Table 1: Simulation studies

Simulation Studies	Settings and method summaries	Goal
Study 1	no missing values, initial values of parameters are close to true values. update β conditioned on b_i.	Study 1 vs. Study 2
Study 2	no missing values, initial values of parameters are close to true values. update β not conditioned on b_i.	Study 1 vs. Study 2
Study 3	no missing values, initial values of parameters are not close to true values. update β not conditioned on b_i.	Study 2 vs. Study 3
Study 4	20% MCAR value of X_{it}, initial values of parameters are close to true values.	Study 4 vs. Study 5
Study 5	50% MCAR value of X_{it}, initial values of parameters are close to true values.	Study 5 vs. Study 6
Study 6	50% MCAR value of X_{it}, initial value of parameters are not close to true values.	Study 5 vs. Study 6
Study 7	MAR missing: the probability of missing at each visit depends on V_i and Y_{it}, initial value of parameters are close to true values.	Study 7 vs. Study 9
Study 8	MAR missing: the probability of missing at each visit depends on age and gender, initial value of parameters are close to true values.	Study 8 vs. Study 10
Study 9	Same MAR missing with Study 7, but initial values of parameters are not close to true values	Study 7 vs. Study 9
Study 10	Same MAR missing with Study 8, but initial values of parameters are not close to true values	Study 8 vs. Study 10
Study 11	Same with Study 5, but fit model only using observed X_{it} and corresponding Y_{it}	Study 5 vs. Study 11
Study 12	Same with Study 6, but fit model only using observed X_{it} and corresponding Y_{it}	Study 6 vs. Study 12
Study 13	Same with Study 7 , but fit model only using observed X_{it} and corresponding Y_{it}	Study 7 vs. Study 13
Study 14	Same with Study 8, but fit model only using observed X_{it} and corresponding Y_{it}	Study 8 vs. Study 14
Study 15	Same with Study 9 , but fit model only using observed X_{it} and corresponding Y_{it}	Study 9 vs. Study 15
Study 16	Same with Study 10, but fit model only using observed X_{it} and corresponding Y_{it}	Study 10 vs. Study 16