

Table 1: $m = 500$, $n_i = 10$

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.07	0.07	95%	95%		0.1	0.28	-0.01	0.08	0.08	92%	92%
0.2	0.38	-0.01	0.04	0.04	95%	95%		0.2	0.28	-0.00	0.04	0.04	95%	95%
0.3	0.38	-0.01	0.03	0.03	95%	95%		0.3	0.27	-0.00	0.03	0.03	94%	94%
0.4	0.37	-0.00	0.03	0.02	95%	95%		0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.03	0.02	96%	96%		0.5	0.27	0.00	0.02	0.02	94%	94%
0.6	0.36	0.00	0.02	0.02	94%	95%		0.6	0.27	0.00	0.02	0.02	94%	94%
0.7	0.35	0.01	0.02	0.02	95%	95%		0.7	0.26	0.00	0.01	0.01	96%	96%
0.8	0.35	0.00	0.03	0.03	96%	96%		0.8	0.26	-0.00	0.02	0.02	96%	96%
0.9	0.34	0.00	0.05	0.05	95%	95%		0.9	0.26	-0.00	0.02	0.02	96%	96%

Misspecified Random Effect Distribution: Logistic

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

The distribution of the random effect b_i in the treatment model is misspecified. The data are generated in step (ii) such that b_i is from a logistic distribution with location parameter 0 and scale parameter 0.574521, corresponding to a mean of 0 and variance of 1.0859. However, the propensity model is fit with a generalized linear mixed model that assumes a Normal distribution for the random effects.

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.05	0.09	0.08	95%	95%	0.1	0.28	0.00	0.08	0.08	89%	89%
0.2	0.38	-0.01	0.04	0.04	97%	97%	0.2	0.28	0.01	0.05	0.04	92%	92%
0.3	0.38	0.00	0.03	0.03	95%	95%	0.3	0.27	0.00	0.03	0.03	93%	93%
0.4	0.37	0.00	0.02	0.02	94%	94%	0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.02	0.02	95%	95%	0.5	0.27	0.00	0.02	0.02	95%	95%
0.6	0.36	0.00	0.02	0.02	96%	96%	0.6	0.27	-0.00	0.02	0.02	95%	95%
0.7	0.35	-0.00	0.02	0.02	96%	96%	0.7	0.26	0.00	0.01	0.01	96%	96%
0.8	0.35	0.00	0.03	0.03	94%	94%	0.8	0.26	0.00	0.02	0.02	96%	96%
0.9	0.34	0.00	0.05	0.05	93%	93%	0.9	0.26	-0.00	0.02	0.02	97%	97%

Misspecified Random Effect Distribution: Gumbel

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

The distribution of the random effect b_i in the treatment model is misspecified. The data are generated in step (ii) such that b_i is from a Gumbel distribution with location parameter -0.4689848 and scale parameter 0.8124949, corresponding to a mean of 0 and variance of 1.0859. However, the propensity model is fit with a generalized linear mixed model that assumes a Normal distribution for the random effects.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	0.09	0.07	0.06	64%	64%		0.1	0.28	0.01	0.07	0.07	88%	89%
0.2	0.38	0.03	0.04	0.04	85%	85%		0.2	0.28	-0.01	0.04	0.04	96%	96%
0.3	0.38	-0.01	0.03	0.03	96%	96%		0.3	0.27	-0.02	0.03	0.03	93%	93%
0.4	0.37	-0.02	0.02	0.02	90%	90%		0.4	0.27	-0.01	0.02	0.02	93%	93%
0.5	0.36	-0.02	0.02	0.02	89%	89%		0.5	0.27	-0.00	0.02	0.02	96%	96%
0.6	0.36	-0.01	0.02	0.02	95%	95%		0.6	0.27	0.01	0.02	0.01	92%	92%
0.7	0.35	0.01	0.02	0.02	89%	89%		0.7	0.26	0.01	0.01	0.01	82%	82%
0.8	0.35	0.03	0.03	0.03	81%	81%		0.8	0.26	0.01	0.02	0.02	93%	94%
0.9	0.34	0.03	0.05	0.05	84%	85%		0.9	0.26	-0.03	0.03	0.03	88%	88%

Misspecified Random Effect Distribution: t

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

The distribution of the random effect b_i in the treatment model is misspecified. The data are generated in step (ii) such that b_i is from a t distribution with 10 degrees of freedom, corresponding to a mean of 0 and variance of 1.25. However, the propensity model is fit with a generalized linear mixed model that assumes a Normal distribution for the random effects.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.04	0.08	0.07	95%	95%		0.1	0.28	-0.00	0.08	0.07	92%	92%
0.2	0.38	-0.01	0.04	0.04	96%	96%		0.2	0.28	0.00	0.04	0.04	94%	94%
0.3	0.38	0.00	0.03	0.03	96%	96%		0.3	0.27	0.00	0.03	0.03	94%	94%
0.4	0.37	0.00	0.02	0.02	95%	95%		0.4	0.27	0.00	0.02	0.02	96%	96%
0.5	0.37	0.00	0.02	0.02	94%	94%		0.5	0.27	0.00	0.02	0.02	95%	95%
0.6	0.36	0.00	0.02	0.02	93%	94%		0.6	0.27	0.00	0.02	0.02	95%	95%
0.7	0.35	0.00	0.02	0.02	94%	94%		0.7	0.26	0.00	0.02	0.01	95%	95%
0.8	0.35	0.00	0.03	0.03	95%	95%		0.8	0.26	0.00	0.02	0.02	95%	95%
0.9	0.34	0.00	0.05	0.05	94%	94%		0.9	0.26	-0.00	0.02	0.02	96%	96%

Misspecified Censoring Model

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

The frailty censoring model is misspecified so that the covariate L_{2ij} is incorrectly omitted, despite L_{2ij} being a component of the data generation process for censoring times C_{ij} .

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.07	0.07	94%	94%		0.1	0.28	-0.01	0.08	0.08	91%	91%
0.2	0.38	-0.01	0.04	0.04	95%	95%		0.2	0.28	-0.00	0.05	0.04	93%	93%
0.3	0.38	-0.00	0.03	0.03	96%	96%		0.3	0.27	0.00	0.03	0.03	93%	93%
0.4	0.37	0.00	0.03	0.02	96%	96%		0.4	0.27	0.00	0.02	0.02	95%	95%
0.5	0.36	0.00	0.02	0.02	94%	94%		0.5	0.27	0.00	0.02	0.02	95%	95%
0.6	0.36	0.01	0.02	0.02	94%	94%		0.6	0.27	0.00	0.02	0.02	95%	95%
0.7	0.35	0.01	0.02	0.02	93%	93%		0.7	0.26	0.00	0.02	0.01	95%	95%
0.8	0.35	0.00	0.03	0.03	95%	95%		0.8	0.26	-0.00	0.02	0.02	96%	96%
0.9	0.34	0.00	0.05	0.05	93%	93%		0.9	0.26	-0.00	0.02	0.02	96%	96%

33% of Individuals Censored

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

Censoring times C_{ij} were randomly sampled from an Exponential distribution with mean $1/\lambda_0$ where $\lambda_0 = 0.0025 \exp(0.002L_{1ij} + 0.015L_{2ij})e_i$. This led to an average of 33% of individuals being censored across datasets.

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.06	0.06	94%	94%	0.1	0.28	-0.01	0.07	0.06	94%	94%
0.2	0.38	-0.01	0.03	0.03	96%	96%	0.2	0.28	-0.01	0.04	0.04	94%	94%
0.3	0.38	-0.01	0.02	0.02	96%	96%	0.3	0.27	-0.00	0.02	0.02	95%	95%
0.4	0.37	-0.00	0.02	0.02	94%	94%	0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.02	0.02	94%	94%	0.5	0.27	0.00	0.01	0.01	94%	94%
0.6	0.36	0.00	0.02	0.02	95%	95%	0.6	0.26	0.00	0.01	0.01	94%	94%
0.7	0.35	0.00	0.02	0.02	95%	95%	0.7	0.26	0.00	0.01	0.01	95%	95%
0.8	0.35	0.00	0.02	0.02	95%	95%	0.8	0.26	-0.00	0.01	0.01	96%	96%
0.9	0.34	0.00	0.04	0.04	94%	94%	0.9	0.26	-0.00	0.02	0.02	96%	96%

Results using the Tchetgen Tchetgen and Vanderweele (2012) estimator

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.15	0.08	0.06	40%	40%	0.1	0.28	-0.15	0.07	0.06	32%	32%
0.2	0.38	-0.14	0.03	0.03	12%	12%	0.2	0.28	-0.15	0.04	0.03	6%	6%
0.3	0.38	-0.13	0.03	0.02	8%	8%	0.3	0.27	-0.15	0.03	0.02	3%	3%
0.4	0.37	-0.13	0.02	0.02	3%	3%	0.4	0.27	-0.14	0.02	0.02	4%	4%
0.5	0.37	-0.12	0.02	0.02	5%	5%	0.5	0.27	-0.14	0.02	0.01	5%	5%
0.6	0.36	-0.12	0.02	0.02	7%	7%	0.6	0.26	-0.14	0.02	0.01	5%	5%
0.7	0.35	-0.12	0.02	0.02	7%	7%	0.7	0.26	-0.14	0.02	0.01	3%	3%
0.8	0.35	-0.13	0.03	0.02	6%	6%	0.8	0.26	-0.15	0.02	0.01	2%	2%
0.9	0.34	-0.13	0.04	0.03	6%	6%	0.9	0.26	-0.16	0.02	0.02	7%	7%

45% of Individuals Censored

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

Censoring times C_{ij} were randomly sampled from an Exponential distribution with mean $1/\lambda_0$ where $\lambda_0 = 0.005 \exp(0.002L_{1ij} + 0.015L_{2ij})e_i$. This led to an average of 45% of individuals being censored across datasets.

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.06	0.06	96%	96%	0.1	0.28	-0.01	0.07	0.06	92%	92%
0.2	0.38	-0.01	0.03	0.03	96%	96%	0.2	0.28	-0.00	0.04	0.04	94%	94%
0.3	0.38	-0.01	0.02	0.02	95%	95%	0.3	0.27	-0.00	0.03	0.02	94%	94%
0.4	0.37	-0.00	0.02	0.02	96%	96%	0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.02	0.02	96%	96%	0.5	0.27	0.00	0.01	0.01	94%	94%
0.6	0.36	0.00	0.02	0.02	95%	95%	0.6	0.27	0.00	0.01	0.01	94%	94%
0.7	0.35	0.00	0.02	0.02	94%	94%	0.7	0.26	0.00	0.01	0.01	94%	94%
0.8	0.35	0.00	0.03	0.03	94%	95%	0.8	0.26	-0.00	0.01	0.01	95%	95%
0.9	0.34	-0.00	0.04	0.04	94%	94%	0.9	0.26	-0.01	0.02	0.02	96%	97%

Results using the Tchetgen Tchetgen and Vanderweele (2012) estimator

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.23	0.09	0.05	13%	13%	0.1	0.28	-0.24	0.08	0.05	6%	6%
0.2	0.38	-0.22	0.05	0.03	6%	6%	0.2	0.28	-0.24	0.05	0.03	2%	2%
0.3	0.38	-0.21	0.03	0.02	4%	4%	0.3	0.27	-0.24	0.03	0.02	1%	1%
0.4	0.37	-0.21	0.03	0.02	2%	2%	0.4	0.27	-0.23	0.02	0.02	2%	2%
0.5	0.37	-0.21	0.02	0.02	3%	3%	0.5	0.27	-0.23	0.02	0.02	3%	3%
0.6	0.36	-0.20	0.02	0.02	3%	3%	0.6	0.27	-0.23	0.02	0.02	2%	2%
0.7	0.35	-0.21	0.02	0.02	3%	3%	0.7	0.26	-0.24	0.02	0.02	1%	1%
0.8	0.35	-0.21	0.03	0.02	3%	3%	0.8	0.26	-0.24	0.02	0.02	1%	1%
0.9	0.34	-0.21	0.04	0.03	1%	1%	0.9	0.26	-0.25	0.03	0.02	4%	4%

58% of Individuals Censored

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

Censoring times C_{ij} were randomly sampled from an Exponential distribution with mean $1/\lambda_0$ where $\lambda_0 = 0.01 \exp(0.002L_{1ij} + 0.015L_{2ij})e_i$. This led to an average of 58% of individuals being censored across datasets.

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.07	0.07	96%	96%	0.1	0.28	-0.01	0.07	0.07	93%	93%
0.2	0.38	-0.01	0.03	0.04	96%	96%	0.2	0.28	-0.00	0.04	0.04	96%	96%
0.3	0.38	-0.01	0.03	0.03	97%	97%	0.3	0.27	0.00	0.03	0.03	96%	96%
0.4	0.37	-0.00	0.02	0.02	95%	95%	0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.02	0.02	95%	95%	0.5	0.27	0.00	0.02	0.02	92%	92%
0.6	0.36	0.00	0.02	0.02	94%	94%	0.6	0.27	0.00	0.01	0.01	94%	94%
0.7	0.35	0.00	0.02	0.02	94%	94%	0.7	0.26	0.00	0.01	0.01	94%	94%
0.8	0.35	0.00	0.03	0.03	94%	94%	0.8	0.26	-0.00	0.01	0.01	96%	96%
0.9	0.34	0.00	0.04	0.04	93%	93%	0.9	0.26	-0.00	0.02	0.02	96%	96%

Results using the Tchetgen Tchetgen and Vanderweele (2012) estimator

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.33	0.10	0.05	8%	8%	0.1	0.28	-0.36	0.08	0.05	4%	4%
0.2	0.38	-0.32	0.05	0.03	5%	5%	0.2	0.28	-0.35	0.05	0.03	2%	2%
0.3	0.38	-0.31	0.03	0.03	4%	4%	0.3	0.27	-0.35	0.04	0.03	0%	1%
0.4	0.37	-0.30	0.03	0.02	1%	1%	0.4	0.27	-0.35	0.03	0.02	2%	2%
0.5	0.37	-0.30	0.03	0.02	2%	2%	0.5	0.27	-0.35	0.02	0.02	2%	2%
0.6	0.36	-0.30	0.02	0.02	3%	3%	0.6	0.27	-0.35	0.02	0.02	2%	2%
0.7	0.35	-0.30	0.02	0.02	3%	3%	0.7	0.26	-0.35	0.02	0.02	1%	1%
0.8	0.35	-0.31	0.03	0.03	2%	2%	0.8	0.26	-0.36	0.02	0.02	1%	1%
0.9	0.34	-0.32	0.05	0.04	0%	0%	0.9	0.26	-0.37	0.03	0.02	2%	2%

65% of Individuals Censored

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

Censoring times C_{ij} were randomly sampled from an Exponential distribution with mean $1/\lambda_0$ where $\lambda_0 = 0.015 \exp(0.002L_{1ij} + 0.015L_{2ij})e_i$. This led to an average of 65% of individuals being censored across datasets.

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.07	0.07	95%	95%	0.1	0.28	-0.01	0.08	0.08	92%	92%
0.2	0.38	-0.01	0.04	0.04	95%	95%	0.2	0.28	-0.00	0.04	0.04	95%	95%
0.3	0.38	-0.01	0.03	0.03	95%	95%	0.3	0.27	-0.00	0.03	0.03	94%	94%
0.4	0.37	-0.00	0.03	0.02	95%	95%	0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.03	0.02	96%	96%	0.5	0.27	0.00	0.02	0.02	94%	94%
0.6	0.36	0.00	0.02	0.02	94%	95%	0.6	0.27	0.00	0.02	0.02	94%	94%
0.7	0.35	0.01	0.02	0.02	95%	95%	0.7	0.26	0.00	0.01	0.01	96%	96%
0.8	0.35	0.00	0.03	0.03	96%	96%	0.8	0.26	-0.00	0.02	0.02	96%	96%
0.9	0.34	0.00	0.05	0.05	95%	95%	0.9	0.26	-0.00	0.02	0.02	96%	96%

Results using the Tchetgen and Vanderweele (2012) estimator

α	μ_0	Bias	ESE	ASE	EC	EC_t	α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.39	0.10	0.05	6%	6%	0.1	0.28	-0.43	0.08	0.05	3%	3%
0.2	0.38	-0.38	0.05	0.03	5%	5%	0.2	0.28	-0.42	0.05	0.04	1%	1%
0.3	0.38	-0.37	0.04	0.03	2%	2%	0.3	0.27	-0.42	0.04	0.03	0%	0%
0.4	0.37	-0.36	0.03	0.03	1%	1%	0.4	0.27	-0.41	0.03	0.03	1%	1%
0.5	0.37	-0.36	0.03	0.03	2%	2%	0.5	0.27	-0.41	0.02	0.03	1%	1%
0.6	0.36	-0.36	0.02	0.03	2%	2%	0.6	0.27	-0.42	0.02	0.03	1%	1%
0.7	0.35	-0.36	0.02	0.03	2%	2%	0.7	0.26	-0.42	0.02	0.03	1%	1%
0.8	0.35	-0.37	0.03	0.03	2%	2%	0.8	0.26	-0.43	0.02	0.03	1%	1%
0.9	0.34	-0.38	0.05	0.04	1%	1%	0.9	0.26	-0.44	0.03	0.03	2%	2%

Treatment Effect on Censoring

Simulation results for $m = 500$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

The censoring times are generated in step (vi) such that $\lambda_0 = 0.015 \exp(0.002L_{1ij} + 0.015L_{2ij} + 0.01A_{ij})$, so treatment A_{ij} has an effect on the censoring time C_{ij} . The frailty censoring model is correctly specified to include terms for each of the three covariates L_{1ij} , L_{2ij} , and A_{ij} .

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.08	0.07	95%	95%		0.1	0.28	-0.00	0.08	0.07	90%	90%
0.2	0.38	-0.01	0.04	0.04	96%	96%		0.2	0.28	-0.00	0.04	0.04	93%	93%
0.3	0.38	-0.00	0.03	0.03	96%	96%		0.3	0.27	0.00	0.03	0.03	93%	93%
0.4	0.37	0.00	0.02	0.02	95%	95%		0.4	0.27	0.00	0.02	0.02	93%	93%
0.5	0.36	0.00	0.02	0.02	94%	95%		0.5	0.27	0.00	0.02	0.02	93%	93%
0.6	0.36	0.00	0.02	0.02	94%	94%		0.6	0.27	0.00	0.02	0.02	94%	94%
0.7	0.35	0.00	0.02	0.02	94%	94%		0.7	0.26	0.00	0.01	0.01	95%	95%
0.8	0.35	0.00	0.03	0.03	95%	95%		0.8	0.26	-0.00	0.02	0.02	95%	95%
0.9	0.34	-0.00	0.05	0.05	95%	95%		0.9	0.26	-0.00	0.02	0.02	95%	95%

$$m = 10, n_i = 10$$

Simulation results for $m = 10$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

Mixed propensity models were singular for 53 of the 1,000 simulated datasets, so results are presented for the remaining 947 simulations.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	0.11	0.40	0.07	44%	69%		0.1	0.28	-0.01	0.67	0.02	34%	53%
0.2	0.38	0.04	0.33	0.11	62%	87%		0.2	0.28	0.00	0.43	0.08	48%	75%
0.3	0.38	0.01	0.28	0.12	67%	94%		0.3	0.28	0.01	0.28	0.09	57%	88%
0.4	0.37	0.02	0.22	0.11	73%	98%		0.4	0.27	0.02	0.19	0.08	67%	96%
0.5	0.37	0.03	0.18	0.10	73%	99%		0.5	0.27	0.02	0.15	0.08	70%	98%
0.6	0.36	0.03	0.17	0.10	73%	99%		0.6	0.27	0.02	0.13	0.07	72%	99%
0.7	0.35	0.03	0.19	0.11	75%	98%		0.7	0.26	0.01	0.13	0.07	75%	100%
0.8	0.35	0.00	0.25	0.14	72%	95%		0.8	0.26	0.01	0.14	0.08	74%	99%
0.9	0.34	-0.02	0.42	0.14	60%	82%		0.9	0.26	0.02	0.17	0.08	67%	94%

$$m = 50, n_i = 10$$

Simulation results for $m = 50$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.01	0.27	0.13	74%	75%		0.1	0.28	-0.01	0.27	0.12	68%	68%
0.2	0.38	-0.01	0.15	0.10	88%	88%		0.2	0.28	-0.01	0.15	0.11	82%	83%
0.3	0.38	-0.01	0.11	0.08	90%	91%		0.3	0.28	-0.00	0.10	0.08	88%	89%
0.4	0.37	-0.00	0.09	0.07	90%	91%		0.4	0.27	-0.00	0.08	0.06	90%	90%
0.5	0.37	0.00	0.08	0.06	91%	92%		0.5	0.27	0.00	0.06	0.05	91%	92%
0.6	0.36	0.01	0.07	0.06	91%	92%		0.6	0.27	0.00	0.05	0.04	91%	91%
0.7	0.35	0.01	0.08	0.07	91%	92%		0.7	0.26	0.00	0.05	0.04	90%	90%
0.8	0.35	0.00	0.10	0.09	89%	90%		0.8	0.26	0.00	0.05	0.05	90%	91%
0.9	0.34	-0.00	0.16	0.13	84%	85%		0.9	0.26	0.00	0.07	0.06	89%	90%

$$m = 100, n_i = 10$$

Simulation results for $m = 100$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.01	0.17	0.13	84%	84%		0.1	0.39	-0.01	0.17	0.13	84%	84%
0.2	0.38	-0.01	0.09	0.08	92%	93%		0.2	0.38	-0.01	0.09	0.08	92%	93%
0.3	0.38	-0.01	0.07	0.06	93%	94%		0.3	0.38	-0.01	0.07	0.06	93%	94%
0.4	0.37	-0.00	0.06	0.05	93%	93%		0.4	0.37	-0.00	0.06	0.05	93%	93%
0.5	0.36	0.00	0.05	0.05	93%	93%		0.5	0.36	0.00	0.05	0.05	93%	93%
0.6	0.36	0.01	0.05	0.04	93%	93%		0.6	0.36	0.01	0.05	0.04	93%	93%
0.7	0.35	0.01	0.05	0.05	93%	93%		0.7	0.35	0.01	0.05	0.05	93%	93%
0.8	0.35	0.01	0.07	0.06	92%	92%		0.8	0.35	0.01	0.07	0.06	92%	92%
0.9	0.34	0.00	0.11	0.10	89%	90%		0.9	0.34	0.00	0.11	0.10	89%	90%

$$m = 200, n_i = 10$$

Simulation results for $m = 200$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.12	0.10	90%	90%		0.1	0.39	-0.02	0.12	0.10	90%	90%
0.2	0.38	-0.01	0.06	0.06	94%	94%		0.2	0.38	-0.01	0.06	0.06	94%	94%
0.3	0.38	-0.01	0.05	0.04	92%	93%		0.3	0.38	-0.01	0.05	0.04	92%	93%
0.4	0.37	-0.00	0.04	0.04	93%	93%		0.4	0.37	-0.00	0.04	0.04	93%	93%
0.5	0.37	0.00	0.04	0.03	94%	94%		0.5	0.37	0.00	0.04	0.03	94%	94%
0.6	0.36	0.00	0.03	0.03	95%	95%		0.6	0.36	0.00	0.03	0.03	95%	95%
0.7	0.35	0.00	0.04	0.04	93%	94%		0.7	0.35	0.00	0.04	0.04	93%	94%
0.8	0.35	0.00	0.05	0.05	93%	94%		0.8	0.35	0.00	0.05	0.05	93%	94%
0.9	0.34	0.00	0.08	0.07	91%	91%		0.9	0.34	0.00	0.08	0.07	91%	91%

$$m = 300, n_i = 10$$

Simulation results for $m = 300$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.09	0.09	92%	93%		0.1	0.28	-0.01	0.11	0.09	89%	89%
0.2	0.38	-0.01	0.05	0.05	95%	95%		0.2	0.28	-0.00	0.06	0.05	93%	93%
0.3	0.38	-0.01	0.04	0.04	95%	95%		0.3	0.27	-0.00	0.04	0.04	93%	93%
0.4	0.37	-0.00	0.03	0.03	95%	95%		0.4	0.27	0.00	0.03	0.03	94%	94%
0.5	0.37	0.00	0.03	0.03	95%	95%		0.5	0.27	0.00	0.02	0.02	95%	95%
0.6	0.36	0.00	0.03	0.03	95%	95%		0.6	0.26	0.00	0.02	0.02	95%	95%
0.7	0.35	0.00	0.03	0.03	94%	94%		0.7	0.26	0.00	0.02	0.02	94%	94%
0.8	0.35	0.00	0.04	0.04	95%	95%		0.8	0.26	-0.00	0.02	0.02	96%	96%
0.9	0.34	-0.00	0.06	0.06	95%	95%		0.9	0.26	-0.00	0.03	0.03	95%	95%

$$m = 400, n_i = 10$$

Simulation results for $m = 400$ and $n_i = 10$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.02	0.09	0.08	93%	93%		0.1	0.28	-0.00	0.09	0.08	91%	91%
0.2	0.38	-0.01	0.04	0.04	96%	96%		0.2	0.28	-0.00	0.05	0.05	94%	94%
0.3	0.38	-0.00	0.03	0.03	96%	96%		0.3	0.27	0.00	0.03	0.03	94%	94%
0.4	0.37	0.00	0.03	0.03	94%	94%		0.4	0.27	0.00	0.02	0.02	94%	94%
0.5	0.37	0.00	0.03	0.02	94%	94%		0.5	0.27	0.00	0.02	0.02	94%	94%
0.6	0.36	0.00	0.03	0.02	92%	92%		0.6	0.27	0.00	0.02	0.02	95%	95%
0.7	0.35	0.00	0.03	0.03	95%	95%		0.7	0.26	0.00	0.02	0.02	94%	94%
0.8	0.35	0.00	0.03	0.03	94%	95%		0.8	0.26	-0.00	0.02	0.02	95%	95%
0.9	0.34	0.00	0.05	0.05	94%	94%		0.9	0.26	-0.00	0.02	0.02	95%	95%

$$m = 500, n_i = 30$$

Simulation results for $m = 500$ and $n_i = 30$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.01	0.11	0.10	92%	92%		0.1	0.28	-0.00	0.10	0.09	89%	89%
0.2	0.38	-0.01	0.06	0.05	93%	93%		0.2	0.28	-0.00	0.06	0.05	92%	92%
0.3	0.38	-0.00	0.04	0.04	94%	94%		0.3	0.27	-0.00	0.04	0.03	93%	93%
0.4	0.37	-0.00	0.04	0.03	93%	93%		0.4	0.27	0.00	0.03	0.03	93%	94%
0.5	0.36	0.00	0.03	0.03	93%	93%		0.5	0.27	0.00	0.02	0.02	94%	94%
0.6	0.36	0.00	0.03	0.03	94%	94%		0.6	0.26	0.00	0.02	0.02	94%	94%
0.7	0.35	0.00	0.03	0.03	94%	94%		0.7	0.26	0.00	0.02	0.02	93%	93%
0.8	0.34	-0.00	0.04	0.03	95%	95%		0.8	0.26	-0.00	0.02	0.02	95%	95%
0.9	0.34	-0.01	0.05	0.05	95%	95%		0.9	0.25	-0.00	0.02	0.02	96%	96%

$$m = 500, n_i = 50$$

Simulation results for $m = 500$ and $n_i = 50$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.01	0.15	0.12	89%	89%		0.1	0.28	-0.01	0.14	0.10	86%	86%
0.2	0.38	-0.00	0.08	0.07	92%	93%		0.2	0.28	-0.01	0.07	0.06	92%	92%
0.3	0.38	-0.00	0.06	0.05	93%	93%		0.3	0.27	-0.00	0.05	0.04	92%	92%
0.4	0.37	0.00	0.05	0.04	92%	92%		0.4	0.27	0.00	0.04	0.03	91%	91%
0.5	0.36	0.00	0.04	0.04	92%	92%		0.5	0.27	0.00	0.03	0.03	92%	92%
0.6	0.36	0.00	0.04	0.03	93%	93%		0.6	0.26	0.00	0.03	0.02	91%	91%
0.7	0.35	0.00	0.04	0.03	92%	92%		0.7	0.26	0.00	0.03	0.02	93%	93%
0.8	0.34	-0.00	0.04	0.04	93%	94%		0.8	0.26	-0.00	0.03	0.02	93%	93%
0.9	0.34	-0.00	0.06	0.05	93%	93%		0.9	0.25	-0.00	0.03	0.03	94%	94%

$$m = 500, n_i = 75$$

Simulation results for $m = 500$ and $n_i = 75$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.01	0.18	0.14	87%	87%		0.1	0.28	-0.01	0.15	0.11	84%	84%
0.2	0.38	-0.00	0.10	0.08	91%	91%		0.2	0.28	-0.01	0.08	0.07	91%	91%
0.3	0.38	-0.00	0.08	0.07	91%	91%		0.3	0.27	-0.00	0.07	0.05	89%	89%
0.4	0.37	-0.00	0.11	0.06	92%	92%		0.4	0.27	-0.00	0.08	0.04	90%	90%
0.5	0.36	-0.00	0.08	0.05	90%	90%		0.5	0.27	-0.00	0.06	0.04	90%	90%
0.6	0.36	-0.00	0.14	0.04	91%	91%		0.6	0.26	-0.00	0.10	0.03	90%	90%
0.7	0.35	0.00	0.07	0.04	90%	90%		0.7	0.26	0.00	0.05	0.03	91%	91%
0.8	0.34	-0.00	0.06	0.04	92%	92%		0.8	0.26	-0.00	0.04	0.03	92%	92%
0.9	0.34	-0.00	0.06	0.06	93%	93%		0.9	0.25	-0.00	0.04	0.04	94%	94%

$$m = 500, n_i = 100$$

Simulation results for $m = 500$ and $n_i = 100$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	0.01	0.21	0.14	80%	80%		0.1	0.28	-0.00	0.17	0.11	79%	80%
0.2	0.38	-0.00	0.13	0.10	86%	87%		0.2	0.28	-0.00	0.11	0.07	85%	85%
0.3	0.38	-0.00	0.12	0.08	88%	88%		0.3	0.27	-0.00	0.09	0.06	87%	87%
0.4	0.37	-0.00	0.12	0.07	87%	88%		0.4	0.27	-0.00	0.08	0.05	88%	88%
0.5	0.36	0.01	0.08	0.06	88%	88%		0.5	0.27	0.00	0.06	0.04	87%	87%
0.6	0.36	0.01	0.07	0.05	86%	86%		0.6	0.26	0.00	0.05	0.04	87%	87%
0.7	0.35	0.00	0.07	0.05	89%	89%		0.7	0.26	0.00	0.05	0.04	89%	89%
0.8	0.34	0.00	0.07	0.05	91%	91%		0.8	0.26	0.00	0.05	0.04	91%	91%
0.9	0.34	0.00	0.07	0.06	92%	92%		0.9	0.25	0.00	0.04	0.04	93%	93%

$$m = 500, n_i = 200$$

Simulation results for $m = 500$ and $n_i = 200$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	-0.03	1.17	0.17	71%	71%		0.1	0.28	-0.01	0.50	0.12	71%	71%
0.2	0.38	0.01	0.24	0.13	76%	76%		0.2	0.28	0.01	0.19	0.09	75%	75%
0.3	0.38	0.00	0.27	0.11	75%	76%		0.3	0.27	-0.00	0.22	0.08	75%	75%
0.4	0.37	0.01	0.22	0.10	76%	76%		0.4	0.27	0.00	0.17	0.07	75%	76%
0.5	0.36	0.00	0.25	0.09	76%	76%		0.5	0.27	0.01	0.16	0.06	76%	76%
0.6	0.36	0.01	0.22	0.08	74%	74%		0.6	0.26	0.00	0.18	0.06	75%	75%
0.7	0.35	-0.01	0.19	0.08	82%	82%		0.7	0.26	-0.01	0.15	0.06	82%	82%
0.8	0.34	-0.00	0.14	0.08	84%	84%		0.8	0.26	-0.00	0.10	0.06	85%	85%
0.9	0.34	0.00	0.10	0.08	87%	87%		0.9	0.25	0.00	0.08	0.06	88%	88%

$$m = 50, n_i = 50$$

Simulation results for $m = 50$ and $n_i = 50$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	0.03	0.54	0.12	54%	54%		0.1	0.28	0.01	0.44	0.08	50%	50%
0.2	0.38	0.01	0.23	0.13	76%	76%		0.2	0.28	0.01	0.19	0.10	73%	74%
0.3	0.38	-0.00	0.19	0.11	80%	80%		0.3	0.27	0.00	0.15	0.09	79%	80%
0.4	0.37	0.01	0.15	0.10	82%	82%		0.4	0.27	0.01	0.11	0.07	81%	82%
0.5	0.36	0.01	0.15	0.08	82%	83%		0.5	0.27	0.01	0.10	0.06	82%	82%
0.6	0.36	0.01	0.16	0.08	82%	83%		0.6	0.26	0.01	0.09	0.06	82%	83%
0.7	0.35	0.01	0.12	0.08	84%	86%		0.7	0.26	0.01	0.08	0.06	86%	86%
0.8	0.34	0.01	0.13	0.09	84%	85%		0.8	0.26	0.00	0.08	0.06	85%	85%
0.9	0.34	0.00	0.16	0.12	83%	84%		0.9	0.25	0.00	0.09	0.07	85%	86%

$$m = 50, n_i = 100$$

Simulation results for $m = 50$ and $n_i = 100$ for all i , where: α denotes the allocation probabilities; μ_a denotes the value of the target parameters $\mu(100, a, \alpha)$ for $a = 0, 1$; Bias is the average of $\mu(100, a, \alpha) - \hat{\mu}(100, a, \alpha)$ for $a = 0, 1$; ESE is the average empirical standard error; ASE is the median of the sandwich variance-based standard error estimates (median presented due to a right-skewed distribution of ASEs); EC denotes the empirical coverage of the 95% Wald confidence intervals based on the Normal distribution; and EC_t denotes empirical coverage of t -distribution-based Wald confidence intervals.

α	μ_0	Bias	ESE	ASE	EC	EC_t		α	μ_1	Bias	ESE	ASE	EC	EC_t
0.1	0.39	0.07	0.52	0.10	45%	45%		0.1	0.28	0.03	0.41	0.05	42%	43%
0.2	0.38	0.03	0.35	0.12	59%	59%		0.2	0.28	0.02	0.27	0.09	62%	63%
0.3	0.38	0.03	0.23	0.14	69%	71%		0.3	0.27	0.01	0.21	0.09	67%	67%
0.4	0.37	-0.05	0.34	0.12	79%	80%		0.4	0.27	-0.06	0.33	0.10	76%	77%
0.5	0.36	-0.04	0.38	0.12	75%	76%		0.5	0.27	-0.01	0.22	0.08	71%	71%
0.6	0.36	0.05	0.15	0.09	69%	70%		0.6	0.26	0.04	0.11	0.07	70%	72%
0.7	0.35	0.03	0.17	0.09	73%	73%		0.7	0.26	0.02	0.13	0.06	70%	71%
0.8	0.34	-0.02	0.17	0.13	82%	82%		0.8	0.26	-0.01	0.13	0.08	86%	87%
0.9	0.34	-0.00	0.21	0.11	78%	79%		0.9	0.25	-0.01	0.13	0.09	81%	83%