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*Joint Modelling of Repeated CD4+ Count Measurements and Survival Time in HIV Study*

In many clinical studies, data have two types of outcome, longitudinal biomarker measurements and survival time. These two outcomes are often separately analyzed using a mixed effects model and survival model. However, separate models are overly simplified by ignoring the association between two components. Joint modelling is sophisticated, complex approach but enables the longitudinal measurements and survival time to be modelled whilst accounting for association between them. Using a HIV dataset with repeated CD4+ count measurements and survival time, we combine a random effects sub-model and Cox or Weibull sub-models through their shared dependence on latent variable.