Supplemental Information

Methods

Regression Analyses

Multinomial logistic regression is applied when a response variable is a nonordinal, categorial variable with more than two levels; an extension of the logistic regression for dichotomous response variables [17]. When modeling categorical responses with multiple possible outcomes, ordinary least squares estimators are inappropriate, therefore maximum likelihood estimators should be used [17]. Multinomial logistic regression uses maximum likelihood estimation to calculate coefficients, whose exponentiated forms yield an odds ratio that are always compared to a reference category [17]. These coefficients and related covariates can be used to calculate changes in the probabilities of outcomes in response to changes in covariates using the following equation:

$$\Pr(y = j) = \frac{e^{\beta_j x}}{1 + \sum_{k=1}^{J-1} e^{\beta_k x}} \text{ for } j = 1, 2, \ldots, J - 1$$

where the probability of outcome given J categories, x as a vector of explanatory variables, and β_k as the vector of coefficients for outcome k (adapted from Kwak & Clayton-Matthews, 2002). In this study, J is the reference outcome.

Supplemental Table S1. Model selection results of multinomial logistic regression analysis on patient treatment outcomes after the EVD outbreak. Only models with weight > 0.10 are shown.

Covariates	K	ΔAIC	Weight
HIV Status x Age + TB Type + Months After Outbreak	24	-	0.65
HIV Status + Age + Sex + TB Type + Months After Outbreak	18	2.13	0.22
HIV Status x Age + Sex + TB Type + Months After Outbreak	27	3.32	0.12