Supplementary Materials

for

Evaluating center-specific long-term outcomes through differences in mean survival time: Analysis of national kidney transplant data

More Simulation Results

Web Table A1 lists fixed effect and random effect parameters. The fixed effect parameter estimators were sufficiently well-behaved, in the sense that the bias was quite small, and the average asymptotic standard errors (ASE) were generally close to the empirical standard deviations (ESD), while the empirical coverage probabilities (CP) were generally consistent with the nominal value 0.95. The performance of the random effect parameters depended on sample size. If the sample size was small, we failed to obtain the random effect parameters in some replicates, and hence, the corresponding CP was poor. However, for such replicates, even though the random effect variance estimators could not be computed, we still obtained the point estimators b_{0j} and b_{1j} for $j = 1, \cdots J$, which lead to reliable estimation for our proposed measures (Table 1 in the manuscript).

Table S1
Simulation results: Performance of fixed effect and random effect parameters.

J, n_j	Parameters	TRUE	BIAS	ESD	ASE	CP
$J = 50$, $n_j = 100$	λ_0	0.160	0.002	0.020	0.019	0.94
	λ_1	0.130	0.002	0.017	0.016	0.95
	λ_2	0.100	0.001	0.013	0.012	0.93
	λ_3	0.090	0.001	0.012	0.011	0.93
	λ_5	0.085	0.001	0.011	0.011	0.93
	λ_{10}	0.105	0.002	0.015	0.014	0.93
	β_1	0.100	-0.001	0.019	0.018	0.94
	β_2	-0.100	0.001	0.032	0.033	0.97
	θ_1	0.250	-0.02	0.079	0.078	0.92
	θ_2	0.005	-0.000	0.002	0.002	0.95
$J = 50$, $n_j = 50$	λ_0	0.160	0.003	0.023	0.024	0.95
	λ_1	0.130	0.002	0.020	0.020	0.94
	λ_2	0.100	0.001	0.013	0.012	0.93
	λ_3	0.090	0.002	0.014	0.014	0.96
	λ_5	0.085	0.002	0.013	0.014	0.96
	λ_{10}	0.105	0.003	0.018	0.018	0.95
	β_1	0.100	-0.000	0.023	0.024	0.96
	β_2	-0.100	-0.000	0.049	0.047	0.96
	θ_1	0.250	0.002	0.097	0.097	0.94
	θ_2	0.005	-0.002	0.003	0.003	0.95
$J = 50$, $n_j = 25$	λ_0	0.160	0.004	0.032	0.032	0.94
	λ_1	0.130	0.003	0.028	0.027	0.93
	λ_2	0.100	0.002	0.021	0.022	0.95
	λ_3	0.090	0.003	0.020	0.020	0.93
	λ_5	0.085	0.002	0.019	0.019	0.93
	λ_{10}	0.105	0.003	0.026	0.025	0.93
	β_1	0.100	0.000	0.033	0.033	0.97
	β_2	-0.100	-0.000	0.067	0.068	0.96
	θ_1	0.250	-0.005	0.121	0.124	0.92
	θ_2	0.005	0.000	0.004	0.004	0.88