HIV-infected patients after initiating highly active antiretroviral therapy: the impact of Aboriginal ethnicity and injection drug use. Can J Public Health 2011; 102: 90–6.				x
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Appendix Table 3a. HIV-specific mortality rates for patients on ART in all sub-Saharan African sites by time since ART initiation, sex, initial CD4 and age (per 100 person-years)

Time period	Initial CD4	Female					Male				
		15-24	25-34	35-44	45-54	55+	15-24	25-34	35-44	45-54	55+
0-6	<50	44·2 (22·7 - 79·0)	40·6 (20·4 - 71·5)	41·5 (21·2 - 74·6)	40·4 (20·2 - 73·2)	51·9 (24·8 - 94·7)	57·8 (29·4 - 102·2)	53·1 (26·5 - 93·5)	54·4 (28·2 - 96·4)	52·8 (26·6 - 95·6)	68·8 (32·7 - 126·1)
0-6	50-99	19·0 (13·6 - 27·7)	17·4 (12·2 - 25·0)	17·7 (12·9 - 25·1)	16·9 (11·6 - 24·9)	20·2 (13·4 - 30·2)	24·8 (17·7 - 36·0)	22·8 (16·2 - 32·4)	23·2 (17·2 - 33·0)	22·2 (15·1 - 33·0)	27·4 (18·7 - 40·9)
0-6	100-199	15·4 (11·5 - 20·3)	14·1 (10·4 - 18·4)	14·2 (10·9 - 18·1)	13·6 (9·7 - 18·5)	15·6 (10·7 - 21·5)	20·1 (14·8 - 26·6)	18·4 (13·6 - 24·2)	18·7 (14·3 - 23·8)	17·8 (12·6 - 24·2)	21·4 (15·0 - 29·3)
0-6	200-249	13·6 (9·8 - 18·1)	12·5 (8·9 - 16·6)	12·6 (9·3 - 16·3)	11·9 (8·3 - 16·5)	13·4 (8·6 - 19·0)	17·8 (12·9 - 23·7)	16·3 (11·6 - 21·7)	16·5 (12·2 - 21·3)	15·7 (10·8 - 21·4)	18·5 (12·2 - 25·8)
0-6	250-349	11·7 (7·7 - 16·3)	10·7 (7·0 - 14·8)	10·8 (7·3 - 14·7)	10·2 (6·5 - 14·6)	11·0 (5·9 - 16·5)	15·3 (10·2 - 21·4)	14·0 (9·3 - 19·4)	14·2 (9·7 - 19·4)	13·3 (8·6 - 19·1)	15·4 (8·8 - 22·7)
0-6	350-499	8·9 (5·1 - 13·5)	8·1 (4·7 - 12·0)	8·1 (4·6 - 12·0)	7·5 (4·0 - 12·1)	7·4 (2·7 - 13·3)	11·6 (6·8 - 17·7)	10·5 (6·0 - 15·8)	10·6 (6·2 - 15·8)	9·8 (5·4 - 15·8)	10·7 (4·6 - 18·3)
0-6	500+	7·0 (1·2 - 12·6)	6·3 (0·9 - 11·0)	6·3 (0·8 - 11·3)	5·8 (0·4 - 11·0)	5·2 (0·0 - 12·1)	9·1 (1·5 - 16·5)	8·2 (1·2 - 14·7)	8·3 (1·1 - 14·8)	7·6 (0·5 - 14·5)	7·7 (0·0 - 16·8)
7-12	<50	9·8 (6·6 - 14·5)	8·9 (6·0 - 13·4)	8·9 (6·2 - 13·2)	8·4 (5·4 - 13·0)	8·6 (4·5 - 15·0)	12·8 (8·5 - 19·0)	11·6 (7·9 - 17·5)	11·7 (8·0 - 17·4)	11·0 (7·1 - 17·2)	12·2 (7·0 - 20·3)
7-12	50-99	7·2 (5·5 - 9·5)	6·5 (5·0 - 8·4)	6·5 (5·1 - 8·4)	6·0 (4·3 - 8·5)	5·3 (3·2 - 8·0)	9·4 (7·1 - 12·5)	8·6 (6·5 - 11·2)	8·6 (6·7 - 11·1)	7·9 (5·6 - 11·4)	8·0 (5·2 - 11·7)
7-12	100-199	6·3 (4·9 - 7·9)	5·7 (4·4 - 7·2)	5·7 (4·6 - 6·8)	5·1 (3·7 - 6·9)	4·2 (2·4 - 6·1)	8·2 (6·5 - 10·4)	7·4 (5·8 - 9·5)	7·4 (6·0 - 9·0)	6·7 (4·9 - 9·2)	6·5 (4·2 - 9·2)
7-12	200-249	5·6 (4·2 - 7·3)	5·1 (3·8 - 6·5)	5·0 (3·9 - 6·3)	4·5 (3·1 - 6·2)	3·3 (1·7 - 5·3)	7·4 (5·5 - 9·6)	6·6 (4·9 - 8·6)	6·6 (5·1 - 8·3)	5·9 (4·1 - 8·2)	5·4 (3·1 - 8·1)
7-12	350-349	4·9 (3·4 - 6·5)	4·4 (3·0 - 6·0)	4·3 (3·0 - 5·6)	3·8 (2·4 - 5·5)	2·4 (0·5 - 4·4)	6·3 (4·4 - 8·7)	5·7 (3·9 - 7·8)	5·6 (3·9 - 7·4)	5·0 (3·1 - 7·2)	4·1 (1·6 - 6·9)
7-12	350-499	3·5 (2·2 - 5·1)	3·1 (1·8 - 4·8)	3·0 (1·8 - 4·5)	2·5 (1·2 - 4·2)	0·8 (0·0 - 2·7)	4·6 (2·8 - 6·7)	4·1 (2·4 - 6·2)	4·0 (2·4 - 5·9)	3·3 (1·6 - 5·5)	1·9 (0·0 - 4·6)
7-12	500+	2·6 (0·2 - 4·9)	2·3 (0·1 - 4·4)	2·2 (0·0 - 4·2)	1·7 (0·0 - 3·8)	0·4 (0·0 - 2·3)	3·4 (0·3 - 6·3)	3·0 (0·1 - 5·7)	2·9 (0·0 - 5·5)	2·3 (0·0 - 5·0)	1·0 (0·0 - 3·9)
13-24	<50	4·5 (3·1 - 6·4)	4·0 (2·7 - 5·7)	3·9 (2·7 - 5·7)	3·4 (2·1 - 5·3)	1·9 (0·2 - 4·3)	5·8 (4·0 - 8·4)	5·2 (3·6 - 7·5)	5·2 (3·6 - 7·5)	4·5 (2·8 - 6·9)	3·4 (1·2 - 6·7)
13-24	50-99	3·3 (2·5 - 4·4)	3·0 (2·3 - 3·9)	2·9 (2·3 - 3·7)	2·4 (1·6 - 3·4)	0·5 (0·0 - 1·7)	4·4 (3·3 - 5·7)	3·9 (3·0 - 5·1)	3·8 (3·0 - 4·9)	3·2 (2·1 - 4·4)	1·6 (0·4 - 3·2)
13-24	100-199	3·0 (2·3 - 3·7)	2·6 (2·0 - 3·3)	2·5 (2·0 - 3·0)	2·0 (1·4 - 2·8)	0·2 (0·0 - 0·8)	3·9 (3·0 - 4·9)	3·4 (2·6 - 4·3)	3·3 (2·7 - 4·0)	2·7 (1·8 - 3·7)	1·0 (0·0 - 2·1)
13-24	200-249	2·7 (2·1 - 3·5)	2·4 (1·8 - 3·1)	2·3 (1·7 - 2·8)	1·8 (1·1 - 2·6)	0·1 (0·0 - 0·6)	3·5 (2·7 - 4·5)	3·1 (2·3 - 4·0)	3·0 (2·3 - 3·7)	2·4 (1·5 - 3·4)	0·6 (0·0 - 1·8)
13-24	250-349	2·3 (1·7 - 3·1)	2·0 (1·4 - 2·7)	1·9 (1·3 - 2·5)	1·4 (0·8 - 2·2)	0·0 (0·0 - 0·2)	3·0 (2·2 - 4·1)	2·6 (1·8 - 3·6)	2·5 (1·8 - 3·3)	1·9 (1·0 - 2·9)	0·2 (0·0 - 1·2)
13-24	350-499	1·6 (0·9 - 2·5)	1·4 (0·7 - 2·2)	1·2 (0·5 - 2·0)	0·8 (0·1 - 1·7)	0·0 (0·0 - 0·0)	2·1 (1·2 - 3·3)	1·8 (1·0 - 2·8)	1·6 (0·8 - 2·6)	1·0 (0·1 - 2·3)	0·0 (0·0 - 0·2)
13-24	500+	1·1 (0·0 - 2·4)	0·9 (0·0 - 2·0)	0·8 (0·0 - 1·8)	0·4 (0·0 - 1·6)	0·0 (0·0 - 0·0)	1·5 (0·0 - 3·1)	1·2 (0·0 - 2·6)	1·0 (0·0 - 2·4)	0·6 (0·0 - 2·1)	0·0 (0·0 - 0·0)

Appendix Table 3b. HIV-specific mortality rates for patients on ART in LMIC countries outside of sub-Saharan Africa by time since ART initiation, sex, initial CD4 and age (per 100 person-years)

Time period	Initial CD4	Female					Male				
		15-24	25-34	35-44	45-54	55+	15-24	25-34	35-44	45-54	55+
0-6	<50	25·0 (11·1-51·3)	23·1 (10·5-48·0)	23·6 (10·9-49·3)	23·0 (10·3-47·9)	27·9 (11·3-63·5)	42·3 (19·2-87·3)	39·1 (18·1-79·9)	40·1 (18·8-85·3)	39·3 (17·5-80·8)	49·4 (20·9-109·9)
0-6	50-99	11·4 (6·6-18·5)	10·5 (6·1-16·9)	10·7 (6·3-17·1)	10·3 (5·7-16·9)	10·9 (5·0-19·3)	19·4 (11·5-31·2)	17·9 (10·6-28·2)	18·3 (11·0-28·8)	17·7 (9·9-28·4)	20·8 (10·8-35·3)
0-6	100-199	8·2 (5·1-12·6)	7·5 (4·6-11·4)	7·6 (4·6-11·6)	7·2 (4·1-11·4)	6·8 (2·9-12·3)	13·9 (8·6-21·5)	12·8 (8·0-19·4)	13·0 (8·2-19·8)	12·5 (7·5-19·7)	13·9 (7·4-23·2)
0-6	200-249	6·8 (3·9-11·1)	6·3 (3·5-9·9)	6·3 (3·6-9·9)	5·9 (3·0-9·6)	5·2 (1·5-10·3)	11·6 (6·9-18·6)	10·7 (6·1-17·2)	10·8 (6·4-16·7)	10·3 (5·7-16·8)	11·0 (5·2-20·2)
0-6	250-349	5·5 (2·9-9·3)	5·0 (2·6-8·4)	5·0 (2·7-8·4)	4·6 (2·2-8·1)	3·5 (0·3-8·1)	9·3 (5·0-15·3)	8·6 (4·4-14·6)	8·7 (4·5-14·7)	8·2 (4·1-13·8)	8·2 (2·8-16·1)
0-6	350-499	3·7 (1·5-6·9)	3·3 (1·3-6·4)	3·3 (1·2-6·3)	2·9 (0·8-5·9)	1·4 (0·0-5·2)	6·2 (2·6-11·5)	5·7 (2·3-10·9)	5·7 (2·3-10·8)	5·2 (1·8-10·1)	4·3 (0·0-10·9)
0-6	500+	2·5 (0·1-6·2)	2·3 (0·0-5·8)	2·2 (0·0-5·8)	1·9 (0·0-5·4)	0·7 (0·0-4·5)	4·4 (0·2-10·4)	4·0 (0·1-9·5)	3·9 (0·0-9·4)	3·5 (0·0-9·1)	2·5 (0·0-9·7)
7-12	<50	6·6 (4·0-10·6)	6·0 (3·8-9·8)	6·1 (3·7-9·9)	5·7 (3·2-9·5)	4·8 (1·7-9·8)	11·2 (6·8-17·2)	10·3 (6·5-16·3)	10·4 (6·6-16·3)	9·9 (5·9-16·4)	10·5 (5·2-18·6)
7-12	50-99	4·7 (3·2-6·7)	4·3 (3·0-6·1)	4·3 (3·0-6·0)	3·9 (2·5-5·7)	2·5 (0·7-4·9)	8·0 (5·5-11·2)	7·3 (5·2-10·2)	7·4 (5·2-10·1)	6·9 (4·5-9·8)	6·5 (3·4-10·2)
7-12	100-199	3·9 (2·8-5·4)	3·6 (2·5-4·9)	3·5 (2·5-4·8)	3·2 (2·1-4·7)	1·5 (0·0-3·4)	6·7 (4·8-9·4)	6·1 (4·4-8·3)	6·2 (4·5-8·3)	5·7 (3·8-8·1)	4·9 (2·5-7·8)
7-12	200-249	3·5 (2·4-5·0)	3·2 (2·2-4·5)	3·1 (2·1-4·5)	2·8 (1·7-4·3)	1·0 (0·0-2·8)	6·0 (4·1-8·4)	5·5 (3·8-7·6)	5·5 (3·8-7·5)	5·0 (3·2-7·4)	4·0 (1·7-7·0)
7-12	350-349	3·0 (2·0-4·4)	2·7 (1·8-4·0)	2·7 (1·8-3·9)	2·3 (1·3-3·7)	0·5 (0·0-2·1)	5·2 (3·4-7·4)	4·7 (3·1-6·7)	4·7 (3·1-6·7)	4·3 (2·6-6·5)	3·0 (0·9-5·9)
7-12	350-499	2·3 (1·2-3·6)	2·0 (1·1-3·3)	1·9 (1·0-3·2)	1·6 (0·6-3·0)	0·1 (0·0-1·1)	3·9 (2·2-6·1)	3·5 (1·9-5·6)	3·5 (1·8-5·5)	3·0 (1·3-5·3)	1·4 (0·0-4·2)
7-12	500+	1·7 (0·1-3·4)	1·5 (0·0-3·0)	1·5 (0·0-3·0)	1·1 (0·0-2·7)	0·1 (0·0-0·8)	3·0 (0·3-5·7)	2·7 (0·1-5·2)	2·6 (0·0-5·2)	2·2 (0·0-4·9)	0·8 (0·0-3·6)
13-24	<50	4·3 (2·8-6·8)	3·9 (2·6-6·0)	3·9 (2·6-6·1)	3·5 (2·1-5·7)	2·0 (0·2-4·9)	7·4 (4·9-11·3)	6·7 (4·6-10·2)	6·8 (4·6-10·3)	6·3 (3·9-9·7)	5·7 (2·6-10·2)
13-24	50-99	3·2 (2·2-4·7)	2·9 (2·0-4·1)	2·9 (2·0-4·1)	2·5 (1·6-3·8)	0·7 (0·0-2·3)	5·5 (3·8-7·8)	5·0 (3·5-7·1)	5·0 (3·5-7·1)	4·6 (2·9-6·8)	3·4 (1·3-6·2)
13-24	100-199	2·8 (1·9-4·3)	2·6 (1·7-3·7)	2·5 (1·7-3·6)	2·1 (1·3-3·3)	0·3 (0·0-1·7)	4·9 (3·4-7·0)	4·4 (3·1-6·2)	4·4 (3·1-6·2)	3·9 (2·5-5·8)	2·6 (0·8-5·0)
13-24	200-249	2·6 (1·8-3·9)	2·4 (1·6-3·4)	2·3 (1·5-3·4)	1·9 (1·1-3·1)	0·2 (0·0-1·4)	4·5 (3·0-6·4)	4·1 (2·8-5·8)	4·0 (2·7-5·7)	3·6 (2·3-5·3)	2·1 (0·4-4·5)
13-24	250-349	2·3 (1·5-3·4)	2·1 (1·3-3·0)	2·0 (1·2-3·0)	1·6 (0·9-2·7)	0·1 (0·0-0·8)	4·0 (2·6-5·7)	3·6 (2·3-5·1)	3·5 (2·3-5·1)	3·1 (1·8-4·8)	1·5 (0·0-3·6)
13-24	350-499	1·7 (0·9-2·6)	1·5 (0·8-2·3)	1·4 (0·7-2·3)	1·1 (0·4-2·0)	0·0 (0·0-0·0)	2·9 (1·7-4·5)	2·6 (1·5-3·9)	2·5 (1·4-3·9)	2·1 (0·9-3·6)	0·4 (0·0-2·0)
13-24	500+	1·2 (0·1-2·4)	1·1 (0·0-2·1)	1·0 (0·0-2·1)	0·7 (0·0-1·8)	0·0 (0·0-0·0)	2·2 (0·2-4·2)	1·9 (0·1-3·6)	1·8 (0·0-3·6)	1·4 (0·0-3·3)	0·2 (0·0-1·5)

Appendix Table 3c. HIV-specific mortality rates for patients on ART in high income countries by time since ART initiation, sex, initial CD4 and age (per 100 person-years)

Time period	Initial CD4	Female					Male				
		15-24	25-34	35-44	45-54	55+	15-24	25-34	35-44	45-54	55+
0-6	<50	5·5 (2·2-11·7)	6·1 (2·9-12·3)	7·5 (3·8-14·3)	8·9 (3·7-18·7)	6·6 (1·4-16·0)	6·2 (2·4-13·2)	6·8 (3·2-13·8)	8·3 (4·1-15·8)	9·8 (4·0-20·8)	7·4 (1·6-17·9)
0-6	50-99	3·1 (1·2-6·2)	3·4 (1·7-6·5)	4·2 (2·2-7·4)	4·9 (2·1-9·5)	2·4 (0·0-7·2)	3·4 (1·4-7·1)	3·8 (1·8-7·2)	4·6 (2·4-8·4)	5·3 (2·2-10·7)	2·7 (0·0-8·0)
0-6	100-199	1·9 (0·8-3·6)	2·0 (1·1-3·6)	2·5 (1·5-4·0)	2·8 (1·3-5·2)	0·5 (0·0-2·6)	2·0 (0·9-3·9)	2·2 (1·2-3·9)	2·7 (1·5-4·4)	3·0 (1·3-5·6)	0·6 (0·0-2·9)
0-6	200-249	1·0 (0·4-1·9)	1·1 (0·6-1·9)	1·3 (0·8-2·1)	1·4 (0·7-2·7)	0·0 (0·0-0·0)	1·1 (0·4-2·1)	1·2 (0·6-2·1)	1·4 (0·8-2·2)	1·4 (0·6-2·8)	0·0 (0·0-0·0)
0-6	250-349	0·6 (0·3-1·2)	0·7 (0·3-1·2)	0·8 (0·5-1·3)	0·8 (0·3-1·6)	0·0 (0·0-0·0)	0·7 (0·3-1·3)	0·7 (0·3-1·3)	0·8 (0·4-1·4)	0·8 (0·2-1·7)	0·0 (0·0-0·0)
0-6	350-499	0·4 (0·2-0·8)	0·5 (0·2-0·9)	0·5 (0·2-0·9)	0·5 (0·1-1·1)	0·0 (0·0-0·0)	0·4 (0·1-0·9)	0·5 (0·2-0·9)	0·5 (0·2-1·0)	0·4 (0·0-1·0)	0·0 (0·0-0·0)
0-6	500+	0·3 (0·1-0·7)	0·3 (0·1-0·7)	0·3 (0·1-0·7)	0·3 (0·0-0·8)	0·0 (0·0-0·0)	0·3 (0·0-0·7)	0·3 (0·0-0·7)	0·3 (0·0-0·7)	0·2 (0·0-0·7)	0·0 (0·0-0·0)
7-12	<50	4·4 (1·7-9·5)	4·9 (2·3-10·0)	5·9 (2·9-11·6)	7·0 (2·9-14·8)	4·7 (0·5-12·8)	4·9 (1·8-10·6)	5·4 (2·5-11·1)	6·6 (3·2-13·2)	7·7 (3·1-16·5)	5·2 (0·5-14·5)
7-12	50-99	2·6 (1·1-5·5)	2·9 (1·5-5·7)	3·5 (1·9-6·3)	4·1 (1·8-8·1)	1·6 (0·0-5·7)	2·9 (1·2-6·1)	3·2 (1·6-6·3)	3·8 (2·1-7·0)	4·4 (1·9-9·1)	1·7 (0·0-6·2)
7-12	100-199	1·9 (0·8-3·7)	2·1 (1·1-3·7)	2·5 (1·4-4·2)	2·9 (1·4-5·5)	0·5 (0·0-2·8)	2·1 (0·8-4·1)	2·3 (1·2-4·0)	2·7 (1·5-4·6)	3·1 (1·3-5·9)	0·6 (0·0-3·0)
7-12	200-249	1·3 (0·6-2·5)	1·4 (0·8-2·4)	1·7 (1·0-2·7)	1·9 (0·9-3·4)	0·1 (0·0-0·8)	1·4 (0·6-2·7)	1·5 (0·8-2·6)	1·8 (1·1-2·9)	2·0 (0·8-3·6)	0·1 (0·0-0·8)
7-12	350-349	0·8 (0·3-1·6)	0·9 (0·5-1·6)	1·1 (0·6-1·7)	1·2 (0·5-2·2)	0·0 (0·0-0·0)	0·9 (0·4-1·7)	1·0 (0·5-1·7)	1·1 (0·6-1·9)	1·1 (0·4-2·2)	0·0 (0·0-0·0)
7-12	350-499	0·5 (0·2-1·0)	0·5 (0·2-1·0)	0·6 (0·3-1·1)	0·6 (0·2-1·3)	0·0 (0·0-0·0)	0·5 (0·2-1·0)	0·5 (0·2-1·0)	0·6 (0·2-1·1)	0·5 (0·0-1·2)	0·0 (0·0-0·0)
7-12	500+	0·3 (0·1-0·6)	0·3 (0·1-0·6)	0·3 (0·0-0·7)	0·2 (0·0-0·8)	0·0 (0·0-0·0)	0·3 (0·0-0·7)	0·3 (0·0-0·7)	0·3 (0·0-0·7)	0·1 (0·0-0·7)	0·0 (0·0-0·0)
13-24	<50	3·4 (1·4-7·8)	3·7 (1·7-7·7)	4·5 (2·3-8·5)	5·3 (2·3-10·6)	2·8 (0·0-8·4)	3·7 (1·5-8·8)	4·1 (1·9-8·4)	4·9 (2·5-9·4)	5·7 (2·4-11·7)	3·1 (0·0-9·5)
13-24	50-99	2·1 (0·9-4·1)	2·3 (1·2-3·9)	2·8 (1·6-4·5)	3·2 (1·5-5·8)	0·8 (0·0-3·4)	2·3 (0·9-4·6)	2·5 (1·3-4·3)	3·0 (1·7-5·0)	3·4 (1·6-6·4)	0·9 (0·0-3·7)
13-24	100-199	1·4 (0·6-2·7)	1·6 (0·9-2·7)	1·9 (1·2-3·0)	2·1 (1·1-3·9)	0·1 (0·0-1·3)	1·6 (0·7-3·1)	1·7 (0·9-3·0)	2·0 (1·2-3·4)	2·2 (1·0-4·2)	0·1 (0·0-1·4)
13-24	200-249	1·0 (0·4-1·9)	1·1 (0·6-1·8)	1·2 (0·8-2·0)	1·4 (0·6-2·6)	0·0 (0·0-0·0)	1·0 (0·4-2·1)	1·1 (0·6-2·0)	1·3 (0·8-2·2)	1·4 (0·5-2·7)	0·0 (0·0-0·0)
13-24	250-349	0·7 (0·3-1·3)	0·7 (0·4-1·3)	0·8 (0·5-1·4)	0·9 (0·4-1·8)	0·0 (0·0-0·0)	0·7 (0·3-1·4)	0·8 (0·4-1·4)	0·9 (0·5-1·5)	0·8 (0·3-1·8)	0·0 (0·0-0·0)
13-24	350-499	0·5 (0·2-0·9)	0·5 (0·3-0·9)	0·6 (0·3-1·0)	0·6 (0·2-1·2)	0·0 (0·0-0·0)	0·5 (0·2-1·0)	0·5 (0·2-0·9)	0·6 (0·3-1·0)	0·5 (0·0-1·2)	0·0 (0·0-0·0)
13-24	500+	0·3 (0·1-0·7)	0·3 (0·1-0·6)	0·3 (0·1-0·7)	0·3 (0·0-0·8)	0·0 (0·0-0·0)	0·3 (0·1-0·7)	0·3 (0·1-0·7)	0·3 (0·1-0·7)	0·2 (0·0-0·7)	0·0 (0·0-0·0)

Appendix Table 4. HIV mortality data sources used in the GBD 2013.

Country	Source number	Source	Surveillance	Verbal Autopsy	Vital Registration
Albania	01 - ALB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Antigua and Barbuda	01 - ATG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Argentina	01 - ARG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Armenia	01 - ARM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Australia	01 - AUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Austria	01 - AUT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Azerbaijan	01 - AZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bahrain	01 - BHR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bangladesh	01 - BGD	INDEPTH, International Centre for Diarrhoeal Disease Research (Bangladesh). Bangladesh - Matlab Health and Demographic Surveillance System. Dhaka, Bangladesh: International Centre for Diarrhoeal Disease Research (Bangladesh).		X	
Bangladesh	02 - BGD	INDEPTH. Bangladesh - AMK Health and Demographic Surveillance System.		X	
Barbados	01 - BRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belarus	01 - BLR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belgium	01 - BEL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belize	01 - BLZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bermuda	01 - BMU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bolivia	01 - BOL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bosnia and Herzegovina	01 - BIH	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brazil	01 - BRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brunei	01 - BRN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bulgaria	01 - BGR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Burkina Faso	01 - BFA	Bell JS, Ouédraogo M, Ganaba R, Sombié I, Byass P, Baggaley RF, Filippi V, Fitzmaurice AE, Graham WJ. The epidemiology of pregnancy outcomes in rural Burkina Faso. Trop Med Int Health. 2008; 13 Suppl 1: 31-43.		X	
Burkina Faso	02 - BFA	INDEPTH, Nouna Health Research Center (Burkina Faso). Burkina Faso - Nouna Health and Demographic Surveillance System.		X	
Burkina Faso	03 - BFA	Ramroth H, Lorenz E, Rankin JC, Fottrell E, Yé M, Neuhann F, Ssennono M, Sié A, Byass P, Becher H. Causas de la distribución de muerte con el modelo InterVA y la codificación de médicos en un área rural de Burkina Faso. Trop Med Int Health. 2012; 17(7): 904-13.		X	
Burkina Faso	04 - BFA	Würthwein R, Gbangou A, Sauerborn R, Schmidt CM. Measuring the local burden of disease. A study of years of life lost in sub-Saharan Africa. Int J Epidemiol. 2001; 30(3): 501-8.		X	
Burkina Faso	05 - BFA	Yé M, Diboulo E, Niamba L, Sié A, Coulibaly B, Bagagnan C, Dembélé J, Ramroth H. An improved method for physician-certified verbal autopsy reduces the rate of discrepancy: experiences in the Nouna Health and Demographic Surveillance Site (NHDSS), Burkina Faso. Popul Health Metr. 2011; 9: 34.		X	
Canada	01 - CAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cape Verde	01 - CPV	Wessel H, Reitmaier P, Dupret A, Rocha E, Cnattingius S, Bergström S. Deaths among women of reproductive age in Cape Verde: causes and avoidability. Acta Obstet Gynecol Scand. 1999; 78(3): 225-32.		X	
Chile	01 - CHL	Ministry of Health (Chile), National Institute of Statistics (Chile). Chile Vital Registration - Deaths 1985.			X
Chile	02 - CHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
China	01 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1991 - China CDC.			X
China	02 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1993 - China CDC.			X
China	03 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1994 - China CDC.			X
China	04 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1995 - China CDC.			X
China	05 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1996 - China CDC.			X
China	06 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1997 - China CDC.			X
China	07 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1998 - China CDC.			X
China	08 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1999 - China CDC.			X
China	09 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2000 - China CDC.			X
China	10 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2001 - China CDC.			X
China	11 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2002 - China CDC.			X
China	12 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2004 - China CDC.			X
China	13 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2005 - China CDC.			X
China	14 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2006 - China CDC.			X
China	15 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2007 - China CDC.			X
China	16 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2008 - China CDC.			X
China	17 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2009 - China CDC.			X

China	18 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2010 - China CDC.			X
China	19 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2011 - China CDC.			X
China	20 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2004.	X		
China	21 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2005.	X		
China	22 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2006.	X		
China	23 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2007.	X		
China	24 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2008.	X		
China	25 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2009.	X		
China	26 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2010.	X		
China	27 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2011.	X		
China	28 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2012.	X		
China	29 - CHN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Colombia	01 - COL	National Administrative Department of Statistics (Colombia). Colombia Vital Statistics - Deaths 2008. Bogotá, Colombia: National Administrative Department of Statistics (Colombia).			X
Colombia	02 - COL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Costa Rica	01 - CRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Croatia	01 - HRV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cuba	01 - CUB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cyprus	01 - CYP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Czech Republic	01 - CZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Democratic Republic of the Congo	01 - COD	Coghlan B, Brennan RJ, Ngoy P, Dofara D, Otto B, Clements M, Stewart T. Mortality in the Democratic Republic of Congo: a nationwide survey. Lancet. 2006; 367(9504): 44-51.		X	
Denmark	01 - DNK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominica	01 - DMA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominican Republic	01 - DOM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Eastern Cape	01 - ZEC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Ecuador	01 - ECU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Egypt	01 - EGY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
El Salvador	01 - SLV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Estonia	01 - EST	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ethiopia	01 - ETH	Anteneh A, Araya T, Misganaw A. Factors associated with place of death in Addis Ababa, Ethiopia. BMC Palliat Care. 2013; 12(14): 14.		X	
Ethiopia	02 - ETH	Araya T, Tensou B, Davey G, Berhane Y. La vigilancia de entierros detectó una reducción significativa en las muertes relacionadas con el VIH en Addis Ababa, Etiopía. Trop Med Int Health. 2011; 16(12): 1483-9.		X	
Ethiopia	03 - ETH	Deribew A, Tessema F, Girma B. Determinants of under-five mortality in Gilgel Gibe Field Research Center, Southwest Ethiopia. Ethiopian Journal of Health Development. 2007; 21(2): 117-24.		X	
Ethiopia	04 - ETH	Fantahun M, Fottrell E, Berhane Y, Wall S, Högberg U, Byass P. Assessing a new approach to verbal autopsy interpretation in a rural Ethiopian community: the InterVA model. Bull World Health Organ. 2006; 84(3): 204-10.		X	
Ethiopia	05 - ETH	INDEPTH. Ethiopia - Butajira Health and Demographic Surveillance System.		X	
Ethiopia	06 - ETH	Lulu K, Berhane Y. The use of simplified verbal autopsy in identifying causes of adult death in a predominantly rural population in Ethiopia. BMC Public Health. 2005; 5: 58.		X	
Ethiopia	07 - ETH	Weldearegawi B, Ashebir Y, Gebeye E, Gebregziabiher T, Yohannes M, Mussa S, Berhe H, Abebe Z. Emerging chronic non-communicable diseases in rural communities of Northern Ethiopia: evidence using population-based verbal autopsy method in Kilite Awlaelo surveillance site. Health Policy Plan . 2013. [Epub ahead of print]		X	
Fiji	01 - FJI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Finland	01 - FIN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
France	01 - FRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Free State	01 - ZFS	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Gauteng	01 - ZGA	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Georgia	01 - GEO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Germany	01 - DEU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ghana	01 - GHA	Births and Deaths Registry (Ghana). Ghana - Accra Births and Deaths Registry - Deaths 2000-2007.			X
Ghana	02 - GHA	Ghana Statistical Service, Ghana Health Service, Macro International, Inc. Ghana Special Demographic and Health Survey 2007-2008. Calverton, United States: Macro International, Inc., 2010.		X	

Ghana	03 - GHA	Hurt L, ten Asbroek A, Amenga-Etego S, Zandoh C, Danso S, Edmond K, Hurt C, Tawiah C, Hill Z, Fenty J, Owusu-Agyei S, Campbell OM, Kirkwood BR. Effect of vitamin A supplementation on cause-specific mortality in women of reproductive age in Ghana: a secondary analysis from the ObaapaVitA trial. Bull World Health Organ. 2013; 91(1): 19-27.		X	
Ghana	04 - GHA	INDEPTH. Ghana - Navrongo Health and Demographic Surveillance System.		X	
Greece	01 - GRC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Grenada	01 - GRD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Guatemala	01 - GTM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Guyana	01 - GUY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Haiti	01 - HTI	Dowell SF, Davis HL, Holt EA, Ruff AJ, Kissinger PJ, Bijoux J, Boulos R, Boulos C, Halsey NA. The utility of verbal autopsies for identifying HIV-1-related deaths in Haitian children. AIDS. 1993; 7(9): 1255-9.		X	
Haiti	02 - HTI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Honduras	01 - HND	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Hungary	01 - HUN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Iceland	01 - ISL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
India	01 - IND	Byrraju Foundation, Centre for Chronic Disease Control (India), Cooperative for Assistance and Relief Everywhere (CARE), School of Population Health, University of Queensland (Australia). India - Andhra Pradesh Rural Health Initiative.		X	
India	02 - IND	Dongre A, Singh A, Deshmukh P, Garg B. A community based cross sectional study on feasibility of lay interviewers in ascertaining causes of adult deaths by using verbal autopsy in rural Wardha. Online Journal of Health and Allied Sciences. 2008; 7(4): 4.		X	
India	03 - IND	Gajalakshmi V, Peto R, Kanaka S, Balasubramanian S. Verbal autopsy of 48 000 adult deaths attributable to medical causes in Chennai (formerly Madras), India. BMC Public Health. 2002; 2: 7.		X	
India	04 - IND	Indian Council of Medical Research (ICMR). India Study on Causes of Death by Verbal Autopsy 2003.		X	
India	05 - IND	Joshi R, Cardona M, Iyengar S, Sukumar A, Raju CR, Raju KR, Raju K, Reddy KS, Lopez A, Neal B. Chronic diseases now a leading cause of death in rural India – mortality data from the Andhra Pradesh Rural Health Initiative. Int J Epidemiol. 2006; 35(6): 1522-9.		X	
India	06 - IND	Ministry of Health and Family Welfare (India), Office of the Registrar General and Census Commissioner (India). India Special Survey of Deaths 2004.		X	
India	07 - IND	Office of the Registrar General and Census Commissioner (India). India MCCD Vital Statistics - Deaths 1999-2001.			X
India	08 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2002. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X

India	09 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2003. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	10 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2004. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	11 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2005. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	12 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2006. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	13 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2008. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2013.			X
Indonesia	01 - IDN	National Institute of Health Research and Development (NIHRD), Ministry of Health (Indonesia). Indonesia Sample Registration System 2012, Indonesia Cause of Death Survey 2010-2011, Indonesia Mortality Registration System Strengthening Project (IMRSSP), and Indonesia Basic Health Research 2007-2008.		X	
Iran	01 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2007.			X
Iran	02 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2008.			X
Iran	03 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2009.			X
Iran	04 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2010.			X
Iraq	01 - IRQ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ireland	01 - IRL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Israel	01 - ISR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Italy	01 - ITA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Jamaica	01 - JAM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Japan	01 - JPN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Jordan	01 - JOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kazakhstan	01 - KAZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kenya	01 - KEN	INDEPTH. Kenya - Kisumu Health and Demographic Surveillance System.		X	
Kenya	02 - KEN	INDEPTH. Kenya - Nairobi Health and Demographic Surveillance System.		X	
Kenya	03 - KEN	van Eijk AM, Adazu K, Ofware P, Vulule J, Hamel M, Slutsker L. Causes of deaths using verbal autopsy among adolescents and adults in rural western Kenya. Trop Med Int Health. 2008; 13(10): 1314-24.		X	

Kiribati	01 - KIR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kuwait	01 - KWT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
KwaZulu-Natal	01 - ZKN	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Kyrgyzstan	01 - KGZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Latvia	01 - LVA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Limpopo	01 - ZLI	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Lithuania	01 - LTU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Luxembourg	01 - LUX	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Macedonia	01 - MKD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Malawi	01 - MWI	Checchi F, Nyasulu P, Chandramohan D, Roberts B. Rates and causes of death in Chiradzulu District, Malawi, 2008: a key informant study. Trop Med Int Health. 2011; 16(3): 375-8.		X	
Malawi	02 - MWI	Chihana M, Floyd S, Molesworth A, Crampin AC, Kayuni N, Price A, Zaba B, Jahn A, Mvula H, Dube A, Ngwira B, Glynn JR, French N. Adult mortality and probable cause of death in rural northern Malawi in the era of HIV treatment. Trop Med Int Health. 2012; 17(8): E74-83.		X	
Malawi	03 - MWI	Doctor HV, Weinreb AA. Estimation of AIDS adult mortality by verbal autopsy in rural Malawi. AIDS. 2003; 17(17): 2509-13.		X	
Malawi	04 - MWI	Jahn A, Floyd S, Crampin AC, Mvula H, Mwinuka V, Mwaiyeghele E, McGrath N, Zaba B, Fine PEM, Glynn JR. Declining child mortality in northern Malawi despite high rates of infection with HIV. Bull World Health Organ. 2010; 88: 746-53.		X	
Malaysia	01 - MYS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Maldives	01 - MDV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Malta	01 - MLT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mauritius	01 - MUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mexico	01 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1980 .			X
Mexico	02 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1981 .			X
Mexico	03 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1982.			X
Mexico	04 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1983.			X
Mexico	05 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1984.			X
Mexico	06 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1985.			X

Mexico	07 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1986.			X
Mexico	08 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1987.			X
Mexico	09 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1988.			X
Mexico	10 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1989.			X
Mexico	11 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1990.			X
Mexico	12 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1991.			X
Mexico	13 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1992.			X
Mexico	14 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1993.			X
Mexico	15 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1994.			X
Mexico	16 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1995.			X
Mexico	17 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1996.			X
Mexico	18 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1997.			X
Mexico	19 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1998.			X
Mexico	20 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1999.			X
Mexico	21 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2000.			X
Mexico	22 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2001.			X
Mexico	23 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2002.			X
Mexico	24 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2003.			X
Mexico	25 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2004.			X
Mexico	26 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2005.			X
Mexico	27 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2006.			X
Mexico	28 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2007.			X
Mexico	29 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2008.			X
Mexico	30 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2010.			X
Mexico	31 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2011.			X
Mexico	32 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2012.			X
Mexico	33 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Statistics - Deaths 2009 .			X
Moldova	01 - MDA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mongolia	01 - MNG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Montenegro	01 - MNE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Morocco	01 - MAR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mozambique	01 - MOZ	Centers for Disease Control and Prevention (CDC), MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Ministry of Health (Mozambique), National Statistics Institute (Mozambique), US Census Bureau. Mozambique National Survey on the Causes of Death 2007-2008.		X	
Mozambique	02 - MOZ	INDEPTH. Mozambique - Manhiça Health and Demographic Surveillance System.		X	
Mozambique	03 - MOZ	Sacarlal J, Nhacolo AQ, Sigaúque B, Nhalungo DA, Abacassamo F, Sacoor CN, Aide P, Machevo S, Nhampossa T, Macete EV, Bassat Q, David C, Bardají A, Letang E, Saúte F, Aponte JJ, Thompson R, Alonso PL. A 10 year study of the cause of death in children under 15 years in Manhiça, Mozambique. BioMed Central Public Health. 2009; 9: 67.		X	
Mpumalanga	01 - ZMP	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Myanmar	01 - MMR	Myint, S. Cause of death verification study in Myanmar. Presentation at: World Health Organization Regional Office for South East Asia. Regional Consultation on Mortality Statistics. 2007; New Delhi, India.		X	
Netherlands	01 - NLD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
New Zealand	01 - NZL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nicaragua	01 - NIC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nigeria	01 - NGA	National Population Commission of Nigeria, United Nations Children's Fund (UNICEF). Nigeria Report of Livebirths, Deaths and Stillbirths 1994-2007. Abuja, Nigeria: National Population Commission of Nigeria, 2008.			X
North-West	01 - ZNW	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Northern Cape	01 - ZNC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Norway	01 - NOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Oman	01 - OMN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Pakistan	01 - PAK	National Institute of Population Studies (NIPS) (Pakistan), Macro International, Inc. Pakistan Demographic and Health Survey 2006-2007. Calverton, United States: Macro International, Inc.		X	
Palestine	01 - PSE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Panama	01 - PAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Papua New Guinea	01 - PNG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Paraguay	01 - PRY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Peru	01 - PER	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Philippines	01 - PHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Poland	01 - POL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Portugal	01 - PRT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Puerto Rico	01 - PRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Qatar	01 - QAT	General Secretariat for Development Planning (Qatar), Ministry of Public Health (Qatar). Qatar Vital Statistics Annual Bulletin 2000. 2001.			X
Qatar	02 - QAT	General Secretariat for Development Planning (Qatar), Ministry of Public Health (Qatar). Qatar Vital Statistics Annual Bulletin 2001. 2002.			X
Qatar	03 - QAT	General Secretariat for Development Planning (Qatar), Ministry of Public Health (Qatar). Qatar Vital Statistics Annual Bulletin 2002. 2003.			X
Qatar	04 - QAT	General Secretariat for Development Planning (Qatar), Ministry of Public Health (Qatar). Qatar Vital Statistics Annual Bulletin 2003. 2004.			X
Qatar	05 - QAT	General Secretariat for Development Planning (Qatar), National Health Authority (Qatar). Qatar Vital Statistics Annual Bulletin 2005. 2006.			X
Qatar	06 - QAT	National Health Authority (Qatar), Qatar Statistics Authority. Qatar Vital Statistics Annual Bulletin 2006. 2007.			X
Qatar	07 - QAT	National Health Authority (Qatar), Qatar Statistics Authority. Qatar Vital Statistics Annual Bulletin 2008. 2009.			X
Qatar	08 - QAT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Romania	01 - ROU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Russia	01 - RUS	Center for Demographic Research, New Economic School (Russia). Russia Mortality Rates by Region, Age, Sex, and Cause of Death 1989-1998. Moscow, Russia: Center for Demographic Research, New Economic School (Russia).			X
Russia	02 - RUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Saint Lucia	01 - LCA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Saint Vincent and the Grenadines	01 - VCT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sao Tome and Principe	01 - STP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Senegal	01 - SEN	Duthe G, Pison G. Adult mortality in a rural area of Senegal: Non-communicable diseases have a large impact in Mlomp. Demographic Research. 2008; 19(37): 1419-48.		X	
Serbia	01 - SRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Seychelles	01 - SYC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Singapore	01 - SGP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovakia	01 - SVK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovenia	01 - SVN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Africa	01 - ZAF	Garrib A, Jaffar S, Knight S, Bradshaw D, Bennish ML. Rates and causes of child mortality in an area of high HIV prevalence in rural South Africa. Trop Med Int Health. 2006; 11(12): 1841-8.		X	
South Africa	02 - ZAF	MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), INDEPTH. South Africa - Agincourt Health and Socio-Demographic Surveillance System.		X	
South Africa	03 - ZAF	Muhwava W. Contributions of the Africa Centre Demographic Surveillance to the Community. Umbiko . 2007; 12. 3-4.		X	
South Africa	04 - ZAF	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Korea	01 - KOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Spain	01 - ESP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sri Lanka	01 - LKA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Suriname	01 - SUR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sweden	01 - SWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Switzerland	01 - CHE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Syria	01 - SYR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Taiwan	01 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2008.			X
Taiwan	02 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2009.			X
Taiwan	03 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2010.			X
Taiwan	04 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2011.			X
Taiwan	05 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2012.			X
Taiwan	06 - TWN	Department of Health (Taiwan). Taiwan Vital Statistics - Deaths 2007.			X
Tajikistan	01 - TJK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Tanzania	01 - TZA	INDEPTH. Tanzania - Ifakara Health and Demographic Surveillance System.		X	
Tanzania	02 - TZA	INDEPTH. Tanzania - Rufiji Health and Demographic Surveillance System.		X	

Tanzania	03 - TZA	Illah E, Mbaruku G, Masanja H, Kahn K. Causes and risk factors for maternal mortality in rural Tanzania--case of Rufiji Health and Demographic Surveillance Site (HDSS). Afr J Reprod Health. 2013; 17(3): 119-30. .	X		
Tanzania	04 - TZA	Kaatano GM, Mashauri FM, Kinung'hi SM, Mwanga JR, Malima RC, Kishamawe C, Nnko SE, Magesa SM, Mboera LE. Patterns of malaria related mortality based on verbal autopsy in Muleba District, north-western Tanzania. Tanzan J Health Res. 2009; 11(4): 210-8.		X	
Tanzania	05 - TZA	MacLeod J, Rhode R. Retrospective follow-up of maternal deaths and their associated risk factors in a rural district of Tanzania. Trop Med Int Health. 1998; 3(2): 130-7.		X	
Tanzania	06 - TZA	Ministry of Health and Social Welfare (Tanzania), Newcastle University, UK Department for International Development (DFID). Tanzania Policy Implications of Mortality Burden 1995-2001.		X	
Tanzania	07 - TZA	Narah-Bana, S. Risk Factors and Causes of Adult Deaths in the Ifakara Health and Demographic Surveillance System Population, 2003-2007 [dissertation]. [Johannesburg, South Africa]: University of the Witwatersrand; 2010. 174 p.		X	
Tanzania	08 - TZA	Narh-Bana SA, Chirwa TF, Mwanyangala MA, Nathan R. Muertes de adultos y el futuro: Un análisis causa-específico de las muertes de adultos de un estudio longitudinal en Tanzania rural 2003-2007. Trop Med Int Health. 2012; 17(11): 1396-404.		X	
Tanzania	09 - TZA	Sangber-Dery MD. The Role of Birth Order in Infant Mortality in Ifakara DSS Area in Rural Tanzania [master's thesis]. [Johannesburg, South Africa]: University of the Witwatersrand; 2009.		X	
Thailand	01 - THA	Ministry of Public Health (Thailand). Thailand Burden of Disease and Injuries 1998-1999.		X	
Thailand	02 - THA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
The Bahamas	01 - BHS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Trinidad and Tobago	01 - TTO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Turkey	01 - TUR	Baskent University, Ministry of Health (Turkey), State Institute of Statistics (Turkey). Turkey Verbal Autopsy Survey 2003.		X	
Turkey	02 - TUR	Turkish Statistical Institute. Turkey Causes of Death Statistics 2010-2012. Ankara, Turkey: Turkish Statistical Institute.			X
Turkmenistan	01 - TKM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uganda	01 - UGA	MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Macro International, Inc, Uganda Bureau of Statistics. Uganda Child Verbal Autopsy Study 2007. Macro International, Inc.		X	
Uganda	02 - UGA	Mayanja BN, Baisley K, Nalweyiso N, Kibengo FM, Mugisha JO, Van der Paal L, Maher D, Kaleebu P. Using verbal autopsy to assess the prevalence of HIV infection among deaths in the ART period in rural Uganda: a prospective cohort study, 2006-2008. Popul Health Metr. 2011; 9(36): 36.		X	
Ukraine	01 - UKR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United Kingdom	01 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2011. Edinburgh, Scotland: National Records of Scotland.			X
United Kingdom	02 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2012. Edinburgh, Scotland: National Records of Scotland.			X

United Kingdom	03 - GBR	Northern Ireland Statistics and Research Agency (NISRA). United Kingdom - Northern Ireland Registrar General Annual Report 2011. Belfast, Northern Ireland: Northern Ireland Statistics and Research Agency (NISRA), 2012.			X
United Kingdom	04 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1981-1994. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	05 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1995-2000. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	06 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 2001-2012. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	07 - GBR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United States	01 - USA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uruguay	01 - URY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uzbekistan	01 - UZB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Venezuela	01 - VEN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Vietnam	01 - VNM	Hanoi School of Public Health, Ministry of Health (Viet Nam), School of Population Health, University of Queensland (Australia). Vietnam Burden of Disease and Injury Study 2008. Hanoi, Vietnam: Hanoi School of Public Health, 2011.		X	
Vietnam	02 - VNM	Hoa NP, Rao C, Hoy DG, Hinh ND, Chuc NT, Ngo DA. Mortality measures from sample-based surveillance: evidence of the epidemiological transition in Viet Nam. Bull World Health Organ. 2012; 90(10): 764-72.		X	
Vietnam	03 - VNM	Ngo AD, Rao C, Hoa NP, Adair T, Chuc NTK. Mortality patterns in Vietnam, 2006: Findings from a national verbal autopsy survey. BMC Res Notes. 2010; 3: 78.		X	
Vietnam	04 - VNM	Quyen BTT, Nhung NT, Cuong PV. The causes of deaths in Chililab between 2008-2010 based on verbal autopsy method. Vietnam Journal of Public Health. 2012; 1(1): 24-31.		X	
Western Cape	01 - ZWC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Zambia	01 - ZMB	Mudenda SS, Kamocha S, Mswia R, Conkling M, Sikanyiti P, Potter D, Mayaka WC, Marx MA. Feasibility of using a WHO-standard methodology for Sample Vital Registration with Verbal Autopsy (SAVVY) to report leading causes of death in Zambia: results of a pilot in four provinces, 2010. Popul Health Metr. 2011; 9: 40.		X	
Zimbabwe	01 - ZWE	Registrar General's Department (Zimbabwe), Zimbabwe National Statistics Agency. Zimbabwe Mortality Report 2007.			X
Zimbabwe	02 - ZWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Appendix Table 5: Covariates used in CODEm for tuberculosis - Males and Females

Covariate	Direction	Level
Cumulative Cigarettes (5 years)	1	1
Diabetes Fasting Plasma Glucose (mmol/L)	1	1
Health system access (unitless)	-1	1
Indoor Air Pollution (All Cooking Fuels)	1	1
Malnutrition in children under 5 years - proportion > 2SD below mean weight for age (logit transform	-1	1
Smoking Prevalence	1	1
Alcohol (liters per capita)	1	2
Population Density (500-1,000 ppl/sqkm, proportion)	1	2
Population Density (over 1,000 ppl/sqkm, proportion)	1	2
Education (years per capita)	-1	3
Lag distributed income per capita (log transformed)	-1	3

Appendix Table 6a: CODEm sub-model performance for tuberculosis - Males

Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.5960541	2	0.1723921	52	99
2	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	0.6105738	12	0.1722745	43	89
3	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6089908	9	0.172358	48	80
4	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.602951	4	0.1724631	61	72
5	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6050448	6	0.1724786	63	65
6	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	0.6211647	29	0.1722964	46	59
7	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6115596	14	0.1724719	62	53
8	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.5957156	1	0.1726189	78	48
9	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	0.6215445	31	0.1723753	49	43
10	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6069267	7	0.1725958	73	39
11	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6102294	10	0.1726066	75	35
12	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6211144	28	0.1724322	57	31

13	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6232108	35	0.1723788	51	28
14	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Lag distributed income per capita (log transformed)	0.6215823	32	0.172421	55	26
15	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6021707	3	0.1727518	85	23
16	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6248376	41	0.1723759	50	21
17	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6103104	11	0.1726654	81	19
18	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6330675	55	0.1722202	38	17
19	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6497616	93	0.17195	2	15
20	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6349105	60	0.1722029	35	14
21	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	0.6509259	95	0.1719492	1	12
22	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6116747	15	0.1726727	82	11
23	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence	0.6148293	21	0.1726072	76	10
24	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6134158	18	0.1726473	80	9
25	Spacetime	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6075017	8	0.1728208	92	8
26	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6225402	34	0.1725045	66	7

27	Spacetime	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6045502	5	0.1728993	98	7
28	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6350008	62	0.17224	41	6
29	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6368202	70	0.1722132	37	5
30	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6265637	43	0.1724813	64	5
31	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6527896	100	0.1719874	7	4
32	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.6232836	36	0.1725922	72	4
33	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6159183	22	0.1727588	88	4
34	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6203356	27	0.1727454	84	3
35	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6465844	81	0.1721375	30	3
36	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6191714	25	0.1727569	86	3
37	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6232977	37	0.1725978	74	2
38	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	0.6543971	108	0.1719783	4	2
39	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	0.6539899	107	0.1719785	5	2
40	Spacetime	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6116784	16	0.1728707	95	2
41	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.6297367	48	0.1724942	65	2

42	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6557249	112	0.1719761	3	1
43	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.653331	103	0.1720023	11	1
44	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	0.6341395	58	0.1724572	60	1
45	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6539142	106	0.1719881	8	1
46	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6139577	20	0.1728968	97	1
47	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6187676	24	0.1728544	94	1
48	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6470698	84	0.1721395	31	1
49	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6273724	46	0.1725865	71	1
50	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6349741	61	0.1724133	54	1
51	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6358166	65	0.1724109	53	1
52	Linear	Logit(CF)	Smoking Prevalence	0.7227351	226	0.1762145	254	0
53	Spacetime	Logit(CF)	Smoking Prevalence	0.6775581	155	0.1748969	157	0
54	Linear	Logit(CF)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6799555	156	0.1729021	99	0
55	Spacetime	Logit(CF)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6238866	38	0.1729484	102	0
56	Linear	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita)	0.7218569	225	0.1761776	252	0
57	Spacetime	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita)	0.6711252	147	0.1748657	156	0
58	Linear	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6692085	146	0.1727998	91	0
59	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels)	0.7359339	242	0.1752197	182	0
60	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels)	0.673189	151	0.174032	144	0
61	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6871679	159	0.1732281	120	0
62	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6475514	87	0.1731404	117	0
63	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7336282	235	0.1749857	164	0

64	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6762564	152	0.1737991	140	0
65	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.663525	142	0.173181	118	0
66	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6411995	72	0.1728263	93	0
67	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.69322	166	0.1743038	146	0
68	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6618539	135	0.173453	132	0
69	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6717304	148	0.1728763	96	0
70	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6363871	67	0.1727578	87	0
71	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.692012	164	0.1741922	145	0
72	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6689523	145	0.1733532	128	0
73	Linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6580178	118	0.1727907	90	0
74	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed)	0.662939	140	0.1720327	27	0
75	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed)	0.6267299	45	0.1726788	83	0
76	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6622331	138	0.1720255	23	0
77	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6591483	124	0.1720118	14	0
78	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6277016	47	0.1726088	77	0
79	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence	0.6551191	110	0.1720169	17	0
80	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.6620538	137	0.1720356	28	0
81	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.6342384	59	0.1725453	70	0
82	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.6638193	143	0.172026	25	0
83	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.6317616	53	0.1725316	69	0
84	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	0.6603668	131	0.172022	22	0
85	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.657848	116	0.1720166	16	0
86	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6354592	63	0.1724384	59	0

87	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6601422	128	0.1720083	12	0
88	Spacetime	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6360226	66	0.1724324	58	0
89	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6549741	109	0.1719989	10	0
90	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Lag distributed income per capita (log transformed)	0.6587554	121	0.1719883	9	0
91	Linear	Logit(CF)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6580889	119	0.1719797	6	0
92	Linear	Logit(CF)	Health System Access 2 (unitness)	0.6598502	125	0.1761676	251	0
93	Spacetime	Logit(CF)	Health System Access 2 (unitness)	0.6426683	75	0.1747	153	0
94	Linear	Logit(CF)	Health System Access 2 (unitness), Education (years per capita), Lag distributed income per capita (log transformed)	0.6588548	122	0.1734445	131	0
95	Spacetime	Logit(CF)	Health System Access 2 (unitness), Education (years per capita), Lag distributed income per capita (log transformed)	0.6186669	23	0.1730828	110	0
96	Linear	Logit(CF)	Health System Access 2 (unitness), Alcohol (liters per capita)	0.6564471	114	0.1762135	253	0
97	Spacetime	Logit(CF)	Health System Access 2 (unitness), Alcohol (liters per capita)	0.6484318	92	0.1747965	154	0
98	Linear	Logit(CF)	Health System Access 2 (unitness), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6506145	94	0.1733849	129	0
99	Spacetime	Logit(CF)	Health System Access 2 (unitness), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6120552	17	0.1730775	109	0
100	Linear	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence	0.6524196	98	0.1753482	200	0
101	Spacetime	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence	0.636512	68	0.1743372	147	0
102	Linear	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6477208	89	0.1731359	116	0
103	Linear	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita)	0.6518878	97	0.1753687	203	0
104	Spacetime	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita)	0.6356773	64	0.1744471	150	0
105	Linear	Logit(CF)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6425735	74	0.1730965	111	0
106	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.6613891	134	0.1744574	151	0
107	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.6341249	57	0.1735089	135	0
108	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6634022	141	0.17342	130	0

109	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6555287	111	0.1744695	152	0
110	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6413046	73	0.1735324	136	0
111	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6526333	99	0.1733455	127	0
112	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6472619	85	0.1739097	142	0
113	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.6305965	51	0.1732082	119	0
114	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6516746	96	0.1730975	112	0
115	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6468015	83	0.1739284	143	0
116	Spacetime	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.6303542	49	0.1732514	122	0
117	Linear	Logit(CF)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6473855	86	0.1730489	105	0
118	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.653684	104	0.1722355	40	0
119	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.6245565	39	0.1732503	121	0
120	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6455116	79	0.1723075	47	0
121	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6531534	102	0.1722271	39	0
122	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6212522	30	0.1732754	125	0
123	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6432653	77	0.1722791	44	0
124	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	0.6477809	90	0.1721821	33	0
125	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	0.6135879	19	0.173071	108	0
126	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.6475686	88	0.1721747	32	0
127	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.6109562	13	0.1731124	113	0

128	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.65385	105	0.1722039	36	0
129	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.626655	44	0.172935	101	0
130	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6466863	82	0.1722907	45	0
131	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6528019	101	0.1721996	34	0
132	Spacetime	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6304522	50	0.1729246	100	0
133	Linear	Logit(CF)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6456704	80	0.1722718	42	0
134	Linear	Logit(CF)	Cumulative Cigarettes (5 Years)	0.7765191	313	0.1773649	305	0
135	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years)	0.6998442	174	0.1756035	216	0
136	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Education (years per capita), Lag distributed income per capita (log transformed)	0.6867598	158	0.1731308	114	0
137	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Education (years per capita), Lag distributed income per capita (log transformed)	0.6435418	78	0.1732546	123	0
138	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita)	0.7757529	309	0.1772044	297	0
139	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita)	0.6941713	167	0.1754864	211	0
140	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.673102	150	0.1730311	104	0
141	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6192465	26	0.1730041	103	0
142	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels)	0.7323562	231	0.1750238	165	0
143	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels)	0.672965	149	0.1738898	141	0
144	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6774362	153	0.1731337	115	0
145	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.6481869	91	0.173065	106	0
146	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7287478	230	0.1748051	155	0
147	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6775439	154	0.1737005	138	0

148	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6602557	130	0.1730684	107	0
149	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6427336	76	0.1727808	89	0
150	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed)	0.6609531	133	0.1720298	26	0
151	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed)	0.6255799	42	0.1726444	79	0
152	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.6599743	126	0.1720207	20	0
153	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.6584365	120	0.172014	15	0
154	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6590921	123	0.1720207	19	0
155	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6311481	52	0.1725296	68	0
156	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.660179	129	0.172036	29	0
157	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.6324658	54	0.172506	67	0
158	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.6619837	136	0.1720258	24	0
159	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	0.6579903	117	0.1720215	21	0
160	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	0.6365533	69	0.1724302	56	0
161	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6571108	115	0.1720205	18	0
162	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6599824	127	0.1720113	13	0
163	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.6604289	132	0.1743774	148	0
164	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.6338233	56	0.173467	133	0
165	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.666151	144	0.1736978	137	0

166	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	0.6248242	40	0.1732563	124	0
167	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6559005	113	0.1744251	149	0
168	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.6410928	71	0.1734884	134	0
169	Linear	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6629137	139	0.1737133	139	0
170	Spacetime	Logit(CF)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6225322	33	0.1732891	126	0
171	Linear	Ln(Rate)	Smoking Prevalence	0.8997263	350	0.1851731	352	0
172	Spacetime	Ln(Rate)	Smoking Prevalence	0.8203284	338	0.1819459	341	0
173	Linear	Ln(Rate)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.795607	328	0.1770567	290	0
174	Spacetime	Ln(Rate)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7329592	233	0.1768721	284	0
175	Linear	Ln(Rate)	Smoking Prevalence, Alcohol (liters per capita)	0.898167	349	0.1849845	351	0
176	Spacetime	Ln(Rate)	Smoking Prevalence, Alcohol (liters per capita)	0.8241605	339	0.1818333	339	0
177	Linear	Ln(Rate)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7657899	292	0.1769601	287	0
178	Spacetime	Ln(Rate)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7098908	197	0.1765668	272	0
179	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels)	0.9218276	352	0.1820234	343	0
180	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels)	0.8097579	337	0.179991	326	0
181	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.8481866	346	0.1774729	307	0
182	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7474166	257	0.1772329	298	0
183	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.9107075	351	0.1815417	338	0
184	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.8031404	335	0.1796264	321	0
185	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7813048	318	0.1774655	306	0
186	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7268813	228	0.1766528	275	0
187	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.8468554	345	0.1811555	336	0
188	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7890035	325	0.1791577	318	0
189	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7984287	331	0.1770216	289	0
190	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7360635	243	0.1766778	277	0
191	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.8331756	342	0.1807825	335	0

192	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.7762092	311	0.1789183	317	0
193	Linear	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7652784	290	0.1769157	285	0
194	Spacetime	Ln(Rate)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7179884	215	0.1763469	262	0
195	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed)	0.7818431	319	0.1752264	183	0
196	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed)	0.7171843	213	0.1760696	244	0
197	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7721454	301	0.1751092	171	0
198	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7113256	200	0.1757736	230	0
199	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7664945	294	0.1751366	175	0
200	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7206084	221	0.1758699	234	0
201	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7504016	263	0.1749239	160	0
202	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6922181	165	0.175697	224	0
203	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence	0.774226	305	0.1752329	184	0
204	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence	0.7140228	207	0.1760341	241	0
205	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7658247	293	0.1750999	169	0
206	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6966887	171	0.175619	217	0
207	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.7632111	285	0.1751439	177	0
208	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.7185084	217	0.175892	238	0
209	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7466923	255	0.1749254	161	0
210	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6856083	157	0.1756286	219	0
211	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7963127	329	0.1752126	181	0

212	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7208639	222	0.1761301	247	0
213	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7879914	323	0.1751052	170	0
214	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7196151	218	0.1757415	227	0
215	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7753746	308	0.1751327	172	0
216	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.715349	209	0.1759122	239	0
217	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7606949	281	0.1749291	162	0
218	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7052094	186	0.1756245	218	0
219	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7889113	324	0.1752119	180	0
220	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.711972	203	0.176049	243	0
221	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7784564	316	0.1750853	168	0
222	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7054198	187	0.1755772	213	0
223	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.770356	298	0.1751358	174	0
224	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.7137794	206	0.1758846	237	0
225	Linear	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7572497	275	0.1749237	159	0
226	Spacetime	Ln(Rate)	Malnutrition - poroportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.69522	168	0.1755493	212	0
227	Linear	Ln(Rate)	Health System Access 2 (unitness)	0.8011612	333	0.1829189	347	0

228	Spacetime	Ln(Rate)	Health System Access 2 (unitness)	0.7432997	251	0.1800358	329	0
229	Linear	Ln(Rate)	Health System Access 2 (unitness), Education (years per capita), Lag distributed income per capita (log transformed)	0.7614017	282	0.1771094	294	0
230	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Education (years per capita), Lag distributed income per capita (log transformed)	0.7060783	189	0.1763821	266	0
231	Linear	Ln(Rate)	Health System Access 2 (unitness), Alcohol (liters per capita)	0.8021601	334	0.1831306	350	0
232	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Alcohol (liters per capita)	0.7432454	250	0.1801611	332	0
233	Linear	Ln(Rate)	Health System Access 2 (unitness), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7356038	240	0.1770801	293	0
234	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7048678	185	0.1764937	268	0
235	Linear	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence	0.7708038	299	0.1819732	342	0
236	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence	0.7403119	247	0.1796597	322	0
237	Linear	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7431289	249	0.1767992	280	0
238	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.6965069	170	0.1761446	249	0
239	Linear	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita)	0.7729146	304	0.1821341	344	0
240	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita)	0.7408845	248	0.1797972	325	0
241	Linear	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7341534	237	0.176807	281	0
242	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6986705	172	0.1763046	260	0
243	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.7829222	320	0.180177	333	0
244	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.7348819	239	0.1781564	315	0
245	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7667645	295	0.177281	302	0
246	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.709747	196	0.1762954	259	0
247	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.783702	321	0.1802492	334	0
248	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7365129	244	0.1781604	316	0
249	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7447197	254	0.1771166	295	0

250	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7117876	202	0.1763564	263	0
251	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7605447	280	0.1796072	320	0
252	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7325987	232	0.177864	310	0
253	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7534082	269	0.1769653	288	0
254	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7021331	178	0.1760446	242	0
255	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.758745	278	0.1796708	323	0
256	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.7339082	236	0.1778787	311	0
257	Linear	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7399195	246	0.1768504	283	0
258	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7045095	184	0.1761575	250	0
259	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7617702	284	0.1753932	207	0
260	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7167512	211	0.1766927	278	0
261	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7531524	267	0.1753239	195	0
262	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7021768	179	0.1757924	231	0
263	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7516105	265	0.1753471	199	0
264	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7082258	192	0.1766704	276	0
265	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7346905	238	0.1752726	187	0
266	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6878593	160	0.1758753	235	0

267	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	0.7571113	274	0.1753909	206	0
268	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	0.7068225	190	0.1765555	270	0
269	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7487134	260	0.1753082	192	0
270	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7017742	176	0.1756337	220	0
271	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.7503185	261	0.1753441	198	0
272	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	0.7020365	177	0.1765483	269	0
273	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7334803	234	0.175243	185	0
274	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6882305	161	0.1757632	229	0
275	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7764699	312	0.1753248	196	0
276	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7205243	219	0.176432	267	0
277	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7685915	297	0.1754184	209	0
278	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7054278	188	0.1757608	228	0
279	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7553004	271	0.1752907	189	0
280	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7127292	204	0.1763709	264	0
281	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7532427	268	0.1752978	190	0

282	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6904384	163	0.1758094	232	0
283	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7711259	300	0.1753232	194	0
284	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	0.7107685	199	0.1762953	258	0
285	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7632225	286	0.1753818	205	0
286	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	0.7003623	175	0.1755934	215	0
287	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.7520313	266	0.175289	188	0
288	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	0.702721	181	0.1762525	256	0
289	Linear	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7503575	262	0.175272	186	0
290	Spacetime	Ln(Rate)	Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6883399	162	0.1756866	223	0
291	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years)	0.9774417	354	0.1869309	354	0
292	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years)	0.8394018	344	0.1829973	348	0
293	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Education (years per capita), Lag distributed income per capita (log transformed)	0.8271533	340	0.1773345	304	0
294	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Education (years per capita), Lag distributed income per capita (log transformed)	0.7484338	259	0.1772721	301	0
295	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita)	0.9740766	353	0.1864473	353	0
296	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita)	0.8360332	343	0.1828138	346	0
297	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7791402	317	0.1772638	300	0
298	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7158297	210	0.1767849	279	0

299	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels)	0.8940675	348	0.181914	340	0
300	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels)	0.8058109	336	0.1797802	324	0
301	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.8280545	341	0.1772969	303	0
302	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7473947	256	0.17707	291	0
303	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.8826818	347	0.1812827	337	0
304	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7932955	327	0.1794611	319	0
305	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7778224	314	0.1772354	299	0
306	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7272575	229	0.176558	271	0
307	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7758464	310	0.1752026	179	0
308	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7183508	216	0.1760085	240	0
309	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7640032	287	0.1750596	166	0
310	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	0.7103578	198	0.1757131	225	0
311	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7647547	288	0.1751352	173	0
312	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7209538	223	0.175826	233	0
313	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.7478431	258	0.1749235	158	0
314	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	0.6953373	169	0.1756531	221	0
315	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.791119	326	0.1751974	178	0
316	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7233111	227	0.1760732	245	0

317	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7839519	322	0.1750799	167	0
318	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7213597	224	0.1756795	222	0
319	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7743682	306	0.175139	176	0
320	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.717223	214	0.175876	236	0
321	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air	0.7586286	277	0.1749325	163	0
322	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air	0.7080641	191	0.1755787	214	0
323	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness)	0.7980312	330	0.1827743	345	0
324	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness)	0.7435583	253	0.1799924	327	0
325	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Lag distributed income per capita (log transformed)	0.7655262	291	0.177676	308	0
326	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Lag distributed income per capita (log transformed)	0.7114833	201	0.1769271	286	0
327	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Alcohol (liters per capita)	0.8007963	332	0.1830267	349	0
328	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Alcohol (liters per capita)	0.7434803	252	0.1801172	330	0
329	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7604757	279	0.1778369	309	0
330	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.6992214	173	0.1770751	292	0
331	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.7750004	307	0.1800118	328	0
332	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels)	0.7357185	241	0.1780843	313	0
333	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per	0.7615894	283	0.1771683	296	0
334	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per	0.7146927	208	0.176253	257	0
335	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7782307	315	0.1801415	331	0
336	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7373447	245	0.1780889	314	0
337	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7667912	296	0.1779643	312	0

338	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7082723	193	0.176847	282	0
339	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7576022	276	0.1753714	204	0
340	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed)	0.7171739	212	0.1766435	274	0
341	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Lag distributed income per capita (log transformed)	0.7562107	272	0.1753254	197	0
342	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Lag distributed income per capita (log transformed)	0.703081	182	0.176134	248	0
343	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7509882	264	0.1753596	202	0
344	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	0.7083781	194	0.176623	273	0
345	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7564822	273	0.1753523	201	0
346	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7027041	180	0.1762195	255	0
347	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.7723057	302	0.1753126	193	0
348	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	0.720533	220	0.176372	265	0
349	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.765276	289	0.1754018	208	0
350	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	0.7087311	195	0.1757314	226	0
351	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.754915	270	0.1753067	191	0

352	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	0.7128524	205	0.1763129	261	0
353	Linear	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7726222	303	0.1754505	210	0
354	Spacetime	Ln(Rate)	Cumulative Cigarettes (5 Years), Health System Access 2 (unitness), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	0.7033194	183	0.1760971	246	0

Appendix Table 6b: CODEm sub-model performance for tuberculosis - Females

Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	1.080079	6	0.570125	1	91
2	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.080779	7	0.5702222	7	83
3	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.078773	5	0.5702371	11	75
4	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	1.083423	19	0.5701356	2	68
5	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.082304	11	0.5702741	16	62
6	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	1.08371	22	0.5702243	8	56
7	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.083056	17	0.5703178	24	51
8	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.082174	9	0.57037	34	47
9	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.088819	41	0.5701735	4	42
10	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.08448	28	0.5702778	17	39
11	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels)	1.08276	13	0.5703696	33	35
12	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.085086	32	0.5702565	14	32
13	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.074759	1	0.570427	49	29
14	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed)	1.074921	2	0.5704388	51	26

15	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.088655	40	0.570247	13	24
16	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.089024	43	0.5702325	10	22
17	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.083883	24	0.5703448	29	20
18	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.07587	3	0.5704357	50	18
19	Spacetime	Logit(CF)	Health System Access 2 (unitless), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.086486	35	0.5702954	19	16
20	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.088951	42	0.5702402	12	15
21	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.084079	26	0.5703368	28	14
22	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.076947	4	0.5704424	53	12
23	Spacetime	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.090899	55	0.570165	3	11
24	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.083865	23	0.5703855	38	10
25	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.088455	38	0.5703198	25	9
26	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	1.084552	30	0.5703762	35	8
27	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.083176	18	0.5704087	46	8
28	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	1.086184	34	0.5703644	32	7
29	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	1.084309	27	0.5703863	40	6
30	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.085021	31	0.5703786	36	6
31	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.083885	25	0.5704004	43	5
32	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	1.085934	33	0.5703828	37	5

33	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed)	1.082859	14	0.5704545	58	4
34	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.091221	56	0.5702605	15	4
35	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.084539	29	0.5704087	45	4
36	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	1.095026	72	0.5701822	5	3
37	Spacetime	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.090547	52	0.5703035	22	3
38	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.082205	10	0.5704794	65	3
39	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.091336	57	0.5702994	20	2
40	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	1.095433	75	0.5702059	6	2
41	Spacetime	Logit(CF)	Health System Access 2 (unitless), Education (years per capita), Lag distributed income per capita (log transformed)	1.088492	39	0.5703912	42	2
42	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.082593	12	0.5704881	68	2
43	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.083565	20	0.5704534	57	2
44	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.08304	16	0.570473	62	2
45	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.086891	36	0.570479	64	1
46	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.095155	74	0.5703246	26	1
47	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	1.093418	62	0.5703507	30	1
48	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.099033	85	0.570303	21	1
49	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	1.090419	50	0.5704511	56	1
50	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita)	1.090761	53	0.570442	52	1
51	Spacetime	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.093883	64	0.5703874	41	1

52	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.081894	8	0.5705036	74	1
53	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.083661	21	0.5704919	71	1
54	linear	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.082939	15	0.5705044	75	1
55	Spacetime	Logit(CF)	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	1.095116	73	0.5702263	9	1
56	linear	Logit(CF)	Smoking Prevalence	1.233163	257	0.5725478	252	0
57	Spacetime	Logit(CF)	Smoking Prevalence	1.164472	209	0.5715402	153	0
58	linear	Logit(CF)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.139995	136	0.5708441	112	0
59	Spacetime	Logit(CF)	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.12831	108	0.5706899	104	0
60	linear	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita)	1.232413	256	0.5725289	250	0
61	Spacetime	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita)	1.164189	205	0.5714986	144	0
62	linear	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.133541	119	0.5706891	103	0
63	Spacetime	Logit(CF)	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.120462	104	0.5704879	67	0
64	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels)	1.198034	242	0.5712211	122	0
65	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels)	1.134738	123	0.5707774	108	0
66	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.16129	189	0.5707199	105	0
67	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.117875	102	0.5705386	84	0
68	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.192313	238	0.5710644	118	0
69	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.134293	122	0.5706553	100	0
70	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.137636	130	0.5704915	70	0
71	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.103126	91	0.5702876	18	0
72	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.178214	228	0.5712475	124	0
73	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.128259	107	0.5707785	109	0
74	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.141948	143	0.5706869	101	0
75	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.108227	100	0.570521	78	0
76	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.176949	226	0.5711427	120	0
77	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.128709	109	0.5706881	102	0
78	linear	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.127193	106	0.5704864	66	0

79	Spacetime	Logit(CF)	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.097603	83	0.5703099	23	0
80	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed)	1.093363	61	0.5705072	76	0
81	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed)	1.089729	46	0.5705345	82	0
82	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.102558	90	0.5705579	89	0
83	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.094042	67	0.570449	54	0
84	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.094339	70	0.5705307	81	0
85	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.101429	89	0.5705548	88	0
86	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.089692	45	0.5705036	73	0
87	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.095867	79	0.5705515	86	0
88	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.09673	81	0.5705448	85	0
89	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.096807	82	0.5704558	59	0
90	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.090392	49	0.5705359	83	0
91	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.092337	59	0.5705107	77	0
92	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.096306	80	0.5705529	87	0
93	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.093248	60	0.5705019	72	0
94	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.100847	88	0.5703858	39	0
95	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita)	1.093955	65	0.5704727	61	0
96	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.093863	63	0.5705243	80	0
97	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita)	1.094008	66	0.5704506	55	0
98	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.089765	47	0.5704887	69	0
99	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.106221	94	0.5704016	44	0
100	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita)	1.106445	95	0.5703562	31	0

101	linear	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.090462	51	0.5705214	79	0
102	Spacetime	Logit(CF)	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.103987	92	0.570335	27	0
103	linear	Logit(CF)	Health System Access 2 (unitless)	1.099879	86	0.5713618	128	0
104	Spacetime	Logit(CF)	Health System Access 2 (unitless)	1.089576	44	0.5708438	111	0
105	linear	Logit(CF)	Health System Access 2 (unitless), Education (years per capita), Lag distributed income per capita (log transformed)	1.094611	71	0.5705992	93	0
106	linear	Logit(CF)	Health System Access 2 (unitless), Alcohol (liters per capita)	1.100567	87	0.5713792	131	0
107	Spacetime	Logit(CF)	Health System Access 2 (unitless), Alcohol (liters per capita)	1.088097	37	0.5708471	113	0
108	linear	Logit(CF)	Health System Access 2 (unitless), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.091768	58	0.5705833	90	0
109	linear	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence	1.106873	96	0.5713279	127	0
110	Spacetime	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence	1.090762	54	0.5708414	110	0
111	linear	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.098397	84	0.5705868	92	0
112	linear	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita)	1.108174	99	0.5713626	129	0
113	Spacetime	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita)	1.090199	48	0.5708507	114	0
114	linear	Logit(CF)	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.095768	77	0.5705841	91	0
115	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels)	1.107047	98	0.5706442	99	0
116	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.0941	68	0.570475	63	0
117	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.108463	101	0.5706197	94	0
118	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.094115	69	0.5704135	48	0
119	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.105652	93	0.57063	97	0
120	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.095834	78	0.5704578	60	0
121	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.106969	97	0.5706236	95	0
122	linear	Logit(CF)	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.095437	76	0.5704104	47	0
123	linear	Logit(CF)	Cumulative Cigarettes (5 years)	1.247688	263	0.5725533	253	0
124	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years)	1.160898	187	0.571536	151	0
125	linear	Logit(CF)	Cumulative Cigarettes (5 years), Lag distributed income per capita (log transformed)	1.198657	243	0.5714251	136	0
126	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Lag distributed income per capita (log transformed)	1.14068	137	0.5709975	116	0

127	linear	Logit(CF)	Cumulative Cigarettes (5 years), Alcohol (liters per capita)	1.248552	264	0.5724737	248	0
128	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Alcohol (liters per capita)	1.159463	178	0.5714648	140	0
129	linear	Logit(CF)	Cumulative Cigarettes (5 years), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.194489	241	0.5714008	132	0
130	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.133682	121	0.5709086	115	0
131	linear	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels)	1.192941	239	0.571244	123	0
132	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels)	1.135056	125	0.5707603	107	0
133	linear	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	1.185173	231	0.5711617	121	0
134	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	1.133312	117	0.5707365	106	0
135	linear	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.185318	232	0.5711005	119	0
136	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.134967	124	0.5706439	98	0
137	linear	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.182799	230	0.5710558	117	0
138	Spacetime	Logit(CF)	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.129676	111	0.5706262	96	0
139	linear	rate	Smoking Prevalence	1.414474	283	0.5761269	285	0
140	Spacetime	rate	Smoking Prevalence	1.294262	271	0.5742085	282	0
141	linear	rate	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.22542	253	0.5725418	251	0
142	Spacetime	rate	Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.193005	240	0.5723605	244	0
143	linear	rate	Smoking Prevalence, Alcohol (liters per capita)	1.415504	284	0.5761739	286	0
144	Spacetime	rate	Smoking Prevalence, Alcohol (liters per capita)	1.294177	270	0.5741756	280	0
145	linear	rate	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.204741	249	0.572296	243	0
146	Spacetime	rate	Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.178268	229	0.5720463	232	0
147	linear	rate	Indoor Air Pollution (All Cooking Fuels)	1.343868	282	0.5736277	273	0
148	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels)	1.255491	267	0.5727732	263	0
149	linear	rate	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.267861	269	0.5724215	246	0
150	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.208621	250	0.5721589	238	0
151	linear	rate	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.323411	278	0.5734106	267	0
152	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.249564	265	0.572593	255	0
153	linear	rate	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.216312	252	0.5721135	235	0
154	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.176993	227	0.5717666	184	0
155	linear	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.31631	276	0.5737168	275	0

156	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.242572	260	0.5727732	262	0
157	linear	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.227837	254	0.57237	245	0
158	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.186607	234	0.572135	236	0
159	linear	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.310121	274	0.5735299	269	0
160	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.23903	259	0.5726462	256	0
161	linear	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.201371	244	0.5720768	234	0
162	Spacetime	rate	Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.167477	221	0.5718085	194	0
163	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed)	1.16502	213	0.5719637	220	0
164	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed)	1.159943	182	0.572037	231	0
165	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.169704	222	0.5719323	214	0
166	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.150063	161	0.5718463	204	0
167	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.166339	215	0.5719726	225	0
168	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.160796	186	0.5719661	222	0
169	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.162039	195	0.5718503	205	0
170	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.130767	113	0.5716256	157	0
171	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.159977	183	0.5719609	219	0
172	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.157447	170	0.5720712	233	0
173	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.161864	193	0.5719143	211	0
174	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.159042	176	0.5718718	209	0
175	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.162008	194	0.571977	226	0
176	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.158685	174	0.572022	229	0
177	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.156563	168	0.5718459	203	0
178	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.139839	135	0.5716791	162	0

179	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.164945	212	0.57197	224	0
180	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.161253	188	0.5718119	196	0
181	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.166732	217	0.571874	210	0
182	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.152553	165	0.5717261	175	0
183	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.164394	207	0.5719657	221	0
184	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.16182	192	0.5717042	168	0
185	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.157117	169	0.5717413	177	0
186	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.141981	144	0.5714844	143	0
187	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.158776	175	0.571954	215	0
188	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.159657	180	0.5718447	202	0
189	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.158139	172	0.5718409	201	0
190	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.163047	200	0.5717501	178	0
191	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.159445	177	0.5719606	218	0
192	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.160547	184	0.5717618	181	0
193	linear	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.151256	162	0.5717272	176	0
194	Spacetime	rate	Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.142749	148	0.5715367	152	0
195	linear	rate	Health System Access 2 (unitless)	1.202368	247	0.5736186	272	0
196	Spacetime	rate	Health System Access 2 (unitless)	1.167345	220	0.57268	258	0
197	linear	rate	Health System Access 2 (unitless), Education (years per capita), Lag distributed income per capita (log transformed)	1.162689	198	0.5718664	208	0

198	Spacetime	rate	Health System Access 2 (unitless), Education (years per capita), Lag distributed income per capita (log transformed)	1.141862	142	0.5716475	158	0
199	linear	rate	Health System Access 2 (unitless), Alcohol (liters per capita)	1.201678	245	0.5736562	274	0
200	Spacetime	rate	Health System Access 2 (unitless), Alcohol (liters per capita)	1.16673	216	0.5726981	259	0
201	linear	rate	Health System Access 2 (unitless), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.157716	171	0.5718257	199	0
202	Spacetime	rate	Health System Access 2 (unitless), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.136096	127	0.5715248	148	0
203	linear	rate	Health System Access 2 (unitless), Smoking Prevalence	1.202328	246	0.573567	270	0
204	Spacetime	rate	Health System Access 2 (unitless), Smoking Prevalence	1.166895	218	0.572677	257	0
205	linear	rate	Health System Access 2 (unitless), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.16265	197	0.571862	207	0
206	Spacetime	rate	Health System Access 2 (unitless), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.141121	139	0.5716631	160	0
207	linear	rate	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita)	1.20237	248	0.5735979	271	0
208	Spacetime	rate	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita)	1.167158	219	0.5727059	260	0
209	linear	rate	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.155358	167	0.5718277	200	0
210	Spacetime	rate	Health System Access 2 (unitless), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.135057	126	0.5715578	154	0
211	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels)	1.187395	237	0.5722766	242	0
212	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels)	1.163616	202	0.571803	193	0
213	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.165522	214	0.5717794	188	0
214	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.133623	120	0.5715181	147	0
215	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.187159	236	0.5722407	239	0
216	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.164093	204	0.5717728	185	0
217	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.163568	201	0.5716979	166	0
218	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.133484	118	0.5713741	130	0
219	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.186944	235	0.5722735	241	0
220	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.164025	203	0.571809	195	0
221	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.160644	185	0.5717637	182	0

222	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.131884	115	0.5715335	150	0
223	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.186307	233	0.5722497	240	0
224	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.164398	208	0.5717919	190	0
225	linear	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.158659	173	0.5716894	163	0
226	Spacetime	rate	Health System Access 2 (unitless), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.12941	110	0.5714074	134	0
227	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed)	1.15242	164	0.571791	189	0
228	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed)	1.142645	146	0.5717589	180	0
229	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.148161	158	0.5717244	174	0
230	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Education (years per capita), Lag distributed income per capita (log transformed)	1.133175	116	0.5715012	146	0
231	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.154285	166	0.5718185	197	0
232	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita)	1.143015	149	0.5717533	179	0
233	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.144758	154	0.5716961	164	0
234	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.120277	103	0.5714035	133	0
235	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.149319	160	0.5717942	191	0
236	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence	1.142328	145	0.5717729	186	0
237	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.143707	151	0.571719	173	0
238	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.13888	134	0.5715265	149	0
239	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.151562	163	0.5718245	198	0
240	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita)	1.143284	150	0.5717741	187	0

241	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.141574	140	0.5716973	165	0
242	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.131361	114	0.5714408	138	0
243	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.14794	157	0.5717118	170	0
244	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.137669	131	0.5714842	142	0
245	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.147296	156	0.5716743	161	0
246	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.137325	129	0.5714089	135	0
247	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.148611	159	0.5717152	171	0
248	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.137767	132	0.571451	139	0
249	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.143907	152	0.5716123	156	0
250	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.123377	105	0.57129	125	0
251	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.144257	153	0.5717057	169	0
252	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence	1.137153	128	0.5714992	145	0
253	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.142707	147	0.5716588	159	0
254	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Education (years per capita), Lag distributed income per capita (log transformed)	1.141858	141	0.5714334	137	0
255	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.14569	155	0.5717159	172	0
256	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita)	1.137975	133	0.5714752	141	0

257	linear	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.140685	138	0.5716064	155	0
258	Spacetime	rate	Health System Access 2 (unitless), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Smoking Prevalence, Alcohol (liters per capita), Education (years per capita), Lag distributed income per capita (log transformed)	1.129848	112	0.5713263	126	0
259	linear	rate	Cumulative Cigarettes (5 years)	1.433256	286	0.5761029	284	0
260	Spacetime	rate	Cumulative Cigarettes (5 years)	1.298792	272	0.5741854	281	0
261	linear	rate	Cumulative Cigarettes (5 years), Lag distributed income per capita (log transformed)	1.32945	280	0.5737989	278	0
262	Spacetime	rate	Cumulative Cigarettes (5 years), Lag distributed income per capita (log transformed)	1.246879	262	0.5730144	265	0
263	linear	rate	Cumulative Cigarettes (5 years), Alcohol (liters per capita)	1.425263	285	0.5759434	283	0
264	Spacetime	rate	Cumulative Cigarettes (5 years), Alcohol (liters per capita)	1.299392	273	0.5740901	279	0
265	linear	rate	Cumulative Cigarettes (5 years), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.321099	277	0.573753	277	0
266	Spacetime	rate	Cumulative Cigarettes (5 years), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.23774	258	0.5728932	264	0
267	linear	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels)	1.340316	281	0.5737191	276	0
268	Spacetime	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels)	1.252308	266	0.5727318	261	0
269	linear	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.258911	268	0.5724273	247	0
270	Spacetime	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Education (years per capita), Lag distributed income per capita (log transformed)	1.211302	251	0.5721417	237	0
271	linear	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.325296	279	0.5734846	268	0
272	Spacetime	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.246365	261	0.5725672	254	0
273	linear	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.315132	275	0.5732856	266	0
274	Spacetime	rate	Cumulative Cigarettes (5 years), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.228627	255	0.5724902	249	0
275	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed)	1.164752	211	0.571959	216	0
276	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed)	1.159822	181	0.5720331	230	0
277	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Lag distributed income per capita (log transformed)	1.173801	225	0.5719875	227	0
278	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Lag distributed income per capita (log transformed)	1.16141	190	0.5720148	228	0
279	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.164231	206	0.5719595	217	0
280	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels)	1.161611	191	0.5718026	192	0
281	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	1.170935	223	0.5719277	213	0

282	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Lag distributed income per capita (log transformed)	1.162729	199	0.5718574	206	0
283	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.164475	210	0.5719676	223	0
284	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita)	1.162225	196	0.571699	167	0
285	linear	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.171937	224	0.5719219	212	0
286	Spacetime	rate	Cumulative Cigarettes (5 years), Malnutrition - proportion <2SD weight for age (logit transformed), Indoor Air Pollution (All Cooking Fuels), Alcohol (liters per capita), Lag distributed income per capita (log transformed)	1.159616	179	0.571764	183	0

Appendix Table 7: Tuberculosis mortality data sources used in the GBD 2013.

Country	Source number	Source	Suveillance	Verbal Autopsy	Vital Registration
Albania	01 - ALB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Antigua and Barbuda	01 - ATG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Argentina	01 - ARG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Armenia	01 - ARM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Australia	01 - AUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Austria	01 - AUT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Azerbaijan	01 - AZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bahrain	01 - BHR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bangladesh	01 - BGD	Hussain A, Ali SM, Kvâle G. Determinants of mortality among children in the urban slums of Dhaka city, Bangladesh. Trop Med Int Health. 1999; 4(11): 758-64.		X	
Bangladesh	02 - BGD	INDEPTH, International Centre for Diarrhoeal Disease Research (Bangladesh). Bangladesh - Matlab Health and Demographic Surveillance System. Dhaka, Bangladesh: International Centre for Diarrhoeal Disease Research (Bangladesh).		X	
Bangladesh	03 - BGD	INDEPTH. Bangladesh - AMK Health and Demographic Surveillance System.		X	
Barbados	01 - BRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belarus	01 - BLR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belgium	01 - BEL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belize	01 - BLZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bermuda	01 - BMU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bolivia	01 - BOL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bosnia and Herzegovina	01 - BIH	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brazil	01 - BRA	Victora CG, Barros FC, Huttly SR, Teixeira AM, Vaughan JP. Early childhood mortality in a Brazilian cohort: the roles of birthweight and socioeconomic status. Int J Epidemiol. 1992; 21(5): 911-5.		X	
Brazil	02 - BRA	Victora CG, Smith PG, Vaughan JP, Nobre LC, Lombardi C, Teixeira AM, Fuchs SM, Moreira LB, Gigante LP, Barros FC. Evidence for protection by breast-feeding against infant deaths from infectious diseases in Brazil. Lancet. 1987; 2(8554): 319-22.		X	
Brazil	03 - BRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brunei	01 - BRN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Bulgaria	01 - BGR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Burkina Faso	01 - BFA	Bell JS, Ouédraogo M, Ganaba R, Sombié I, Byass P, Baggaley RF, Filippi V, Fitzmaurice AE, Graham WJ. The epidemiology of pregnancy outcomes in rural Burkina Faso. Trop Med Int Health. 2008; 13 Suppl 1: 31-43.		X	
Burkina Faso	02 - BFA	INDEPTH, Nouna Health Research Center (Burkina Faso). Burkina Faso - Nouna Health and Demographic Surveillance System.		X	
Burkina Faso	03 - BFA	Ramroth H, Lorenz E, Rankin JC, Fottrell E, Yé M, Neuhann F, Ssennono M, Sié A, Byass P, Becher H. Causas de la distribución de muerte con el modelo InterVA y la codificación de médicos en un área rural de Burkina Faso. Trop Med Int Health. 2012; 17(7): 904-13.		X	
Burkina Faso	04 - BFA	Würthwein R, Gbangou A, Sauerborn R, Schmidt CM. Measuring the local burden of disease. A study of years of life lost in sub-Saharan Africa. Int J Epidemiol. 2001; 30(3): 501-8.		X	
Burkina Faso	05 - BFA	Yé M, Diboulo E, Niamba L, Sié A, Coulibaly B, Bagagnan C, Dembélé J, Ramroth H. An improved method for physician-certified verbal autopsy reduces the rate of discrepancy: experiences in the Nouna Health and Demographic Surveillance Site (NHDSS), Burkina Faso. Popul Health Metr. 2011; 9: 34.		X	
Cambodia	01 - KHM	Oum S, Chandramohan D, Cairncross S. Community-based surveillance: a pilot study from rural Cambodia. Trop Med Int Health. 2005; 10(7): 689-97.		X	
Canada	01 - CAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cape Verde	01 - CPV	Wessel H, Reitmaier P, Dupret A, Rocha E, Cnattingius S, Bergström S. Deaths among women of reproductive age in Cape Verde: causes and avoidability. Acta Obstet Gynecol Scand. 1999; 78(3): 225-32.		X	
Cape Verde	02 - CPV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Chile	01 - CHL	Ministry of Health (Chile), National Institute of Statistics (Chile). Chile Vital Registration - Deaths 1985.			X
Chile	02 - CHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
China	01 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1991 - China CDC.			X
China	02 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1993 - China CDC.			X
China	03 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1994 - China CDC.			X
China	04 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1995 - China CDC.			X
China	05 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1996 - China CDC.			X
China	06 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1997 - China CDC.			X
China	07 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1998 - China CDC.			X
China	08 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1999 - China CDC.			X
China	09 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2000 - China CDC.			X
China	10 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2001 - China CDC.			X
China	11 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2002 - China CDC.			X
China	12 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2004 - China CDC.			X
China	13 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2005 - China CDC.			X
China	14 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2006 - China CDC.			X
China	15 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2007 - China CDC.			X
China	16 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2008 - China CDC.			X

China	17 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2009 - China CDC.			X
China	18 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2010 - China CDC.			X
China	19 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2011 - China CDC.			X
China	20 - CHN	Ministry of Health (China). China National Maternal and Child Health Surveillance System Child Mortality Data By Cause 1996-2012 - MCHS.	X		
China	21 - CHN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Colombia	01 - COL	National Administrative Department of Statistics (Colombia). Colombia Vital Statistics - Deaths 2008. Bogotá, Colombia: National Administrative Department of Statistics (Colombia).			X
Colombia	02 - COL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Costa Rica	01 - CRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Croatia	01 - HRV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cuba	01 - CUB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cyprus	01 - CYP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Czech Republic	01 - CZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Democratic Republic of the Congo	01 - COD	Coghlan B, Brennan RJ, Ngoy P, Dofara D, Otto B, Clements M, Stewart T. Mortality in the Democratic Republic of Congo: a nationwide survey. Lancet. 2006; 367(9504): 44-51.		X	
Denmark	01 - DNK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominica	01 - DMA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominican Republic	01 - DOM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Eastern Cape	01 - ZEC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Ecuador	01 - ECU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Egypt	01 - EGY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
El Salvador	01 - SLV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Estonia	01 - EST	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ethiopia	01 - ETH	Anteneh A, Araya T, Misganaw A. Factors associated with place of death in Addis Ababa, Ethiopia. BMC Palliat Care. 2013; 12(14): 14.		X	
Ethiopia	02 - ETH	Fantahun M, Fottrell E, Berhane Y, Wall S, Högberg U, Byass P. Assessing a new approach to verbal autopsy interpretation in a rural Ethiopian community: the InterVA model. Bull World Health Organ. 2006; 84(3): 204-10.		X	
Ethiopia	03 - ETH	INDEPTH. Ethiopia - Butajira Health and Demographic Surveillance System.		X	
Ethiopia	04 - ETH	Lulu K, Berhane Y. The use of simplified verbal autopsy in identifying causes of adult death in a predominantly rural population in Ethiopia. BMC Public Health. 2005; 5: 58.		X	

Ethiopia	05 - ETH	Weldearegawi B, Ashebir Y, Gebeye E, Gebregziabiher T, Yohannes M, Mussa S, Berhe H, Abebe Z. Emerging chronic non-communicable diseases in rural communities of Northern Ethiopia: evidence using population-based verbal autopsy method in Kilite Awlaelo surveillance site. Health Policy Plan . 2013. [Epub ahead of print]		X	
Fiji	01 - FJI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Finland	01 - FIN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
France	01 - FRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Free State	01 - ZFS	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Gauteng	01 - ZGA	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Georgia	01 - GEO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Germany	01 - DEU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ghana	01 - GHA	Births and Deaths Registry (Ghana). Ghana - Accra Births and Deaths Registry - Deaths 2000-2007.			X
Ghana	02 - GHA	Ghana Statistical Service, Ghana Health Service, Macro International, Inc. Ghana Special Demographic and Health Survey 2007-2008. Calverton, United States: Macro International, Inc., 2010.		X	
Ghana	03 - GHA	Hurt L, ten Asbroek A, Amenga-Etego S, Zandoh C, Danso S, Edmond K, Hurt C, Tawiah C, Hill Z, Fenty J, Owusu-Agyei S, Campbell OM, Kirkwood BR. Effect of vitamin A supplementation on cause-specific mortality in women of reproductive age in Ghana: a secondary analysis from the ObaapaVitA trial. Bull World Health Organ. 2013; 91(1): 19-27.		X	
Ghana	04 - GHA	INDEPTH. Ghana - Navrongo Health and Demographic Surveillance System.		X	
Greece	01 - GRC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Grenada	01 - GRD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Guatemala	01 - GTM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Guyana	01 - GUY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Haiti	01 - HTI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Honduras	01 - HND	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Hungary	01 - HUN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Iceland	01 - ISL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
India	01 - IND	Byrraju Foundation, Centre for Chronic Disease Control (India), Cooperative for Assistance and Relief Everywhere (CARE), School of Population Health, University of Queensland (Australia). India - Andhra Pradesh Rural Health Initiative.		X	

India	02 - IND	Dongre A, Singh A, Deshmukh P, Garg B. A community based cross sectional study on feasibility of lay interviewers in ascertaining causes of adult deaths by using verbal autopsy in rural Wardha. Online Journal of Health and Allied Sciences. 2008; 7(4): 4.		X	
India	03 - IND	Gajalakshmi V, Peto R, Kanaka S, Balasubramanian S. Verbal autopsy of 48 000 adult deaths attributable to medical causes in Chennai (formerly Madras), India. BMC Public Health. 2002; 2: 7.		X	
India	04 - IND	Indian Council of Medical Research (ICMR). India Study on Causes of Death by Verbal Autopsy 2003.		X	
India	05 - IND	Institute of Health Systems (India). India Cause of Death Dataset Version 1.3 1980-1998. Hyperabad, India: Institute of Health Systems (India), 2002.		X	
India	06 - IND	International Institute for Population Sciences (IIPS) (India), Macro International, Inc. India Demographic and Health Survey 1998-1999. Calverton, United States: Macro International, Inc.		X	
India	07 - IND	International Institute for Population Sciences (IIPS). India Demographic and Health Survey 1992-1993. Bombay, India: International Institute for Population Sciences (IIPS).		X	
India	08 - IND	Joshi R, Cardona M, Iyengar S, Sukumar A, Raju CR, Raju KR, Raju K, Reddy KS, Lopez A, Neal B. Chronic diseases now a leading cause of death in rural India – mortality data from the Andhra Pradesh Rural Health Initiative. Int J Epidemiol. 2006; 35(6): 1522-9.		X	
India	09 - IND	Kanungo S, Tsuzuki A, Deen JL, Lopez AL, Rajendran K, Manna B, Sur D, Kim DR, Gupta VK, Ochiai RL, Ali M, von Seidlein L, Bhattacharya SK, Clemens JD. Use of verbal autopsy to determine mortality patterns in an urban slum in Kolkata, India. Bull World Health Organ. 2010; 88(9): 667-74.		X	
India	10 - IND	Krishnan A, Kumar R, Nongkynrih B, Misra P, Srivastava R, Kapoor SK. Adult mortality surveillance by routine health workers using a short verbal autopsy tool in rural north India. J Epidemiol Community Health. 2012; 66(6): 501-6.		X	
India	11 - IND	Ministry of Health and Family Welfare (India), Office of the Registrar General and Census Commissioner (India). India Special Survey of Deaths 2004.		X	
India	12 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1980. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	13 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1981. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	14 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1982. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	15 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1983. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	16 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1986. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	17 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1987. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	18 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1988. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	19 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1989. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	20 - IND	Office of the Registrar General and Census Commissioner (India). India MCCD Vital Statistics - Deaths 1990-1998.			X
India	21 - IND	Office of the Registrar General and Census Commissioner (India). India MCCD Vital Statistics - Deaths 1999-2001.			X
India	22 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2002. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	23 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2003. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X

India	24 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2004. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	25 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2005. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	26 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2006. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	27 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2008. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2013.			X
India	28 - IND	Saha R, Nath A, Sharma N, Badhan SK, Ingle GK.. Changing profile of disease contributing to mortality in a resettlement colony of Delhi. National Medical Journal of India. 2007; 20(3): 125-7.		X	
India	29 - IND	Singh RB, Fedacko J, Vargova V, Kumar A, Mohan V, Pella D, De Meester F, Wilson D. Singh's verbal autopsy questionnaire for the assessment of causes of death, social autopsy, tobacco autopsy and dietary autopsy, based on medical records and interview. Acta Cardiol. 2011; 66(4): 471-81.		X	
Indonesia	01 - IDN	National Institute of Health Research and Development (NIHRD), Ministry of Health (Indonesia). Indonesia Sample Registration System 2012, Indonesia Cause of Death Survey 2010-2011, Indonesia Mortality Registration System Strengthening Project (IMRSSP), and Indonesia Basic Health Research 2007-2008.		X	
Iran	01 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2007.			X
Iran	02 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2008.			X
Iran	03 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2009.			X
Iran	04 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2010.			X
Iran	05 - IRN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Iraq	01 - IRQ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ireland	01 - IRL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Israel	01 - ISR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Italy	01 - ITA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Jamaica	01 - JAM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Japan	01 - JPN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Jordan	01 - JOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kazakhstan	01 - KAZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kenya	01 - KEN	INDEPTH. Kenya - Kisumu Health and Demographic Surveillance System.		X	
Kenya	02 - KEN	INDEPTH. Kenya - Nairobi Health and Demographic Surveillance System.		X	
Kenya	03 - KEN	van Eijk AM, Adazu K, Ofware P, Vulule J, Hamel M, Slutsker L. Causes of deaths using verbal autopsy among adolescents and adults in rural western Kenya. Trop Med Int Health. 2008; 13(10): 1314-24.		X	

Kiribati	01 - KIR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kuwait	01 - KWT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
KwaZulu-Natal	01 - ZKN	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Kyrgyzstan	01 - KGZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Latvia	01 - LVA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Liberia	01 - LBR	Pacqué-Margolis S, Pacqué M, Dukuly Z, Boateng J, Taylor HR.. Application of the verbal autopsy during a clinical trial. Soc Sci Med. 1990; 31(5): 585-91.		X	
Limpopo	01 - ZLI	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Lithuania	01 - LTU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Luxembourg	01 - LUX	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Macedonia	01 - MKD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Madagascar	01 - MDG	Population and Development Research Center (CEPED) (France). Madagascar - Antananorivo Mortality Report 1984-1995.			X
Malawi	01 - MWI	Checchi F, Nyasulu P, Chandramohan D, Roberts B. Rates and causes of death in Chiradzulu District, Malawi, 2008: a key informant study. Trop Med Int Health. 2011; 16(3): 375-8.		X	
Malawi	02 - MWI	Chihana M, Floyd S, Molesworth A, Crampin AC, Kayuni N, Price A, Zaba B, Jahn A, Mvula H, Dube A, Ngwira B, Glynn JR, French N. Adult mortality and probable cause of death in rural northern Malawi in the era of HIV treatment. Trop Med Int Health. 2012; 17(8): E74-83.		X	
Malawi	03 - MWI	Jahn A, Floyd S, Crampin AC, Mvula H, Mwinuka V, Mwaiyeghele E, McGrath N, Zaba B, Fine PEM, Glynn JR. Declining child mortality in northern Malawi despite high rates of infection with HIV. Bull World Health Organ. 2010; 88: 746-53.		X	
Malaysia	01 - MYS	Department of Statistics (Malaysia).Vital Statistics: West Malaysia 1969. Kuala Lumpur, Malaysia:Department of Statistics (Malaysia), 1971.			X
Malaysia	02 - MYS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Maldives	01 - MDV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mali	01 - MLI	National Institute for Demographic Studies (France), Sahel Institute. Mali Twelve Years of Urban Mortality in the Sahel 1974-1985. 1988.			X
Malta	01 - MLT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mauritius	01 - MUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mexico	01 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1980 .			X
Mexico	02 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1981 .			X
Mexico	03 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1982.			X
Mexico	04 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1983.			X
Mexico	05 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1984.			X

Mexico	06 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1985.			X
Mexico	07 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1986.			X
Mexico	08 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1987.			X
Mexico	09 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1988.			X
Mexico	10 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1989.			X
Mexico	11 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1990.			X
Mexico	12 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1991.			X
Mexico	13 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1992.			X
Mexico	14 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1993.			X
Mexico	15 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1994.			X
Mexico	16 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1995.			X
Mexico	17 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1996.			X
Mexico	18 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1997.			X
Mexico	19 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1998.			X
Mexico	20 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1999.			X
Mexico	21 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2000.			X
Mexico	22 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2001.			X
Mexico	23 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2002.			X
Mexico	24 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2003.			X
Mexico	25 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2004.			X
Mexico	26 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2005.			X
Mexico	27 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2006.			X
Mexico	28 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2007.			X
Mexico	29 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2008.			X
Mexico	30 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2010.			X
Mexico	31 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2011.			X
Mexico	32 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2012.			X
Mexico	33 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Statistics - Deaths 2009 .			X
Moldova	01 - MDA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mongolia	01 - MNG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Montenegro	01 - MNE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Morocco	01 - MAR	Ministry of Public Health (Morocco). Morocco National Survey on Causes and Circumstances of Infant and Child Deaths 1988-1989. Rabat, Morocco: Ministry of Public Health (Morocco).		X	
Morocco	02 - MAR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Mozambique	01 - MOZ	Centers for Disease Control and Prevention (CDC), MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Ministry of Health (Mozambique), National Statistics Institute (Mozambique), US Census Bureau. Mozambique National Survey on the Causes of Death 2007-2008.		X	
Mozambique	02 - MOZ	INDEPTH. Mozambique - Manhiça Health and Demographic Surveillance System.		X	
Mozambique	03 - MOZ	Sacarlal J, Nhacolo AQ, Sigaúque B, Nhalungo DA, Abacassamo F, Sacoor CN, Aide P, Machevo S, Nhampossa T, Macete EV, Bassat Q, David C, Bardají A, Letang E, Saúte F, Aponte JJ, Thompson R, Alonso PL. A 10 year study of the cause of death in children under 15 years in Manhiça, Mozambique. BioMed Central Public Health. 2009; 9: 67.		X	
Mpumalanga	01 - ZMP	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Myanmar	01 - MMR	Myint, S. Cause of death verification study in Myanmar. Presentation at: World Health Organization Regional Office for South East Asia. Regional Consultation on Mortality Statistics. 2007; New Delhi, India.		X	
Netherlands	01 - NLD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
New Zealand	01 - NZL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nicaragua	01 - NIC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nigeria	01 - NGA	Ekanem EE, Asindi AA, Okoi OU. Community-based surveillance of paediatric deaths in Cross River State, Nigeria. Tropical and Geographical Medicine. 1994; 46(5): 305-8.		X	
North-West	01 - ZNW	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Northern Cape	01 - ZNC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Norway	01 - NOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Oman	01 - OMN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Pakistan	01 - PAK	National Institute of Population Studies (NIPS) (Pakistan), Macro International, Inc. Pakistan Demographic and Health Survey 2006-2007. Calverton, United States: Macro International, Inc.		X	
Palestine	01 - PSE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Panama	01 - PAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Papua New Guinea	01 - PNG	Moir JS, Garner PA, Heywood PF, Alpers MP. Mortality in a rural area of Madang Province, Papua New Guinea. Ann Trop Med Parasitol. 1989; 83(3): 305-19.		X	
Papua New Guinea	02 - PNG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Paraguay	01 - PRY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Peru	01 - PER	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Philippines	01 - PHL	National Epidemiology Center, Department of Health (Philippines). Philippines Field Health Service Information System Annual Report 1993. Manila, Philippines: National Epidemiology Center, Department of Health (Philippines).	X		
Philippines	02 - PHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Poland	01 - POL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Portugal	01 - PRT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Puerto Rico	01 - PRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Qatar	01 - QAT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Romania	01 - ROU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Russia	01 - RUS	Center for Demographic Research, New Economic School (Russia). Russia Mortality Rates by Region, Age, Sex, and Cause of Death 1989-1998. Moscow, Russia: Center for Demographic Research, New Economic School (Russia).			X
Russia	02 - RUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Saint Lucia	01 - LCA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Saint Vincent and the Grenadines	01 - VCT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sao Tome and Principe	01 - STP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Senegal	01 - SEN	Duthe G, Pison G. Adult mortality in a rural area of Senegal: Non-communicable diseases have a large impact in Mlomp. Demographic Research. 2008; 19(37): 1419-48.		X	
Serbia	01 - SRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Seychelles	01 - SYC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Singapore	01 - SGP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovakia	01 - SVK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovenia	01 - SVN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Africa	01 - ZAF	Garrib A, Jaffar S, Knight S, Bradshaw D, Bennish ML. Rates and causes of child mortality in an area of high HIV prevalence in rural South Africa. Trop Med Int Health. 2006; 11(12): 1841-8.		X	
South Africa	02 - ZAF	MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), INDEPTH. South Africa - Agincourt Health and Socio-Demographic Surveillance System.		X	
South Africa	03 - ZAF	Moyo S, Hawkridge T, Mahomed H, Workman L, Minnies D, Geiter LJ, Verver S, Kibel M, Hussey GD. Determining causes of mortality in children enrolled in a vaccine field trial in a rural area in the Western Cape Province of South Africa. J Paediatr Child Health. 2007; 43(3): 178-83.		X	
South Africa	04 - ZAF	Muhwava W. Contributions of the Africa Centre Demographic Surveillance to the Community. Umbiko . 2007; 12. 3-4.		X	
South Africa	05 - ZAF	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Korea	01 - KOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Spain	01 - ESP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sri Lanka	01 - LKA	Registrar General's Department (Sri Lanka). Sri Lanka Vital Statistics - Deaths 1993-1996.			X
Sri Lanka	02 - LKA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Suriname	01 - SUR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sweden	01 - SWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Switzerland	01 - CHE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Syria	01 - SYR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Taiwan	01 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2008.			X
Taiwan	02 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2009.			X
Taiwan	03 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2010.			X
Taiwan	04 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2011.			X
Taiwan	05 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2012.			X
Taiwan	06 - TWN	Department of Health (Taiwan). Taiwan Vital Statistics - Deaths 2007.			X
Tajikistan	01 - TJK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Tanzania	01 - TZA	INDEPTH. Tanzania - Ifakara Health and Demographic Surveillance System.		X	
Tanzania	02 - TZA	INDEPTH. Tanzania - Rufiji Health and Demographic Surveillance System.		X	
Tanzania	03 - TZA	Illah E, Mbaruku G, Masanja H, Kahn K. Causes and risk factors for maternal mortality in rural Tanzania--case of Rufiji Health and Demographic Surveillance Site (HDSS). Afr J Reprod Health. 2013; 17(3): 119-30. .	X		
Tanzania	04 - TZA	Kaatano GM, Mashauri FM, Kinung'hi SM, Mwanga JR, Malima RC, Kishamawe C, Nnko SE, Magesa SM, Mboera LE. Patterns of malaria related mortality based on verbal autopsy in Muleba District, north-western Tanzania. Tanzan J Health Res. 2009; 11(4): 210-8.		X	
Tanzania	05 - TZA	Ministry of Health and Social Welfare (Tanzania), Newcastle University, UK Department for International Development (DFID). Tanzania Policy Implications of Mortality Burden 1995-2001.		X	
Tanzania	06 - TZA	Narh-Bana SA, Chirwa TF, Mwanyangala MA, Nathan R. Muertes de adultos y el futuro: Un análisis causa-específico de las muertes de adultos de un estudio longitudinal en Tanzania rural 2003-2007. Trop Med Int Health. 2012; 17(11): 1396-404.		X	
Tanzania	07 - TZA	Sangber-Dery MD. The Role of Birth Order in Infant Mortality in Ifakara DSS Area in Rural Tanzania [master's thesis]. [Johannesburg, South Africa]: University of the Witwatersrand; 2009.		X	
Thailand	01 - THA	Ministry of Public Health (Thailand). Thailand Burden of Disease and Injuries 1998-1999.		X	
Thailand	02 - THA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
The Bahamas	01 - BHS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Trinidad and Tobago	01 - TTO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Turkey	01 - TUR	Baskent University, Ministry of Health (Turkey), State Institute of Statistics (Turkey). Turkey Verbal Autopsy Survey 2003.		X	

Turkey	02 - TUR	Demir A, Kalyoncu A, Selcuk T, Artvinli M, Sahin A. Prevalence of Asthma, Allergy, and Respiratory Symptoms in Hasançelebi/Hekimhan/Malatya in Eastern Turkey. Turkish Respiratory Journal. 2001; 2(2): 29-34.		X	
Turkey	03 - TUR	Turkish Statistical Institute. Turkey Causes of Death Statistics 2010-2012. Ankara Turkey: Turkish Statistical Institute.			X
Turkey	04 - TUR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Turkmenistan	01 - TKM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uganda	01 - UGA	MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Macro International, Inc, Uganda Bureau of Statistics. Uganda Child Verbal Autopsy Study 2007. Macro International, Inc.		X	
Ukraine	01 - UKR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United Kingdom	01 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2011. Edinburgh, Scotland: National Records of Scotland.			X
United Kingdom	02 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2012. Edinburgh, Scotland: National Records of Scotland.			X
United Kingdom	03 - GBR	Northern Ireland Statistics and Research Agency (NISRA). United Kingdom - Northern Ireland Registrar General Annual Report 2011. Belfast, Northern Ireland: Northern Ireland Statistics and Research Agency (NISRA), 2012.			X
United Kingdom	04 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1981-1994. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	05 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1995-2000. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	06 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 2001-2012. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	07 - GBR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United States	01 - USA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uruguay	01 - URY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uzbekistan	01 - UZB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Venezuela	01 - VEN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Vietnam	01 - VNM	Hanoi School of Public Health, Ministry of Health (Viet Nam), School of Population Health, University of Queensland (Australia). Vietnam Burden of Disease and Injury Study 2008. Hanoi, Vietnam: Hanoi School of Public Health, 2011.		X	
Vietnam	02 - VNM	Hoa NP, Rao C, Hoy DG, Hinh ND, Chuc NT, Ngo DA. Mortality measures from sample-based surveillance: evidence of the epidemiological transition in Viet Nam Bull World Health Organ. 2012; 90(10): 764-72.		X	
Vietnam	03 - VNM	Ngo AD, Rao C, Hoa NP, Adair T, Chuc NTK. Mortality patterns in Vietnam, 2006: Findings from a national verbal autopsy survey. BMC Res Notes. 2010; 3: 78.		X	
Vietnam	04 - VNM	Quyen BTT, Nhung NT, Cuong PV. The causes of deaths in Chililab between 2008-2010 based on verbal autopsy method. Vietnam Journal of Public Health. 2012; 1(1): 24-31.		X	
Western Cape	01 - ZWC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X

Zambia	01 - ZMB	Mudenda SS, Kamocha S, Mswia R, Conkling M, Sikanyiti P, Potter D, Mayaka WC, Marx MA. Feasibility of using a WHO-standard methodology for Sample Vital Registration with Verbal Autopsy (SAVVY) to report leading causes of death in Zambia: results of a pilot in four provinces, 2010. Popul Health Metr. 2011; 9: 40.		X	
Zimbabwe	01 - ZWE	Registrar General's Department (Zimbabwe), Zimbabwe National Statistics Agency. Zimbabwe Mortality Report 2007.			X
Zimbabwe	02 - ZWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Appendix Table 8. Covariates used in CODEm for tuberculosis - Males and Females		
Covariate	**Direction**	**Level**
Cumulative Cigarettes (5 years)	1	1
Diabetes Fasting Plasma Glucose (mmol/L)	1	1
Health system access (unitless)	-1	1
Indoor Air Pollution (All Cooking Fuels)	1	1
Malnutrition in children under 5 years - proportion > 2SD below mean weight for age (logit transform	-1	1
Smoking Prevalence	1	1
Alcohol (liters per capita)	1	2
Population Density (500-1,000 ppl/sqkm, proportion)	1	2
Population Density (over 1,000 ppl/sqkm, proportion)	1	2
Education (years per capita)	-1	3
Lag distributed income per capita (log transformed)	-1	3

Appendix Table 9: Tuberculosis data sources used in the DisMod-MR 2.0 for the GBD 2013

Aditama TY. Prevalence of tuberculosis in Indonesia, Singapore, Brunei Darussalam and the Philippines. Tubercle. 1991; 72(4): 255-60.
Al-Kassimi FA, Abdullah AK, Al-Hajjaj MS, Al-Orainey IO, Bamgboye EA, Chowdhury MNH. Nationwide community survey of tuberculosis epidemiology in Saudi Arabia. Tuber Lung Dis. 1993; 74(4): 254-60.
of tuberculosis, HIV and respiratory symptoms in two Zambian communities: implications for tuberculosis control in the era of HIV. PLoS One. 2009; 4(5): e5602.
Bangladesh Rural Advancement Committee (BRAC), Damien Foundation, International Centre for Diarrhoeal Disease Research (Bangladesh), KNCV Tuberculosis Foundation, World Health Organization (WHO). Bangladesh Tuberculosis Disease-cum-Infection Prevalence Survey 2007-2009.
Berhe, Gebretsadik, Enqueselassie, Fikre, Hailu, Elena, Mekonnen, Wondale, Teklu, Tsigemariam, Gebretsadik, Ataklti, Berhe, Rezene, Haile, Tweodros, Aseffa, Abraham. Population-based prevalence survey of tuberculosis in the Tigray region of Ethiopia. BMC Infect Dis. 2013; 448.
Bhat J, Rao VG, Gopi PG, Yadav R, Selvakumar N, Tiwari B, Gadge V, Bhondeley MK, Wares F. Prevalence of pulmonary tuberculosis amongst the tribal population of Madhya Pradesh, central India. Int J Epidemiol. 2009; 38(4): 1026-32.
Chadha VK, Kumar P, Anjinappa SM, Singh S, Narasimhaiah S, Joshi MV, Gupta J, Lakshminarayana, Ramchandra J, Velu M, Papkianathan S, Babu S, Krishna H. Prevalence of pulmonary tuberculosis among adults in a rural sub-district of South India. PLoS One. 2012; 7(8): e42625.
Chadha VK. Tuberculosis epidemiology in India: a review. The International Journal of Tuberculosis and Lung Disease. 2005; 9(10): 1072-82.
Chakma T, Rao PV, Pall S, Kaushal LS, Datta M, Tiwary RS. Survey of pulmonary tuberculosis in a primitive tribe of Madhya Pradesh. Indian J Tuberc. 1996;
China National Random Tuberculosis Survey 2000
China Tuberculosis Prevalence Survey 2010
Chinese Center for Disease Control and Prevention (CCDC). China National Tuberculosis Survey 1984-1985.
Chinese Center for Disease Control and Prevention (CCDC). China National Tuberculosis Survey 1990.
Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2004.
Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2007.
Chinese Center for Disease Control and Prevention (CCDC). China Notifiable Infectious Diseases 2010.
Citation being researched
Datta M, Gopi PG, Appegowda BN, Bhima Rao KR, Gopalan BN. Tuberculosis in North Arcot District of Tamil Nadu - a sample survey. Indian J Tuberc 1. 2000; 47(3): 147-54.
Department of Health (Taiwan). Taiwan Tuberculosis Control Report 2007. Taipei City, Taiwan: Department of Health (Taiwan), 2007.
Department of Health (Taiwan). Taiwan Tuberculosis Control Report 2008. Taipei City, Taiwan: Department of Health (Taiwan), 2008.
Department of Health (Taiwan). Taiwan Tuberculosis Control Report 2009. Taipei City, Taiwan: Department of Health (Taiwan), 2009.
Department of Health (Taiwan). Taiwan Tuberculosis Control Report 2010. Taipei City, Taiwan: Department of Health (Taiwan), 2010.
Department of Health (Taiwan). Taiwan Tuberculosis Control Report 2012. Taipei City, Taiwan: Department of Health (Taiwan), 2012.
2010-2011.
Gopi PG, Subramani R, Radhakrishna S, Kolappan C, Sadacharam K, Devi TS, Frieden TR, Narayanan PR. A baseline survey of the prevalence of tuberculosis in a community in south India at the commencement of a DOTS programme. Int J Tuberc Lung Dis. 2003; 7(12): 1154-62.
Health Protection Agency (United Kingdom). United Kingdom Tuberculosis Surveillance Report 2010. London, England: Health Protection Agency (United Kingdom), 2010.
Hoa NB, Sy DN, Nhung NV, Tiemersma EW, Borgdorff MW, Cobelens FGJ. National survey of tuberculosis prevalence in Viet Nam. Bull World Health Organ. 2010; 88(4): 273-80.
36.
Institute for Health Metrics and Evaluation (IHME). IHME Custom Tuberculosis Excess Mortality Estimates 1950-2013.
Institute for Health Metrics and Evaluation (IHME). IHME Custom Tuberculosis Mortality Estimates 1980-2013.
Institute for Health Metrics and Evaluation (IHME). IHME Custom Tuberculosis Remission Estimates 1980-2013.
Jamaica Vital Registration - Deaths 1998.
Japan International Cooperation Agency, Ministry of Health (Cambodia), National Center for Tuberculosis and Leprosy Control (CENAT) (Cambodia). Cambodia National Tuberculosis Prevalence Survey 2010-2011.
KNCV Tuberculosis Foundation, Ministry of Inter Provincial Coordination (Pakistan), National Tuberculosis Control Program (Pakistan). Pakistan Prevalence of Pulmonary Tuberculosis Among the Adult Population 2010-2011.
the prevalence of pulmonary tuberculosis over a period of seven and half years in a ruralcommunity in south India with DOTS. Indian J Tuberc. 2013; 60(3): 168-76.
Ministry of Health (Cambodia). Cambodia National Tuberculosis Prevalence Survey 2002.
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Appendix Table 10. Age-standardized tuberculosis all forms incidence, prevalence, and mortality rates (per 100 000) and annualized rates of change (%), with 95% UI, for 21 GBD regions.

	Age-standardized rates (per 100 000), 2013			Annualized rate of change (%)					
				1990-2000			2000-2013		
Location	Incidence	Prevalence	Mortality	Incidence	Prevalence	Mortality	Incidence	Prevalence	Mortality
Global	105·20 (102·78 to 107·63)	168·28 (163·99 to 172·88)	20·40 (18·65 to 22·15)	0·55 (0·37 to 0·73)	0·84 (0·70 to 0·98)	-2·84 (-3·58 to -2·19)	-0·69 (-0·80 to -0·59)	-1·37 (-1·47 to -1·27)	-3·71 (-4·37 to -3·04)
Asia Pacific, High Income	34·37 (33·43 to 35·27)	62·81 (59·37 to 66·58)	2·15 (1·92 to 2·60)	-0·04 (-0·27 to 0·20)	-1·64 (-1·99 to -1·30)	-6·22 (-6·84 to -5·42)	0·11 (-0·05 to 0·27)	0·13 (-0·18 to 0·40)	-5·02 (-5·84 to -3·98)
Asia, Central	122·60 (118·97 to 126·17)	180·02 (173·14 to 187·40)	11·26 (8·06 to 12·83)	1·05 (0·80 to 1·34)	1·05 (0·84 to 1·28)	5·56 (0·73 to 6·57)	-0·75 (-0·91 to -0·57)	-0·67 (-0·84 to -0·49)	-4·91 (-5·75 to -4·00)
Asia, East	74·21 (71·97 to 76·60)	130·78 (125·30 to 136·75)	3·49 (3·04 to 4·03)	0·23 (-0·08 to 0·60)	0·68 (0·34 to 1·01)	-6·67 (-7·91 to -5·70)	-2·08 (-2·36 to -1·85)	-3·16 (-3·43 to -2·86)	-7·47 (-8·44 to -6·56)
Asia, South	167·29 (161·51 to 173·08)	267·33 (258·06 to 276·80)	51·89 (44·11 to 60·13)	-0·67 (-1·02 to -0·30)	0·14 (-0·13 to 0·41)	-4·78 (-6·03 to -3·54)	-1·22 (-1·44 to -0·98)	-2·61 (-2·81 to -2·41)	-4·35 (-5·76 to -3·03)
Asia, Southeast	146·46 (142·69 to 150·07)	303·73 (294·27 to 314·15)	42·32 (34·93 to 47·63)	1·70 (1·49 to 1·94)	1·56 (1·36 to 1·75)	-3·98 (-4·78 to -3·10)	-0·59 (-0·71 to -0·47)	0·06 (-0·08 to 0·21)	-3·62 (-4·38 to -2·86)
Australasia	6·39 (6·17 to 6·59)	11·12 (10·49 to 11·80)	0·26 (0·22 to 0·29)	-0·25 (-0·62 to 0·14)	-1·01 (-1·38 to -0·61)	-5·69 (-6·54 to -4·82)	-0·22 (-0·41 to -0·03)	-0·36 (-0·66 to -0·08)	-3·88 (-4·82 to -2·95)
Caribbean	57·71 (56·27 to 59·14)	73·37 (71·25 to 75·66)	8·59 (7·60 to 10·80)	2·17 (1·89 to 2·41)	1·07 (0·88 to 1·27)	-4·33 (-5·34 to -3·04)	-0·48 (-0·59 to -0·35)	-1·36 (-1·50 to -1·21)	-4·76 (-5·61 to -3·46)
Europe, Central	26·73 (25·98 to 27·48)	41·99 (40·55 to 43·47)	1·72 (1·59 to 2·00)	1·58 (1·40 to 1·75)	0·41 (0·26 to 0·56)	-2·72 (-3·12 to -1·93)	-1·61 (-1·74 to -1·50)	-0·30 (-0·42 to -0·17)	-5·90 (-6·37 to -5·24)
Europe, Eastern	81·18 (78·29 to 83·70)	121·42 (116·78 to 126·47)	8·59 (5·99 to 9·32)	1·43 (1·10 to 1·79)	1·83 (1·51 to 2·13)	8·33 (5·54 to 9·13)	-0·49 (-0·73 to -0·32)	-0·66 (-0·88 to -0·46)	-4·28 (-6·75 to -3·51)
Europe, Western	10·87 (10·55 to 11·18)	17·29 (16·60 to 17·96)	0·60 (0·55 to 0·70)	-0·26 (-0·41 to -0·05)	-0·75 (-0·90 to -0·59)	-4·79 (-5·23 to -4·39)	-1·19 (-1·29 to -1·09)	-0·65 (-0·79 to -0·54)	-4·95 (-5·54 to -3·88)
Latin America, Andean	118·36 (114·40 to 122·53)	161·77 (154·00 to 169·61)	9·61 (8·41 to 12·18)	0·07 (-0·24 to 0·40)	-0·83 (-1·11 to -0·54)	-8·00 (-8·83 to -5·66)	-0·84 (-1·06 to -0·58)	-0·81 (-1·08 to -0·55)	-4·87 (-5·89 to -3·82)
Latin America, Central	32·66 (31·89 to 33·47)	49·61 (48·21 to 51·18)	3·62 (3·35 to 4·52)	0·82 (0·58 to 0·98)	-0·33 (-0·55 to -0·13)	-6·67 (-7·07 to -5·63)	-1·74 (-1·87 to -1·60)	-1·56 (-1·72 to -1·40)	-4·47 (-5·02 to -3·33)
Latin America, Southern	26·69 (25·93 to 27·45)	38·97 (37·30 to 40·69)	2·23 (2·03 to 2·48)	1·47 (1·10 to 1·82)	-0·02 (-0·31 to 0·27)	-4·06 (-5·09 to -3·49)	-2·59 (-2·77 to -2·40)	-1·58 (-1·80 to -1·34)	-3·46 (-4·09 to -2·85)
Latin America, Tropical	53·22 (51·38 to 54·93)	92·60 (87·25 to 97·98)	3·53 (2·68 to 3·95)	0·51 (0·06 to 0·95)	-0·12 (-0·50 to 0·29)	-2·32 (-6·02 to -1·41)	-1·31 (-1·53 to -1·12)	-0·73 (-1·09 to -0·40)	-4·31 (-5·25 to -3·52)
North Africa and Middle East	34·55 (33·77 to 35·37)	48·11 (46·59 to 49·65)	4·66 (4·19 to 5·46)	1·09 (0·87 to 1·31)	-0·30 (-0·49 to -0·10)	-3·62 (-4·26 to -2·98)	-1·11 (-1·19 to -1·03)	-1·26 (-1·35 to -1·17)	-4·50 (-5·24 to -3·83)
North America, High Income	5·04 (4·86 to 5·22)	10·09 (9·53 to 10·67)	0·36 (0·29 to 0·52)	-0·82 (-1·05 to -0·58)	-2·36 (-2·69 to -2·06)	-9·36 (-10·92 to -6·27)	-3·33 (-3·57 to -3·12)	-2·29 (-2·58 to -1·99)	-4·37 (-5·66 to -2·51)
Oceania	110·92 (107·85 to 114·09)	177·04 (169·85 to 184·80)	21·40 (14·06 to 41·69)	-0·57 (-0·96 to -0·22)	-0·69 (-1·02 to -0·35)	-5·84 (-8·01 to -2·27)	0·74 (0·57 to 0·93)	0·10 (-0·12 to 0·32)	-2·85 (-4·40 to -0·94)
Sub-Saharan Africa, Central	311·39 (301·15 to 321·85)	529·80 (503·07 to 560·25)	106·64 (86·58 to 124·55)	0·98 (0·54 to 1·41)	0·67 (0·30 to 1·05)	0·07 (-1·10 to 1·39)	-0·24 (-0·40 to -0·06)	-0·46 (-0·67 to -0·27)	-3·49 (-4·66 to -2·16)
Sub-Saharan Africa, East	245·00 (237·13 to 252·61)	374·70 (360·50 to 389·45)	107·23 (93·11 to 115·46)	0·54 (0·35 to 0·74)	0·56 (0·35 to 0·78)	0·39 (-0·76 to 1·11)	-1·20 (-1·31 to -1·08)	-1·24 (-1·37 to -1·10)	-3·41 (-4·28 to -2·82)
Sub-Saharan Africa, Southern	1121·35 (1081·17 to 1164·24)	1470·51 (1416·58 to 1529·67)	94·34 (83·55 to 104·87)	-0·44 (-0·97 to 0·13)	0·54 (0·16 to 0·92)	3·40 (1·84 to 4·74)	-0·07 (-0·42 to 0·26)	-0·33 (-0·60 to -0·04)	-2·64 (-3·99 to -1·73)
Sub-Saharan Africa, West	173·93 (168·60 to 179·56)	297·82 (287·64 to 309·58)	55·60 (48·98 to 62·37)	0·78 (0·52 to 1·04)	0·67 (0·44 to 0·89)	0·05 (-0·72 to 0·80)	-0·76 (-0·89 to -0·62)	-0·87 (-1·00 to -0·73)	-2·88 (-3·52 to -2·05)

Appendix Table 11: Malaria non-fatal data sources used in DisMod in the GBD 2013

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Appendix Table 12: Malaria mortality data sources used in the GBD 2013.

Country	Source number	Source	Surveillance	Verbal Autopsy	Vital Registration
Afghanistan	01 - AFG	Centers for Disease Control and Prevention (CDC), United Nations Children's Fund (UNICEF). Afghanistan - Badghis Nutrition and Health Survey 2002.		X	
Albania	01 - ALB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Antigua and Barbuda	01 - ATG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Argentina	01 - ARG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Armenia	01 - ARM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Australia	01 - AUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Austria	01 - AUT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Azerbaijan	01 - AZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bahrain	01 - BHR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bangladesh	01 - BGD	INDEPTH, International Centre for Diarrhoeal Disease Research (Bangladesh). Bangladesh - Matlab Health and Demographic Surveillance System. Dhaka, Bangladesh: International Centre for Diarrhoeal Disease Research (Bangladesh).		X	
Bangladesh	02 - BGD	INDEPTH. Bangladesh - AMK Health and Demographic Surveillance System.		X	
Barbados	01 - BRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belarus	01 - BLR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belgium	01 - BEL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Belize	01 - BLZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bermuda	01 - BMU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bolivia	01 - BOL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bosnia and Herzegovina	01 - BIH	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brazil	01 - BRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Brunei	01 - BRN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Bulgaria	01 - BGR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Burkina Faso	01 - BFA	Abdullah S, Adazu K, Masanja H, Diallo D, Hodgson A, Ilboudo-Sanogo E, Nhacolo A, Owusu-Agyei S, Thompson R, Smith T, Binka FN. Patterns of age-specific mortality in children in endemic areas of sub-Saharan Africa. Am J Trop Med Hyg. 2007; 77(6 Suppl): 99-105.		X	

Burkina Faso	02 - BFA	Bell JS, Ouédraogo M, Ganaba R, Sombié I, Byass P, Baggaley RF, Filippi V, Fitzmaurice AE, Graham WJ. The epidemiology of pregnancy outcomes in rural Burkina Faso. Trop Med Int Health. 2008; 13 Suppl 1: 31-43.		X	
Burkina Faso	03 - BFA	Diallo AH, Meda N, Sommerfelt H, Traore GS, Cousens S, Tylleskar T. The high burden of infant deaths in rural Burkina Faso: a prospective community-based cohort study. BMC Public Health. 2012; 12(739).		X	
Burkina Faso	04 - BFA	INDEPTH, Nouna Health Research Center (Burkina Faso). Burkina Faso - Nouna Health and Demographic Surveillance System.		X	
Burkina Faso	05 - BFA	Office of Scientific and Technical Research Overseas (France). Burkina Faso - Niangoloko Childhood Mortality 1986-1988. 1989.		X	
Burkina Faso	06 - BFA	Office of Scientific and Technical Research Overseas (France). Burkina Faso - Pissila Analysis of Mortality in Childhood after Three Years of Observation 1985-1987. Office of Scientific and Technical Research Overseas (France), 1988.		X	
Burkina Faso	07 - BFA	Ramroth H, Lorenz E, Rankin JC, Fottrell E, Yé M, Neuhann F, Ssennono M, Sié A, Byass P, Becher H. Causas de la distribución de muerte con el modelo InterVA y la codificación de médicos en un área rural de Burkina Faso. Trop Med Int Health. 2012; 17(7): 904-13.		X	
Burkina Faso	08 - BFA	Rowe AK, Rowe SY, Snow RW, Korenromp EL, Schellenberg JR, Stein C, Nahlen BL, Bryce J, Black RE, Steketee RW. The burden of malaria mortality among African children in the year 2000. Int J Epidemiol. 2006; 35(3): 691-704.		X	
Burkina Faso	09 - BFA	Würthwein R, Gbangou A, Sauerborn R, Schmidt CM. Measuring the local burden of disease. A study of years of life lost in sub-Saharan Africa. Int J Epidemiol. 2001; 30(3): 501-8.		X	
Burkina Faso	10 - BFA	Yé M, Diboulo E, Niamba L, Sié A, Coulibaly B, Bagagnan C, Dembélé J, Ramroth H. An improved method for physician-certified verbal autopsy reduces the rate of discrepancy: experiences in the Nouna Health and Demographic Surveillance Site (NHDSS), Burkina Faso. Popul Health Metr. 2011; 9: 34.		X	
Burundi	01 - BDI	Delacollette C, Barutwanayo M. Mortality and morbidity at young ages in a stable hyperendemic malaria region, community Nyanza-Lac, Imbo South, Burundi. Bull Soc Pathol Exot. 1993; 86(5): 373-9.		X	
Cambodia	01 - KHM	Oum S, Chandramohan D, Cairncross S. Community-based surveillance: a pilot study from rural Cambodia. Trop Med Int Health. 2005; 10(7): 689-97.		X	
Canada	01 - CAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cape Verde	01 - CPV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Chile	01 - CHL	Ministry of Health (Chile), National Institute of Statistics (Chile). Chile Vital Registration - Deaths 1985.			X
Chile	02 - CHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
China	01 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1991 - China CDC.			X
China	02 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 1994 - China CDC.			X
China	03 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2000 - China CDC.			X
China	04 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2002 - China CDC.			X
China	05 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2004 - China CDC.			X
China	06 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2005 - China CDC.			X
China	07 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2006 - China CDC.			X
China	08 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2007 - China CDC.			X
China	09 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2008 - China CDC.			X
China	10 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2009 - China CDC.			X
China	11 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2010 - China CDC.			X

China	12 - CHN	Chinese Center for Disease Control and Prevention (CCDC). China Disease Surveillance Points 2011 - China CDC.			X
China	13 - CHN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Colombia	01 - COL	National Administrative Department of Statistics (Colombia). Colombia Vital Statistics - Deaths 2008. Bogotá, Colombia: National Administrative Department of Statistics (Colombia).			X
Colombia	02 - COL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Costa Rica	01 - CRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Croatia	01 - HRV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cuba	01 - CUB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Cyprus	01 - CYP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Czech Republic	01 - CZE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Democratic Republic of the Congo	01 - COD	Coghlan B, Brennan RJ, Ngoy P, Dofara D, Otto B, Clements M, Stewart T. Mortality in the Democratic Republic of Congo: a nationwide survey. Lancet. 2006; 367(9504): 44-51.		X	
Democratic Republic of the Congo	02 - COD	Delacollette C, Van der Stuyft P, Molima K, Delacollette-Lebrun C, Wery M. Etude de la mortalité globale et de la mortalité liée au paludisme dans le Kivu montagneux, Zaïre. Rev Epidemiol Sante Publique. 1989; 37(2): 161-6.		X	
Democratic Republic of the Congo	03 - COD	Garenne M, Willie D, Maire B, Fontaine O, Eeckels R, Briend A, Van den Broeck J. Incidence and duration of severe wasting in two African populations. Public Health Nutr. 2009; 12(11): 1974-82.		X	
Democratic Republic of the Congo	04 - COD	Van Den Broeck J, Eeckels R, Vuylsteke J. Influence of nutritional status on child mortality in rural Zaire. Lancet. 1993; 341(8859): 1491-5.		X	
Denmark	01 - DNK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominica	01 - DMA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Dominican Republic	01 - DOM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Eastern Cape	01 - ZEC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Ecuador	01 - ECU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Egypt	01 - EGY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
El Salvador	01 - SLV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Estonia	01 - EST	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ethiopia	01 - ETH	Deribew A, Tessema F, Girma B. Determinants of under-five mortality in Gilgel Gibe Field Research Center, Southwest Ethiopia. Ethiopian Journal of Health Development. 2007; 21(2): 117-24.		X	
Ethiopia	02 - ETH	Fantahun M, Fottrell E, Berhane Y, Wall S, Högberg U, Byass P. Assessing a new approach to verbal autopsy interpretation in a rural Ethiopian community: the InterVA model. Bull World Health Organ. 2006; 84(3): 204-10.		X	
Ethiopia	03 - ETH	INDEPTH. Ethiopia - Butajira Health and Demographic Surveillance System.		X	

Ethiopia	04 - ETH	Weldearegawi B, Ashebir Y, Gebeye E, Gebregziabiher T, Yohannes M, Mussa S, Berhe H, Abebe Z. Emerging chronic non-communicable diseases in rural communities of Northern Ethiopia: evidence using population-based verbal autopsy method in Kilite Awlaelo surveillance site. Health Policy Plan. 2013. [Epub ahead of print]		X	
Ethiopia	05 - ETH	World Health Organization (WHO). Deployment of artemetherlumefantrine with rapid diagnostic tests at community level, Raya Valley, Tigray, Ethiopia. Geneva, Switzerland: World Health Organization (WHO), 2009.		X	
Fiji	01 - FJI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Finland	01 - FIN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
France	01 - FRA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Free State	01 - ZFS	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Gauteng	01 - ZGA	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Georgia	01 - GEO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Germany	01 - DEU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ghana	01 - GHA	Bawah AA, Binka FN. How many years of life could be saved if malaria were eliminated from a hyperendemic area of northern Ghana?. Am J Trop Med Hyg. 2007; 77(6 Suppl): 145-52.		X	
Ghana	02 - GHA	Binka FN, Kubaje A, Adjuik M, Williams LA, Lengeler C, Maude GH, Armah GE, Kajihara B, Adiamah JH, Smith PG. Impact of permethrin impregnated bednets on child mortality in Kassena-Nankana district, Ghana: a randomized controlled trial. Trop Med Int Health. 1996; 1(2): 147-54.		X	
Ghana	03 - GHA	Births and Deaths Registry (Ghana). Ghana - Accra Births and Deaths Registry - Deaths 2000-2007.			X
Ghana	04 - GHA	Ghana Statistical Service, Ghana Health Service, Macro International, Inc. Ghana Special Demographic and Health Survey 2007-2008. Calverton, United States: Macro International, Inc., 2010.		X	
Ghana	05 - GHA	Ghana VAST Study Team. Vitamin A supplementation in northern Ghana: effects on clinic attendances, hospital admissions, and child mortality. Lancet. 1993; 342(8862): 7-12.		X	
Ghana	06 - GHA	Hurt L, ten Asbroek A, Amenga-Etego S, Zandoh C, Danso S, Edmond K, Hurt C, Tawiah C, Hill Z, Fenty J, Owusu-Agyei S, Campbell OM, Kirkwood BR. Effect of vitamin A supplementation on cause-specific mortality in women of reproductive age in Ghana: a secondary analysis from the ObaapaVitA trial. Bull World Health Organ. 2013; 91(1): 19-27.		X	
Ghana	07 - GHA	INDEPTH. Ghana - Navrongo Health and Demographic Surveillance System.		X	
Ghana	08 - GHA	Manortney S, Carey A, Ansong D, Harvey R, Good B, Boaheng J, Crookston B, Dickerson T. Verbal autopsy: an analysis of the common causes of childhood death in the Barekese sub-district of Ghana. Journal of Public Health in Africa. 2011; 2(e18): 73-7.		X	
Ghana	09 - GHA	Mills S, Williams JE, Wak G, Hodgson A. Maternal mortality decline in the Kassena-Nankana district of northern Ghana. Matern Child Health J. 2008; 12(5): 577-85.		X	
Greece	01 - GRC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Grenada	01 - GRD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Guatemala	01 - GTM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Guinea	01 - GIN	Basic Support for Institutionalizing Child Survival (BASICS), Save the Children USA. Guinea - Mandiana Mortality Study 1998-1999. 2002.		X	
Guinea-Bissau	01 - GNB	Roth A, Gustafson P, Nhaga A, Djana Q, Poulsen A, Garly ML, Jensen H, Sodemann M, Rodriques A, Aaby P. BCG vaccination scar associated with better childhood survival in Guinea-Bissau. Int J Epidemiol. 2005; 34(3): 540-7.		X	
Guyana	01 - GUY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Haiti	01 - HTI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Honduras	01 - HND	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Hungary	01 - HUN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Iceland	01 - ISL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
India	01 - IND	Bassani DG, Kumar R, Awasthi S, Morris SK, Paul VK, Shet A, Ram U, Gaffey MF, Black RE, Jha P. Causes of neonatal and child mortality in India: a nationally representative mortality survey. Lancet. 2010; 376(9755): 1853-60.		X	
India	02 - IND	Byrraju Foundation, Centre for Chronic Disease Control (India), Cooperative for Assistance and Relief Everywhere (CARE), School of Population Health, University of Queensland (Australia). India - Andhra Pradesh Rural Health Initiative.		X	
India	03 - IND	Dhingra N, Jha P, Sharma VP, Cohen AA, Jotkar RM, Rodriguez PS, Bassani DG, Suraweera W, Laxminarayan R, Peto R. Adult and child malaria mortality in India a nationally representative mortality survey. Lancet. 2010; 376(9754): 1768-74.		X	
India	04 - IND	Indian Council of Medical Research (ICMR). India Study on Causes of Death by Verbal Autopsy 2003.		X	
India	05 - IND	Institute of Health Systems (India). India Cause of Death Dataset Version 1.3 1980-1998. Hyperabad, India: Institute of Health Systems (India), 2002.		X	
India	06 - IND	International Institute for Population Sciences (IIPS) (India), Macro International, Inc. India Demographic and Health Survey 1998-1999. Calverton, United States: Macro International, Inc.		X	
India	07 - IND	International Institute for Population Sciences (IIPS). India Demographic and Health Survey 1992-1993. Bombay, India: International Institute for Population Sciences (IIPS).		X	
India	08 - IND	Kumar V, Datta N, Wadhwa SS, Singhi S. Morbidity and mortality in diarrhea in rural Haryana Indian. Indian J Pediatr. 1985; 52(418): 455-61.		X	
India	09 - IND	Ministry of Health and Family Welfare (India), Office of the Registrar General and Census Commissioner (India). India Special Survey of Deaths 2004.		X	
India	10 - IND	Morris SK, Bassani DG, Awasthi S, Kumar R, Shet A, Suraweera W, Jha P. Diarrhea, Pneumonia, and Infectious Disease Mortality in Children Aged 5 to 14 Years in India. PLoS One. 2011; 6(5): e20119.		X	
India	11 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1980. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	12 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1981. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	13 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1982. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	14 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1983. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	15 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1986. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	16 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1987. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X

India	17 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1988. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	18 - IND	Office of the Registrar General & Census Commissioner (India). India Vital Statistics 1989. New Delhi, India: Office of the Registrar General & Census Commissioner (India).			X
India	19 - IND	Office of the Registrar General and Census Commissioner (India). India MCCD Vital Statistics - Deaths 1990-1998.			X
India	20 - IND	Office of the Registrar General and Census Commissioner (India). India MCCD Vital Statistics - Deaths 1999-2001.			X
India	21 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2002. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	22 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2003. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	23 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2004. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2009.			X
India	24 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2005. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	25 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2006. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2012.			X
India	26 - IND	Office of the Registrar General and Census Commissioner (India). India Medical Certification of Cause of Death Report 2008. New Delhi, India: Office of the Registrar General and Census Commissioner (India), 2013.			X
Indonesia	01 - IDN	Anwar Z, Djamil H, Pardede N, Ismail R. The pattern of the causes of death in children in rural swampy area of South Sumatra, Indonesia. Paediatr Indones. 1987; 27(6-May): 93-8.		X	
Indonesia	02 - IDN	National Institute of Health Research and Development (NIHRD), Ministry of Health (Indonesia). Indonesia Sample Registration System 2012, Indonesia Cause of Death Survey 2010-2011, Indonesia Mortality Registration System Strengthening Project (IMRSSP), and Indonesia Basic Health Research 2007-2008.		X	
Iran	01 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2007.			X
Iran	02 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2008.			X
Iran	03 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2009.			X
Iran	04 - IRN	Ministry of Health and Medical Education (Iran). Iran Vital Registration - Deaths 2010.			X
Iran	05 - IRN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Iraq	01 - IRQ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Ireland	01 - IRL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Israel	01 - ISR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Italy	01 - ITA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Jamaica	01 - JAM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Japan	01 - JPN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Jordan	01 - JOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kazakhstan	01 - KAZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kenya	01 - KEN	Hamel MJ, Adazu K, Obor D, Sewe M, Vulule J, Williamson JM, Slutsker L, Feikin DR, Laserson KF. A reversal in reductions of child mortality in western Kenya, 2003-2009. Am J Trop Med Hyg. 2011; 85(4): 597-605.		X	
Kenya	02 - KEN	INDEPTH. Kenya - Kisumu Health and Demographic Surveillance System.		X	
Kenya	03 - KEN	INDEPTH. Kenya - Nairobi Health and Demographic Surveillance System.		X	
Kenya	04 - KEN	Mirza NM, Macharia WM, Wafula EM, Agwanda R, Onyango FE. Mortality patterns in a rural Kenyan community. East Afr Med J. 1990; 67(11): 823-9.		X	
Kenya	05 - KEN	Oti SO, Kyobutungi C. Verbal autopsy interpretation: a comparative analysis of the InterVA model versus physician review in determining causes of death in the Nairobi DSS. Popul Health Metr. 2010; 8: 21.		X	
Kenya	06 - KEN	Rowe AK, Rowe SY, Snow RW, Korenromp EL, Schellenberg JR, Stein C, Nahlen BL, Bryce J, Black RE, Steketee RW. The burden of malaria mortality among African children in the year 2000. Int J Epidemiol. 2006; 35(3): 691-704.		X	
Kenya	07 - KEN	van Eijk AM, Adazu K, Ofware P, Vulule J, Hamel M, Slutsker L. Causes of deaths using verbal autopsy among adolescents and adults in rural western Kenya. Trop Med Int Health. 2008; 13(10): 1314-24.		X	
Kiribati	01 - KIR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Kuwait	01 - KWT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
KwaZulu-Natal	01 - ZKN	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Kyrgyzstan	01 - KGZ	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Latvia	01 - LVA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Limpopo	01 - ZLI	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Lithuania	01 - LTU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Luxembourg	01 - LUX	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Macedonia	01 - MKD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Madagascar	01 - MDG	Population and Development Research Center (CEPED) (France). Madagascar - Antananorivo Mortality Report 1984-1995.			X
Malawi	01 - MWI	Checchi F, Nyasulu P, Chandramohan D, Roberts B. Rates and causes of death in Chiradzulu District, Malawi, 2008: a key informant study. Trop Med Int Health. 2011; 16(3): 375-8.		X	
Malawi	02 - MWI	Chihana M, Floyd S, Molesworth A, Crampin AC, Kayuni N, Price A, Zaba B, Jahn A, Mvula H, Dube A, Ngwira B, Glynn JR, French N. Adult mortality and probable cause of death in rural northern Malawi in the era of HIV treatment. Trop Med Int Health. 2012; 17(8): E74-83.		X	
Malawi	03 - MWI	Jahn A, Floyd S, Crampin AC, Mvula H, Mwinuka V, Mwaiyeghele E, McGrath N, Zaba B, Fine PEM, Glynn JR. Declining child mortality in northern Malawi despite high rates of infection with HIV. Bull World Health Organ. 2010; 88: 746-53.		X	

Malawi	04 - MWI	Slutsker L, Bloland P, Steketee RW, Wirima JJ, Heymann DL, Breman JG. Infant and second-year mortality in rural Malawi: causes and descriptive epidemiology. Am J Trop Med Hyg. 1996; 55(1 Suppl): 77-81.		X	
Malaysia	01 - MYS	Department of Statistics (Malaysia).Vital Statistics: West Malaysia 1969. Kuala Lumpur, Malaysia:Department of Statistics (Malaysia), 1971.			X
Malaysia	02 - MYS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Maldives	01 - MDV	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mali	01 - MLI	National Institute for Demographic Studies (France), Sahel Institute. Mali Twelve Years of Urban Mortality in the Sahel 1974-1985. 1988.			X
Malta	01 - MLT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mauritius	01 - MUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mexico	01 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1980 .			X
Mexico	02 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1981 .			X
Mexico	03 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1982.			X
Mexico	04 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1983.			X
Mexico	05 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1984.			X
Mexico	06 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1985.			X
Mexico	07 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1986.			X
Mexico	08 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1987.			X
Mexico	09 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1988.			X
Mexico	10 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1989.			X
Mexico	11 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1990.			X
Mexico	12 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1991.			X
Mexico	13 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1992.			X
Mexico	14 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1993.			X
Mexico	15 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1994.			X
Mexico	16 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1995.			X
Mexico	17 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1996.			X
Mexico	18 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1997.			X
Mexico	19 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1998.			X
Mexico	20 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 1999.			X
Mexico	21 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2000.			X
Mexico	22 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2001.			X
Mexico	23 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2002.			X
Mexico	24 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2003.			X
Mexico	25 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2004.			X

Mexico	26 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2005.			X
Mexico	27 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2006.			X
Mexico	28 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2007.			X
Mexico	29 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2008.			X
Mexico	30 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2010.			X
Mexico	31 - MEX	Ministry of Health (Mexico), National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2011.			X
Mexico	32 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Registration - Deaths 2012.			X
Mexico	33 - MEX	National Institute of Statistics and Geography (Mexico). Mexico Vital Statistics - Deaths 2009 .			X
Moldova	01 - MDA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Montenegro	01 - MNE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Morocco	01 - MAR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Mozambique	01 - MOZ	Centers for Disease Control and Prevention (CDC), MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Ministry of Health (Mozambique), National Statistics Institute (Mozambique), US Census Bureau. Mozambique National Survey on the Causes of Death 2007-2008.		X	
Mozambique	02 - MOZ	INDEPTH. Mozambique - Manhiça Health and Demographic Surveillance System.		X	
Mozambique	03 - MOZ	Sacarlal J, Nhacolo AQ, Sigaúque B, Nhalungo DA, Abacassamo F, Sacoor CN, Aide P, Machevo S, Nhampossa T, Macete EV, Bassat Q, David C, Bardají A, Letang E, Saúte F, Aponte JJ, Thompson R, Alonso PL. A 10 year study of the cause of death in children under 15 years in Manhiça, Mozambique. BioMed Central Public Health. 2009; 9: 67.		X	
Mpumalanga	01 - ZMP	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Myanmar	01 - MMR	Myint, S. Cause of death verification study in Myanmar. Presentation at: World Health Organization Regional Office for South East Asia. Regional Consultation on Mortality Statistics. 2007; New Delhi, India.		X	
Myanmar	02 - MMR	Ohnmar, Tun-Min, San-Shwe, Than-Win, Chongsuvivatwong V. Effects of malaria volunteer training on coverage and timeliness of diagnosis: a cluster randomized controlled trial in Myanmar. Malar J. 2012; 309.		X	
Netherlands	01 - NLD	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
New Zealand	01 - NZL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nicaragua	01 - NIC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Nigeria	01 - NGA	Ekanem EE, Asindi AA, Okoi OU. Community-based surveillance of paediatric deaths in Cross River State, Nigeria. Tropical and Geographical Medicine. 1994; 46(5): 305-8.		X	
Nigeria	02 - NGA	Lawoyin TO. Infant and maternal deaths in rural south west Nigeria: a prospective study. Afr J Med Med Sci. 2007; 36(3): 235-41.		X	
North-West	01 - ZNW	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Northern Cape	01 - ZNC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Norway	01 - NOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Oman	01 - OMN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Pakistan	01 - PAK	Khan AJ, Khan JA, Akbar M, Addiss DG. Acute respiratory infections in children a case management intervention in Abbottabad District, Pakistan. Bull World Health Organ. 1990; 68(5): 577-85.		X	
Pakistan	02 - PAK	National Institute of Population Studies (NIPS) (Pakistan), Macro International, Inc. Pakistan Demographic and Health Survey 2006-2007. Calverton, United States: Macro International, Inc.		X	
Palestine	01 - PSE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Panama	01 - PAN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Papua New Guinea	01 - PNG	Genton B, al-Yaman F, Beck HP, Hii J, Mellor S, Rare L, Ginny M, Smith T, Alpers MP. The epidemiology of malaria in the Wosera area, East Sepik Province, Papua New Guinea, in preparation for vaccine trials. II. Mortality and morbidity. Ann Trop Med Parasitol. 1995; 89(4): 377-90.		X	
Papua New Guinea	02 - PNG	Kakazo M, Lehmann D, Coakley K, Gratten H, Saleu G, Taime J, Riley ID, Alphers MP. Mortality rates and the utilization of health services during terminal illness in the Asaro Valley, Eastern Highlands Province, Papua New Guinea. P N G Med J. 1999; 42(2-Jan): 13-26.		X	
Papua New Guinea	03 - PNG	Lehmann D. Demography and causes of death among the Huli in the Tari Basin. P N G Med J. 2002; 45(1-2): 51-62.		X	
Papua New Guinea	04 - PNG	Moir JS, Garner PA, Heywood PF, Alpers MP. Mortality in a rural area of Madang Province, Papua New Guinea. Ann Trop Med Parasitol. 1989; 83(3): 305-19.		X	
Papua New Guinea	05 - PNG	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Paraguay	01 - PRY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Peru	01 - PER	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Philippines	01 - PHL	National Epidemiology Center, Department of Health (Philippines). Philippines Field Health Service Information System Annual Report 1993. Manila, Philippines: National Epidemiology Center, Department of Health (Philippines).	X		
Philippines	02 - PHL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Poland	01 - POL	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Portugal	01 - PRT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Puerto Rico	01 - PRI	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Qatar	01 - QAT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Romania	01 - ROU	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Russia	01 - RUS	Center for Demographic Research, New Economic School (Russia). Russia Mortality Rates by Region, Age, Sex, and Cause of Death 1989-1998. Moscow, Russia: Center for Demographic Research, New Economic School (Russia).			X
Russia	02 - RUS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Saint Lucia	01 - LCA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Saint Vincent and the Grenadines	01 - VCT	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sao Tome and Principe	01 - STP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Senegal	01 - SEN	Etard JF, Le Hesran JY, Diallo A, Diallo JP, Ndiaye JL, Delaunay V. Childhood mortality and probable causes of death using verbal autopsy in Niakhar, Senegal, 1989-2000. Int J Epidemiol. 2004; 33(6): 1286-92.		X	
Senegal	02 - SEN	Garenne M, Willie D, Maire B, Fontaine O, Eeckels R, Briend A, Van den Broeck J. Incidence and duration of severe wasting in two African populations. Public Health Nutr. 2009; 12(11): 1974-82.		X	
Senegal	03 - SEN	Population and Development Research Center (CEPED) (France). Senegal - Niakhar Risk of death associated with different nutritional states in children preschool age. Population and Development Research Center (CEPED) (France).		X	
Senegal	04 - SEN	Trape JF, Pison G, Preziosi MP, Enel C, Desgrées du Loû A, Delaunay V, Samb B, Lagarde E, Molez JF, Simondon F. Impact of chloroquine resistance on malaria mortality. Comptes Rendus de l'Académie des Sciences - Series III - Sciences de la Vie. 1998; 321(8): 689-97.		X	
Serbia	01 - SRB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Seychelles	01 - SYC	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sierra Leone	01 - SLE	Amin R. Immunization coverage and child mortality in two rural districts of Sierra Leone. Soc Sci Med. 1996; 42(11): 1599-604.		X	
Sierra Leone	02 - SLE	Barnish G, Maude GH, Bockarie MJ, Eggelte TA, Greenwood BM, Ceesay S. Malaria in a rural area of Sierra Leone. I. Initial results. Ann Trop Med Parasitol. 1993; 87(2): 125-36.		X	
Singapore	01 - SGP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovakia	01 - SVK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Slovenia	01 - SVN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Africa	01 - ZAF	Kahn K, Tollman SM, Garenne M, Gear JS. Validation and application of verbal autopsies in a rural area of South Africa. Trop Med Int Health. 2000; 5(11): 824-31.		X	
South Africa	02 - ZAF	MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), INDEPTH. South Africa - Agincourt Health and Socio-Demographic Surveillance System.		X	
South Africa	03 - ZAF	Muhwava W. Contributions of the Africa Centre Demographic Surveillance to the Community. Umbiko. 2007; 12. 3-4.		X	
South Africa	04 - ZAF	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
South Korea	01 - KOR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Spain	01 - ESP	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sri Lanka	01 - LKA	Registrar General’s Department (Sri Lanka). Sri Lanka Vital Statistics - Deaths 1993-1996.			X
Sri Lanka	02 - LKA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Suriname	01 - SUR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Sweden	01 - SWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Switzerland	01 - CHE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Syria	01 - SYR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Taiwan	01 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2008.			X
Taiwan	02 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2009.			X
Taiwan	03 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2010.			X
Taiwan	04 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2011.			X
Taiwan	05 - TWN	Department of Health (Taiwan). Taiwan Statistics of Causes of Death 2012.			X
Taiwan	06 - TWN	Department of Health (Taiwan). Taiwan Vital Statistics - Deaths 2007.			X
Tajikistan	01 - TJK	United Nations Children's Fund (UNICEF). Tajikistan Infant Mortality Report 2001-2003.		X	
Tajikistan	02 - TJK	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Tanzania	01 - TZA	Ae-Ngibise KA, Masanja H, Kellerman R, Owusu-Agyei S. Risk factors for injury mortality in rural Tanzania: a secondary data analysis. BMJ Open. 2012; 2(6): e001721.		X	
Tanzania	02 - TZA	INDEPTH. Tanzania - Ifakara Health and Demographic Surveillance System.		X	
Tanzania	03 - TZA	INDEPTH. Tanzania - Rufiji Health and Demographic Surveillance System.		X	
Tanzania	04 - TZA	Illah E, Mbaruku G, Masanja H, Kahn K. Causes and risk factors for maternal mortality in rural Tanzania--case of Rufiji Health and Demographic Surveillance Site (HDSS). Afr J Reprod Health. 2013; 17(3): 119-30. .	X		
Tanzania	05 - TZA	Kaatano GM, Mashauri FM, Kinung'hi SM, Mwanga JR, Malima RC, Kishamawe C, Nnko SE, Magesa SM, Mboera LE. Patterns of malaria related mortality based on verbal autopsy in Muleba District, north-western Tanzania. Tanzan J Health Res. 2009; 11(4): 210-8.		X	
Tanzania	06 - TZA	Kamara MK. Clustering of mortality among children under five years due to malaria at the Ifakara Demographic Surveillance Site in Tanzania [Dissertation]. [Johannesburg]: University of the Witwatersrand; 2008.		X	
Tanzania	07 - TZA	Ministry of Health and Social Welfare (Tanzania), Newcastle University, UK Department for International Development (DFID). Tanzania Policy Implications of Mortality Burden 1995-2001.		X	
Tanzania	08 - TZA	Mtango FD, Neuvians D, Broome CV, Hightower AW, Pio A. Risk factors for deaths in children under 5 years old in Bagamoyo district, Tanzania. Trop Med Parasitol. 1992; 43(4): 229-33.		X	
Tanzania	09 - TZA	Narah-Bana, S. Risk Factors and Causes of Adult Deaths in the Ifakara Health and Demographic Surveillance System Population, 2003-2007 [dissertation]. [Johannesburg, South Africa]: University of the Witwatersrand; 2010. 174 p.		X	
Tanzania	10 - TZA	Narh-Bana SA, Chirwa TF, Mwanyangala MA, Nathan R. Muertes de adultos y el futuro: Un análisis causa-específico de las muertes de adultos de un estudio longitudinal en Tanzania rural 2003-2007. Trop Med Int Health. 2012; 17(11): 1396-404.		X	
Tanzania	11 - TZA	Premji Z, Ndayanga P, Shiff C, Minjas J, Lubega P, MacLeod J. Community based studies on childhood mortality in a malaria holoendemic area on the Tanzanian coast. Acta Trop. 1997; 63(2-3): 101-9.		X	
Tanzania	12 - TZA	Salum FM, Wilkes TJ, Kivumbi K, Curtis CF. Mortality of under-fives in a rural area of holoendemic malaria transmission. Acta Trop. 1994; 58(1): 29-34.		X	
Tanzania	13 - TZA	Sangber-Dery MD. The Role of Birth Order in Infant Mortality in Ifakara DSS Area in Rural Tanzania [master's thesis]. [Johannesburg, South Africa]: University of the Witwatersrand; 2009.		X	
Tanzania	14 - TZA	Sazawal S, Black RE, Ramsan M, Chwaya HM, Dutta A, Dhingra U, Stoltzfus RJ, Othman MK, Kabole FM. Effect of zinc supplementation on mortality in children aged 1-48 months: a community-based randomised placebo-controlled trial. Lancet. 2007; 369(9565): 927-34.		X	
Thailand	01 - THA	Ministry of Public Health (Thailand). Thailand Burden of Disease and Injuries 1998-1999.		X	

Thailand	02 - THA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
The Bahamas	01 - BHS	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
The Gambia	01 - GMB	Alonso PL, Lindsay SW, Armstrong JRM, de Francisco A, Shenton FC, Greenwood BM, Conteh M, Cham K, Hill AG, David PH, Fegan G, Hall AJ. The effect of insecticide-treated bed nets on mortality of Gambian children. Lancet. 1991; 337(8756): 1499-502.		X	
The Gambia	02 - GMB	D'Alessandro U, Olaleye BO, McGuire W, Langerock P, Bennett S, Aikins MK, Thomson MC, Cham MK, Cham BA, Greenwood BM. Mortality and morbidity from malaria in Gambian children after introduction of an impregnated bednet programme. Lancet. 1995; 345(8948): 479-83.		X	
The Gambia	03 - GMB	Greenwood BM, Greenwood AM, Bradley AK, Tulloch S, Hayes R, Oldfield FS. Deaths in infancy and early childhood in a well-vaccinated, rural, West African population. Ann Trop Paediatr. 1987; 7 (2): 91-9.		X	
The Gambia	04 - GMB	Jaffar S, Leach A, Greenwood AM, Jepson A, Muller O, Ota MO, Bojang K, Obaro S, Greenwood BM. Changes in the pattern of infant and childhood mortality in upper river division, The Gambia, from 1989 to 1993. Trop Med Int Health. 1997; 2(1): 28-37.		X	
The Gambia	05 - GMB	Menon A, Snow RW, Byass P, Greenwood BM, Hayes RJ, N'Jie AB. Sustained protection against mortality and morbidity from malaria in rural Gambian children by chemoprophylaxis given by village health workers. Trans R Soc Trop Med Hyg. 1990; 84(6): 768-72.		X	
Trinidad and Tobago	01 - TTO	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Turkey	01 - TUR	Baskent University, Ministry of Health (Turkey), State Institute of Statistics (Turkey). Turkey Verbal Autopsy Survey 2003.		X	
Turkey	02 - TUR	Turkish Statistical Institute. Turkey Causes of Death Statistics 2010-2012. Ankara Turkey: Turkish Statistical Institute.			X
Turkey	03 - TUR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Turkmenistan	01 - TKM	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uganda	01 - UGA	MEASURE Evaluation Project, Carolina Population Center, University of North Carolina, Macro International, Inc, Uganda Bureau of Statistics. Uganda Child Verbal Autopsy Study 2007. Macro International, Inc.		X	
Ukraine	01 - UKR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United Kingdom	01 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2011. Edinburgh, Scotland: National Records of Scotland.			X
United Kingdom	02 - GBR	National Records of Scotland. United Kingdom - Scotland Vital Events Reference Tables 2012. Edinburgh, Scotland: National Records of Scotland.			X
United Kingdom	03 - GBR	Northern Ireland Statistics and Research Agency (NISRA). United Kingdom - Northern Ireland Registrar General Annual Report 2011. Belfast, Northern Ireland: Northern Ireland Statistics and Research Agency (NISRA), 2012.			X
United Kingdom	04 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1981-1994. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	05 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 1995-2000. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	06 - GBR	Office for National Statistics (United Kingdom). United Kingdom - England and Wales Mortality Data 2001-2012. Newport, United Kingdom: Office for National Statistics (United Kingdom).			X
United Kingdom	07 - GBR	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
United States	01 - USA	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Uruguay	01 - URY	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Uzbekistan	01 - UZB	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Venezuela	01 - VEN	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X
Western Cape	01 - ZWC	Department of Home Affairs (South Africa), Statistics South Africa. South Africa Mortality and Causes of Death 1997-2005. Pretoria, South Africa: Statistics South Africa.			X
Zambia	01 - ZMB	Mudenda SS, Kamocha S, Mswia R, Conkling M, Sikanyiti P, Potter D, Mayaka WC, Marx MA. Feasibility of using a WHO-standard methodology for Sample Vital Registration with Verbal Autopsy (SAVVY) to report leading causes of death in Zambia: results of a pilot in four provinces, 2010. Popul Health Metr. 2011; 9: 40.		X	
Zambia	02 - ZMB	Turnbull E, Lembalemba MK, Brad Guffey M, Bolton-Moore C, Mubiana-Mbewe M, Chintu N, Giganti MJ, Nalubamba-Phiri M, Stringer EM, Stringer JS. Causes of stillbirth, neonatal death and early childhood death in rural Zambia by verbal autopsy assessments. Trop Med Int Health. 2011; 16(7): 894-901.		X	
Zimbabwe	01 - ZWE	Registrar General's Department (Zimbabwe), Zimbabwe National Statistics Agency. Zimbabwe Mortality Report 2007.			X
Zimbabwe	02 - ZWE	World Health Organization (WHO). WHO Mortality Database Version February 2014. Geneva, Switzerland: World Health Organization (WHO), 2014.			X

Appendix Table 13: Covariates used in CODEm for malaria - Males and Females

Covariate	Direction	Level
Health System Access	-1	1
ITN Coverage (proportion)	-1	1
Malaria Endemicity (40-100%) from MAP 2010	1	1
Malaria Endemicity (5-100%) from MAP 2010	1	1
Malaria Indoor Residual Spraying Coverage	-1	1
Malaria Lysenko PfPR (Hyperendemic-Holoendemic)	1	1
Malaria Lysenko PfPR (Mesoendemic-Holoendemic)	1	1
Malaria PfPR from MAP2010	1	1
Malaria Population-At-Risk (proportion) from WHO	1	1
Malaria Prevalence-Weighted Resistance	1	1
Rainfall (Quintiles 2-5)	1	1
Rainfall (Quintiles 3-5)	1	1
Rainfall (Quintiles 4-5)	1	1
Interaction of ITN coverage with log(Pfpr)	0	1
Education by Age	-1	3
LDI (I$ per capita)	-1	3

Appendix Table 14a: CODEm sub-model performance - Malaria Africa under 5 Males

Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4208	3	0.2589	2	130
2	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4273	7	0.2582	1	113
3	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.4267	6	0.2591	3	99
4	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5)	0.4356	20	0.2623	4	86
5	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4180	2	0.2688	31	75
6	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance	0.4146	1	0.2689	32	65
7	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.4447	31	0.2634	9	56
8	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4447	32	0.2634	8	49
9	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Log LDI	0.4512	37	0.2627	5	43
10	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Log LDI	0.4313	11	0.2692	33	37
11	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%)	0.4507	36	0.2644	11	32
12	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.4536	40	0.2630	7	28
13	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5)	0.4382	23	0.2671	24	24
14	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance	0.4348	18	0.2695	36	21
15	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4556	42	0.2647	12	18
16	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5), Log LDI	0.4545	41	0.2649	14	16
17	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Education (years per capita)	0.4531	39	0.2651	17	14
18	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4401	24	0.2693	34	12
19	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Education (years per capita)	0.4345	16	0.2713	43	11
20	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Population-At-Risk (proportion)	0.4681	54	0.2641	10	9
21	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4409	26	0.2703	39	8

22	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Log LDI	0.4526	38	0.2678	28	7
23	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.4486	33	0.2699	37	6
24	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Population-At-Risk (proportion), Log LDI	0.4649	50	0.2672	26	5
25	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Malaria Lysenko PFPR (2 Highest Endemicity)	0.4598	44	0.2695	35	5
26	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5), Log LDI	0.4330	13	0.2776	67	4
27	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5)	0.4213	4	0.2798	80	3
28	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5)	0.4682	55	0.2684	30	3
29	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5)	0.4568	43	0.2701	38	3
30	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5)	0.4227	5	0.2799	83	2
31	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5), Education (years per capita)	0.4361	21	0.2776	66	2
32	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.4695	59	0.2683	29	2
33	spacetime	Ln(Rate)	Malaria Population-At-Risk (proportion)	0.4292	9	0.2822	91	1
34	spacetime	Ln(Rate)	Malaria Lysenko PFPR (2 Highest Endemicity)	0.4297	10	0.2824	92	1
35	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5)	0.4345	17	0.2785	74	1
36	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5)	0.4424	27	0.2796	79	1
37	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 2-5), Education (years per capita)	0.4487	34	0.2767	61	1
38	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 2-5), Education (years per capita)	0.4688	57	0.2703	40	1
39	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Log LDI	0.4869	76	0.2650	15	1
40	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4811	72	0.2666	22	1

Appendix Table 14b: CODEm sub-model performance - Malaria Africa under 5 Females

Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance	0.4319	1	0.2823	16	130
2	spacetime	Logit(CF)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4542	6	0.2822	15	113
3	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.4586	11	0.2810	12	99
4	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Education (years per capita)	0.4477	4	0.2840	25	86
5	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4656	16	0.2819	13	75
6	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Log LDI	0.4502	5	0.2858	31	65
7	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance	0.4450	3	0.2863	35	56
8	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4584	10	0.2855	29	49
9	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4637	15	0.2849	28	43
10	spacetime	Ln(Rate)	ITN Coverage (proportion)	0.4657	17	0.2846	27	37
11	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4813	38	0.2802	8	32
12	spacetime	Ln(Rate)	Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.4715	29	0.2830	21	28
13	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Log LDI	0.4939	50	0.2765	2	24
14	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity)	0.4556	8	0.2888	45	21
15	spacetime	Ln(Rate)	Malaria Population-At-Risk (proportion), Log LDI	0.4759	31	0.2839	24	18
16	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.4966	54	0.2760	1	16
17	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Education (years per capita)	0.4957	53	0.2777	3	14
18	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Log LDI	0.4934	49	0.2810	11	12
19	spacetime	Ln(Rate)	Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.4696	25	0.2865	36	11
20	spacetime	Ln(Rate)	Malaria Endemicity (5-100%)	0.4708	26	0.2872	37	9
21	spacetime	Ln(Rate)	Malaria Lysenko PFPR (2 Highest Endemicity)	0.4658	18	0.2888	46	8
22	spacetime	Ln(Rate)	Malaria Population-At-Risk (proportion)	0.4712	27	0.2872	38	7
23	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Population-At-Risk (proportion), Log LDI	0.5013	59	0.2804	9	6
24	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.5078	67	0.2781	4	5
25	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%)	0.4954	52	0.2825	18	5
26	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.5074	66	0.2795	7	4
27	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates	0.4689	23	0.2906	57	3
28	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Log LDI	0.4731	30	0.2896	51	3

29	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Population-At-Risk (proportion)	0.4953	51	0.2857	30	3
30	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4765	33	0.2903	55	2
31	spacetime	Ln(Rate)	Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.4912	47	0.2886	43	2
32	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Population-At-Risk (proportion), Education (years per capita)	0.5021	60	0.2838	23	2
33	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.4892	44	0.2902	54	1
34	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Endemicity (5-100%), Log LDI	0.4996	58	0.2892	47	1
35	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.5301	94	0.2784	5	1
36	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.5216	81	0.2860	33	1
37	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Log LDI	0.5231	84	0.2836	22	1
38	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Malaria Lysenko PFPR (2 Highest Endemicity)	0.5128	74	0.2843	26	1
39	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (5-100%), Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.5188	79	0.2822	14	1
40	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.5280	91	0.2825	17	1

Appendix Table 14c: CODEm sub-model performance - Malaria Africa over 5 Males								
Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR)	0.5218	4	0.2403	1	123
2	spacetime	Ln(Rate)	ITN Coverage (proportion), log(malaria PfPR), Malaria Endemicity (40-100%)	0.5197	3	0.2548	4	108
3	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates	0.5177	2	0.2558	5	94
4	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Endemicity (40-100%)	0.5285	8	0.2521	3	83
5	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Endemicity (40-100%)	0.5134	1	0.2703	11	73
6	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.5250	5	0.2648	7	64
7	spacetime	Ln(Rate)	ITN Coverage (proportion), log(malaria PfPR)	0.5292	10	0.2504	2	56
8	spacetime	Ln(Rate)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Endemicity (40-100%)	0.5282	7	0.2655	8	49
9	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Endemicity (40-100%)	0.5260	6	0.2656	9	43
10	spacetime	Ln(Rate)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates	0.5414	15	0.2571	6	38
11	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Endemicity (40-100%)	0.5359	12	0.2767	15	33
12	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Prevalence-Weighted Resistance	0.5406	14	0.2743	14	29
13	spacetime	Logit(CF)	ITN Coverage (proportion)	0.5451	17	0.2715	12	25
14	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Endemicity (40-100%)	0.5367	13	0.2775	17	22
15	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.5424	16	0.2773	16	20
16	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity)	0.5624	25	0.2687	10	17
17	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Education (years per capita)	0.5292	9	0.2836	34	15
18	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Education (years per capita)	0.5668	29	0.2786	19	13
19	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Population-At-Risk (proportion)	0.5565	20	0.2863	39	12
20	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Endemicity (5-100%)	0.5578	22	0.2845	38	10
21	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.5562	18	0.2958	47	9
22	spacetime	Logit(CF)	log(malaria PfPR)	0.5667	28	0.3008	55	8
23	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR)	0.5723	35	0.2966	49	7
24	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.5701	33	0.2990	52	6
25	spacetime	Logit(CF)	log(malaria PfPR), Malaria Prevalence-Weighted Resistance	0.5357	11	0.3058	77	5
26	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Endemicity (40-100%)	0.5757	41	0.2977	50	5
27	spacetime	Logit(CF)	log(malaria PfPR), Education (years per capita)	0.5824	50	0.2966	48	4
28	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity)	0.5972	73	0.2786	20	4
29	spacetime	Logit(CF)	log(malaria PfPR), Malaria Prevalence-Weighted Resistance, Education (years per capita)	0.5748	39	0.3028	62	3
30	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity)	0.5621	23	0.3062	80	3

31	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Endemicity (40-100%), Malaria Population-At-Risk (proportion)	0.5650	26	0.3067	86	2
32	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Prevalence-Weighted Resistance	0.5684	30	0.3053	75	2
33	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.5692	32	0.3050	74	2
34	spacetime	Ln(Rate)	ITN Coverage (proportion)	0.5754	40	0.3035	66	2
35	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.5878	59	0.3022	60	1
36	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Log LDI	0.6203	120	0.2728	13	1
37	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.5993	78	0.3020	59	1
38	spacetime	Ln(Rate)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.5878	58	0.3010	57	1
39	spacetime	Ln(Rate)	log(malaria PfPR), Malaria Prevalence-Weighted Resistance	0.5623	24	0.3099	104	1
40	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Population-At-Risk (proportion)	0.5565	19	0.3109	111	1
41	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Prevalence-Weighted Resistance	0.5685	31	0.3070	89	1
42	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Prevalence-Weighted Resistance, Malaria Endemicity (40-100%)	0.5846	53	0.3047	73	1
43	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR)	0.5954	72	0.2993	53	1

Appendix Table 14d: CODEm sub-model performance - Malaria Africa over 5 Females								
Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7138	1	0.3290	6	160
2	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7380	6	0.3304	8	134
3	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7497	16	0.3289	4	113
4	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Endemicity (40-100%), Malaria Lysenko PFPR (2 Highest Endemicity)	0.7541	21	0.3289	5	95
5	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.7327	2	0.3518	28	80
6	spacetime	Logit(CF)	log(malaria PfPR), Malaria Prevalence-Weighted Resistance	0.7394	7	0.3491	23	67
7	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7583	31	0.3254	1	56
8	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.7552	25	0.3348	10	47
9	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity)	0.7543	23	0.3442	17	40
10	spacetime	Logit(CF)	log(malaria PfPR)	0.7429	11	0.3524	31	33
11	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity), Education (years per capita)	0.7639	39	0.3281	3	28
12	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (40-100%)	0.7327	3	0.3552	39	24
13	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7640	41	0.3269	2	20
14	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.7579	30	0.3431	16	17
15	spacetime	Logit(CF)	log(malaria PfPR), Malaria Endemicity (40-100%), Malaria Lysenko PFPR (2 Highest Endemicity)	0.7366	5	0.3572	42	14
16	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.7541	22	0.3512	27	12
17	spacetime	Ln(Rate)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (3 Highest Endemicity)	0.7693	55	0.3317	9	10
18	spacetime	Ln(Rate)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity)	0.7705	58	0.3294	7	8
19	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.7653	44	0.3478	22	7
20	spacetime	Ln(Rate)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity)	0.7593	32	0.3559	40	6
21	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.7573	29	0.3573	43	5

22	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Endemicity (40-100%)	0.7514	18	0.3668	56	4
23	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.7459	13	0.3694	62	3
24	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.7643	42	0.3528	32	3
25	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity), Education (years per capita)	0.7498	17	0.3680	59	2
26	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Education (years per capita)	0.7442	12	0.3709	64	2
27	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance	0.7535	20	0.3665	55	2
28	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates	0.7352	4	0.3743	84	1
29	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Education (years per capita)	0.7545	24	0.3661	54	1
30	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Endemicity (5-100%)	0.7410	8	0.3737	81	1
31	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Endemicity (40-100%)	0.7415	9	0.3717	70	1
32	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion)	0.7660	48	0.3520	29	1
33	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.7672	51	0.3540	37	1
34	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.7752	69	0.3361	11	1

Appendix Table 14g: CODEm sub-model performance - Malaria Outside Africa over 5 Males

Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6517	54	0.4150	28	48
2	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6494	41	0.4155	46	45
3	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6524	58	0.4153	40	43
4	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6618	98	0.4136	6	41
5	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (3 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6536	61	0.4156	52	39
6	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6571	77	0.4154	42	37
7	spacetime	Logit(CF)	ITN Coverage (proportion)	0.6613	91	0.4152	32	36
8	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6478	20	0.4164	106	34
9	spacetime	Logit(CF)	Health System Access (capped), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6585	81	0.4156	54	32
10	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6618	99	0.4152	36	31
11	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6576	79	0.4157	57	29
12	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6645	122	0.4147	15	28
13	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6645	124	0.4146	14	27
14	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6354	2	0.4168	136	25
15	spacetime	Logit(CF)	Health System Access (capped)	0.6347	1	0.4168	138	24
16	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6480	24	0.4166	116	23
17	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6621	102	0.4153	39	22
18	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6617	97	0.4155	45	21
19	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6547	68	0.4160	77	20
20	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6652	136	0.4145	11	19
21	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6372	3	0.4169	146	18
22	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6438	11	0.4168	139	17

23	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6608	85	0.4159	66	16
24	spacetime	Logit(CF)	Health System Access (capped), Malaria Population-At-Risk (proportion)	0.6394	4	0.4169	149	16
25	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6538	63	0.4163	94	15
26	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6651	134	0.4149	25	14
27	spacetime	Ln(Rate)	ITN Coverage (proportion)	0.6648	127	0.4152	34	13
28	spacetime	Ln(Rate)	Health System Access (capped), Rainfall (Quintiles 3-5)	0.6603	84	0.4160	75	13
29	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6636	112	0.4156	49	12
30	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6544	66	0.4163	95	12
31	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6544	65	0.4164	98	11
32	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6592	82	0.4161	81	10
33	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6654	139	0.4149	26	10
34	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6506	49	0.4165	115	10
35	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6662	145	0.4148	21	9
36	spacetime	Ln(Rate)	Health System Access (capped), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6484	33	0.4168	132	9
37	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6621	101	0.4159	69	8
38	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6635	111	0.4158	58	8
39	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6638	116	0.4158	59	7
40	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6616	96	0.4161	84	7
41	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6655	140	0.4153	37	7
42	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Rainfall (Quintiles 3-5)	0.6642	117	0.4159	63	6
43	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6637	113	0.4159	70	6
44	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Population-At-Risk (proportion)	0.6579	80	0.4164	101	6
45	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (3 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6620	100	0.4161	83	6
46	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance	0.6404	5	0.4173	180	5
47	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity), Rainfall (Quintiles 3-5)	0.6565	72	0.4165	112	5

48	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6502	46	0.4168	140	5
49	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6486	36	0.4170	150	5
50	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6615	93	0.4163	93	4
51	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (3 Highest Endemicity)	0.6424	9	0.4173	177	4
52	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6509	51	0.4168	135	4
53	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6648	126	0.4159	64	4
54	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6485	34	0.4170	153	4
55	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Population-At-Risk (proportion)	0.6612	90	0.4164	103	3
56	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6645	121	0.4160	73	3
57	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6481	28	0.4171	163	3
58	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6418	7	0.4174	185	3
59	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6697	174	0.4148	23	3
60	spacetime	Ln(Rate)	ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6693	171	0.4150	27	3
61	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6514	53	0.4168	137	3
62	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6615	92	0.4166	119	2
63	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6630	106	0.4164	100	2
64	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion)	0.6627	105	0.4165	111	2
65	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6637	114	0.4162	85	2
66	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6651	132	0.4159	68	2
67	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6671	151	0.4158	62	2

68	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Population-At-Risk (proportion)	0.6651	133	0.4161	82	2
69	spacetime	Ln(Rate)	Health System Access (capped)	0.6411	6	0.4176	205	2
70	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6423	8	0.4176	204	2
71	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 3-5)	0.6567	74	0.4168	133	2
72	spacetime	Logit(CF)	log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6727	201	0.4148	18	1
73	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6749	218	0.4151	29	1
74	spacetime	Logit(CF)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR)	0.6569	75	0.4172	171	1
75	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6652	135	0.4163	97	1
76	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6788	250	0.4132	2	1
77	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Indoor Residual Spraying Coverage, Malaria Population-At-Risk (proportion)	0.6608	86	0.4170	154	1
78	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6656	141	0.4164	102	1
79	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6659	143	0.4161	79	1
80	spacetime	Logit(CF)	ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6637	115	0.4165	113	1
81	spacetime	Logit(CF)	ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6632	108	0.4165	110	1
82	spacetime	Logit(CF)	Health System Access (capped), Rainfall (Quintiles 4-5)	0.6545	67	0.4170	152	1
83	spacetime	Logit(CF)	Health System Access (capped), Rainfall (Quintiles 3-5)	0.6526	59	0.4171	158	1
84	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6489	38	0.4174	184	1
85	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6487	37	0.4175	197	1
86	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Rainfall (Quintiles 3-5)	0.6681	160	0.4160	76	1
87	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6692	170	0.4156	53	1
88	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6737	210	0.4147	17	1
89	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6682	163	0.4159	67	1

90	spacetime	Ln(Rate)	Interaction of malaria ITN and log PFPR covariates, log(malaria PfPR), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6682	161	0.4162	86	1
91	spacetime	Ln(Rate)	Health System Access (capped), Malaria Population-At-Risk (proportion)	0.6455	12	0.4178	224	1
92	spacetime	Ln(Rate)	Health System Access (capped), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6517	55	0.4171	162	1
93	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6427	10	0.4176	211	1
94	spacetime	Ln(Rate)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6462	13	0.4178	233	1

Appendix Table 14h: CODEm sub-model performance - Malaria Ouside Africa over 5 Females								
Overall Rank	Model type	Dependent variable	Covariates	Root Mean Squared Error		Trend Test		Draws
				Test 1	Rank	Test 1	Rank	
1	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6626	2	0.3869	18	48
2	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6686	15	0.3866	13	45
3	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6699	21	0.3858	10	43
4	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6695	18	0.3878	24	41
5	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates	0.6682	13	0.3889	32	39
6	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6716	43	0.3857	8	37
7	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6710	33	0.3875	22	36
8	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion)	0.6704	27	0.3889	31	34
9	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR)	0.6700	22	0.3891	37	32
10	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 4-5)	0.6681	12	0.3899	50	31
11	spacetime	Ln(Rate)	Health System Access (capped), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6736	61	0.3847	4	29
12	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6703	24	0.3894	42	28
13	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6738	64	0.3841	3	27
14	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6736	62	0.3849	6	25
15	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6727	54	0.3869	16	24
16	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6716	42	0.3889	35	23
17	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6657	6	0.3909	71	22
18	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6714	37	0.3895	45	21

19	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6749	70	0.3867	14	20
20	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6745	67	0.3890	36	19
21	spacetime	Ln(Rate)	Health System Access (capped), Rainfall (Quintiles 4-5)	0.6755	79	0.3885	27	18
22	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates	0.6704	25	0.3914	85	17
23	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion)	0.6688	16	0.3916	98	16
24	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6729	56	0.3901	58	16
25	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6712	36	0.3913	80	15
26	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6763	81	0.3892	38	14
27	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6783	98	0.3889	33	13
28	spacetime	Logit(CF)	Health System Access (capped), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6804	118	0.3839	2	13
29	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6708	31	0.3917	106	12
30	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6720	47	0.3916	93	12
31	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6729	57	0.3914	88	11
32	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Rainfall (Quintiles 4-5)	0.6813	127	0.3883	25	10
33	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6698	20	0.3921	131	10
34	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6739	65	0.3915	89	10
35	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6824	138	0.3869	17	9
36	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6666	9	0.3925	148	9
37	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6748	69	0.3915	91	8
38	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6799	106	0.3899	53	8
39	spacetime	Logit(CF)	Health System Access (capped), Rainfall (Quintiles 4-5)	0.6842	154	0.3864	12	7
40	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6716	41	0.3920	124	7

41	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6770	89	0.3911	76	7
42	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR)	0.6715	40	0.3922	135	6
43	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6761	80	0.3915	92	6
44	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6810	124	0.3899	51	6
45	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6782	97	0.3912	78	6
46	spacetime	Logit(CF)	Health System Access (capped), Malaria Population-At-Risk (proportion)	0.6709	32	0.3926	154	5
47	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6718	45	0.3923	138	5
48	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6746	68	0.3918	108	5
49	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6730	58	0.3921	126	5
50	spacetime	Logit(CF)	Health System Access (capped)	0.6721	48	0.3926	158	4
51	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6726	52	0.3921	134	4
52	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6769	86	0.3920	122	4
53	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Population-At-Risk (proportion)	0.6740	66	0.3923	140	4
54	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion)	0.6735	60	0.3922	137	4
55	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6753	76	0.3925	145	3
56	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6806	120	0.3915	90	3
57	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6802	111	0.3918	112	3
58	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6660	7	0.3940	225	3
59	spacetime	Ln(Rate)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6724	51	0.3928	168	3
60	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6752	73	0.3927	160	3
61	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6753	74	0.3925	150	3
62	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity)	0.6877	178	0.3906	61	2
63	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6886	187	0.3906	62	2

64	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6887	191	0.3907	65	2
65	spacetime	Logit(CF)	Health System Access (capped), Malaria Prevalence-Weighted Resistance	0.6726	53	0.3930	181	2
66	spacetime	Logit(CF)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6694	17	0.3942	237	2
67	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6753	75	0.3929	176	2
68	spacetime	Logit(CF)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6815	129	0.3921	128	2
69	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6650	4	0.3941	231	2
70	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity)	0.6719	46	0.3937	210	2
71	spacetime	Ln(Rate)	Health System Access (capped), log(malaria PfPR), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6730	59	0.3931	186	2
72	spacetime	Logit(CF)	Malaria Lysenko PFPR (3 Highest Endemicity)	0.6904	225	0.3907	63	1
73	spacetime	Logit(CF)	Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6932	262	0.3824	1	1
74	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6889	196	0.3907	64	1
75	spacetime	Logit(CF)	Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6943	286	0.3854	7	1
76	spacetime	Logit(CF)	Malaria Indoor Residual Spraying Coverage, Malaria Population-At-Risk (proportion)	0.6854	163	0.3921	127	1
77	spacetime	Logit(CF)	Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6868	172	0.3919	118	1
78	spacetime	Logit(CF)	Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 4-5)	0.6932	263	0.3886	29	1
79	spacetime	Logit(CF)	Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6871	174	0.3917	100	1
80	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Indoor Residual Spraying Coverage	0.6834	148	0.3921	133	1
81	spacetime	Logit(CF)	ITN Coverage (proportion), Malaria Indoor Residual Spraying Coverage, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6861	167	0.3916	96	1
82	spacetime	Logit(CF)	Health System Access (capped), Rainfall (Quintiles 3-5)	0.6766	82	0.3933	194	1
83	spacetime	Logit(CF)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6752	72	0.3934	201	1
84	spacetime	Logit(CF)	Health System Access (capped), log(malaria PfPR), Malaria Population-At-Risk (proportion), Rainfall (Quintiles 3-5)	0.6706	29	0.3946	263	1
85	spacetime	Ln(Rate)	Health System Access (capped)	0.6678	11	0.3946	259	1
86	spacetime	Ln(Rate)	Health System Access (capped), Malaria Population-At-Risk (proportion)	0.6674	10	0.3944	252	1
87	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (3 Highest Endemicity)	0.6714	38	0.3945	254	1
88	spacetime	Ln(Rate)	Health System Access (capped), Malaria Lysenko PFPR (2 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6737	63	0.3933	196	1
89	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance	0.6620	1	0.3949	273	1

90	spacetime	Ln(Rate)	Health System Access (capped), Malaria Prevalence-Weighted Resistance, Malaria Lysenko PFPR (3 Highest Endemicity)	0.6644	3	0.3948	267	1
91	spacetime	Ln(Rate)	Health System Access (capped), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (2 Highest Endemicity)	0.6769	87	0.3929	175	1
92	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), log(malaria PfPR), Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6779	96	0.3932	190	1
93	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates	0.6802	112	0.3927	162	1
94	spacetime	Ln(Rate)	Health System Access (capped), ITN Coverage (proportion), Interaction of malaria ITN and log PFPR covariates, Malaria Lysenko PFPR (3 Highest Endemicity), Malaria Population-At-Risk (proportion)	0.6776	91	0.3931	189	1

Appendix Table 15: Countries grouped by data used for estimation of malaria incident cases		
Study-level data	**WHO data adjusted for undercount**	**WHO case report data used**
AGO	AFG	BLZ
BDI	ARE	CHN
BEN	ARG	IRN
BFA	ARM	KGZ
CAF	AZE	PAN
CIV	BGD	SAU
CMR	BOL	TJK
COD	BRA	ZAF
COG	BTN	
ETH	BWA	
GAB	COL	
GHA	COM	
GIN	CPV	
GMB	CRI	
GNB	DJI	
GNQ	DOM	
GUF	EGY	
IDN	ERI	
IND	GEO	
KEN	GTM	
LBR	GUY	
MDG	HND	
MLI	HTI	
MMR	IRQ	
MOZ	KHM	
MRT	KOR	
MUS	LAO	
MWI	LBY	
MYT	LKA	
NER	MAR	
NGA	MEX	
PNG	MYS	
RWA	NAM	
SDN	NIC	
SEN	NPL	
SLE	OMN	
SOM	PAK	
SSD	PER	
TCD	PHL	
TGO	PRK	
TZA	PRY	
UGA	SLB	
YEM	SLV	
ZMB	STP	

ZWE	SUR	
	SWZ	
	SYR	
	THA	
	TKM	
	TLS	
	TUR	
	UZB	
	VEN	
	VNM	
	VUT	