Supplementary Online Content


eAppendix. Details of multivariate multiple regression models.

This supplementary material has been provided by the authors to give readers additional information about their work.
eAppendix. Details of multivariate multiple regression models.

As opposed to a multivariable model (or multiple regression model) - which has a single outcome variable and one or more independent or predictor variables – a multivariate model refers to the modeling of data that are often derived from longitudinal studies, wherein an outcome is measured for the same individual at multiple time points (repeated measures), or the modeling of nested/clustered data, wherein there are multiple individuals in each cluster. In addition, multivariate models take into consideration that some individuals may report more than one outcome (i.e.: reasons for cost-related non-adherence and cost-saving measures) simultaneously or at different times during follow-up. Hence, a multivariate linear regression model would have the form:

\[ Y_n \times p = X_n \times (k+1) \beta (k+1) \times p + \varepsilon \]

Where \( \beta \)s are regression coefficients, \( \varepsilon \) is the error term, and the relationships between multiple dependent variables (i.e., \( Y_s \)) – measures of multiple outcomes (e.g.: the four cost-related medication non-adherence measures or the six cost-saving measures) – and a single set of predictor variables (i.e., \( X_s \): age, race, sex, etc.) are assessed. The relevance and implications of such distinction has been described in detail elsewhere.\(^\text{12} \)