

S3 Appendix. Model estimates for each scenario

S3 Table A: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 1 ($y_{itk} = \beta_0 + \partial x_{tk} + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19472.8 (2.7) | 4.9 (0) | 0.06 | 0 | -0.01 (0.062) | 0.21 (0.0001) | 93.8% | -0.01 (0.0068) | 0.81 (0.0004) | 0 | -0.01 (0.0068) | 0.21 (0.0001) | 93.8% | -0.01 (0.0068) | 0.81 (0.0004) |
| D2 | 19067.8 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.046) | 0.19 (0.0001) | 95.4% | 0 (0.0059) | 0.75 (0.0003) | 0 | 0 (0.0059) | 0.19 (0.0001) | 95.4% | 0 (0.0059) | 0.75 (0.0003) |
| D3 | 19519.2 (2.6) | 5 (0) | 1 | 0 | 1.58 (1) | 0.21 (0.0001) | 0% | 1.58 (0.0068) | 0.81 (0.0004) | 0 | 1.58 (0.0068) | 0.21 (0.0001) | 0% | 1.58 (0.0068) | 0.81 (0.0004) |
| D4 | 19122.8 (2.5) | 4.6 (0) | 1 | 0 | 1.59 (1) | 0.19 (0.0001) | 0% | 1.59 (0.0059) | 0.76 (0.0003) | 0 | 1.59 (0.0059) | 0.19 (0.0001) | 0% | 1.59 (0.0059) | 0.76 (0.0003) |
| D5 | 19527.4 (2.7) | 5 (0) | 0.06 | 0 | -0.01 (0.057) | 0.21 (0.0001) | 94.3% | -0.01 (0.0068) | 0.81 (0.0004) | 0 | -0.01 (0.0068) | 0.21 (0.0001) | 94.3% | -0.01 (0.0068) | 0.81 (0.0004) |
| D6 | 19133 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.042) | 0.19 (0.0001) | 95.8% | 0 (0.0059) | 0.76 (0.0003) | 0 | 0 (0.0059) | 0.19 (0.0001) | 95.8% | 0 (0.0059) | 0.76 (0.0003) |
| D7 | 19641.4 (2.6) | 5.1 (0) | 1 | 0 | -1.56 (1) | 0.21 (0.0001) | 0% | -1.56 (0.0068) | 0.83 (0.0004) | 0 | -1.56 (0.0068) | 0.21 (0.0001) | 0% | -1.56 (0.0068) | 0.83 (0.0004) |
| D8 | 19264.4 (2.6) | 4.7 (0) | 1 | 0 | -1.57 (1) | 0.2 (0.0001) | 0% | -1.57 (0.0059) | 0.78 (0.0003) | 0 | -1.57 (0.0059) | 0.2 (0.0001) | 0% | -1.57 (0.0059) | 0.78 (0.0003) |
| D9 | 19466.7 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.21 (0.0001) | 94% | -0.01 (0.0068) | 0.81 (0.0003) | 2 | 1.99 (0.0068) | 0.21 (0.0001) | 94% | -0.01 (0.0068) | 0.81 (0.0003) |
| D10 | 19062.5 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.19 (0.0001) | 95.6% | 0 (0.0059) | 0.75 (0.0003) | 2 | 2 (0.0059) | 0.19 (0.0001) | 95.6% | 0 (0.0059) | 0.75 (0.0003) |
| D11 | 19519.2 (2.6) | 5 (0) | 1 | 2 | 3.58 (1) | 0.21 (0.0001) | 0% | 1.58 (0.0068) | 0.81 (0.0004) | 2 | 3.58 (0.0068) | 0.21 (0.0001) | 0% | 1.58 (0.0068) | 0.81 (0.0004) |
| D12 | 19122.8 (2.5) | 4.6 (0) | 1 | 2 | 3.59 (1) | 0.19 (0.0001) | 0% | 1.59 (0.0059) | 0.76 (0.0003) | 2 | 3.59 (0.0059) | 0.19 (0.0001) | 0% | 1.59 (0.0059) | 0.76 (0.0003) |
| D13 | 19558.5 (2.6) | 5 (0) | 1 | 2.9 | 4.15 (1) | 0.21 (0.0001) | 0% | 1.25 (0.0068) | 0.82 (0.0004) | 2.9 | 4.15 (0.0068) | 0.21 (0.0001) | 0% | 1.25 (0.0068) | 0.82 (0.0004) |
| D14 | 19168.6 (2.5) | 4.7 (0) | 1 | 2.9 | 4.16 (1) | 0.19 (0.0001) | 0% | 1.26 (0.0059) | 0.76 (0.0003) | 2.9 | 4.16 (0.0059) | 0.19 (0.0001) | 0% | 1.26 (0.0059) | 0.76 (0.0003) |
| D15 | 19558.5 (2.6) | 5 (0) | 1 | 0.9 | 2.15 (1) | 0.21 (0.0001) | 0% | 1.25 (0.0068) | 0.82 (0.0004) | 0.9 | 2.15 (0.0068) | 0.21 (0.0001) | 0% | 1.25 (0.0068) | 0.82 (0.0004) |
| D16 | 19168.6 (2.5) | 4.7 (0) | 1 | 0.9 | 2.16 (1) | 0.19 (0.0001) | 0% | 1.26 (0.0059) | 0.76 (0.0003) | 0.9 | 2.16 (0.0059) | 0.19 (0.0001) | 0% | 1.26 (0.0059) | 0.76 (0.0003) |
| D17 | 19595.6 (2.6) | 5 (0) | 1 | 3.5 | 4.54 (1) | 0.21 (0.0001) | 0.1% | 1.04 (0.0068) | 0.82 (0.0004) | 3.5 | 4.54 (0.0068) | 0.21 (0.0001) | 0.1% | 1.04 (0.0068) | 0.82 (0.0004) |
| D18 | 19211.6 (2.5) | 4.7 (0) | 1 | 3.5 | 4.54 (1) | 0.2 (0.0001) | 0% | 1.04 (0.0059) | 0.77 (0.0003) | 3.5 | 4.54 (0.0059) | 0.2 (0.0001) | 0% | 1.04 (0.0059) | 0.77 (0.0003) |
| D19 | 19595.6 (2.6) | 5 (0) | 1 | 1.5 | 2.54 (1) | 0.21 (0.0001) | 0.1% | 1.04 (0.0068) | 0.82 (0.0004) | 1.5 | 2.54 (0.0068) | 0.21 (0.0001) | 0.1% | 1.04 (0.0068) | 0.82 (0.0004) |
| D20 | 19211.6 (2.5) | 4.7 (0) | 1 | 1.5 | 2.54 (1) | 0.2 (0.0001) | 0% | 1.04 (0.0059) | 0.77 (0.0003) | 1.5 | 2.54 (0.0059) | 0.2 (0.0001) | 0% | 1.04 (0.0059) | 0.77 (0.0003) |
| D21 | 19535.3 (2.7) | 5 (0) | 1 | -5 | -2.32 (1) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.82 (0.0004) | -5 | -2.32 (0.0068) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.82 (0.0004) |
| D22 | 19140.1 (2.6) | 4.6 (0) | 1 | -5 | -2.3 (1) | 0.19 (0.0001) | 0% | 2.7 (0.006) | 0.76 (0.0003) | -5 | -2.3 (0.006) | 0.19 (0.0001) | 0% | 2.7 (0.006) | 0.76 (0.0003) |
| D23 | 19535.3 (2.7) | 5 (0) | 0.34 | -3 | -0.32 (0.335) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.82 (0.0004) | -3 | -0.32 (0.0068) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.82 (0.0004) |
| D24 | 19140.1 (2.6) | 4.6 (0) | 0.33 | -3 | -0.3 (0.329) | 0.19 (0.0001) | 0% | 2.7 (0.006) | 0.76 (0.0003) | -3 | -0.3 (0.006) | 0.19 (0.0001) | 0% | 2.7 (0.006) | 0.76 (0.0003) |
| D25 | 19527.4 (2.7) | 5 (0) | 1 | 2 | 1.99 (1) | 0.21 (0.0001) | 94.3% | -0.01 (0.0068) | 0.81 (0.0004) | 2 | 1.99 (0.0068) | 0.21 (0.0001) | 94.3% | -0.01 (0.0068) | 0.81 (0.0004) |
| D26 | 19133 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.19 (0.0001) | 95.8% | 0 (0.0059) | 0.76 (0.0003) | 2 | 2 (0.0059) | 0.19 (0.0001) | 95.8% | 0 (0.0059) | 0.76 (0.0003) |
| D27 | 19532 (2.7) | 5 (0) | 1 | 2.966 | 2.51 (1) | 0.21 (0.0001) | 41.5% | -0.46 (0.0068) | 0.81 (0.0004) | 2.58 | 2.51 (0.0068) | 0.21 (0.0001) | 92.1% | -0.07 (0.0068) | 0.81 (0.0004) |
| D28 | 19138.4 (2.6) | 4.6 (0) | 1 | 2.966 | 2.51 (1) | 0.19 (0.0001) | 35.6% | -0.45 (0.0059) | 0.76 (0.0003) | 2.58 | 2.51 (0.0059) | 0.19 (0.0001) | 93.4% | -0.07 (0.0059) | 0.76 (0.0003) |
| D29 | 19532 (2.7) | 5 (0) | 0.68 | 0.966 | 0.51 (0.682) | 0.21 (0.0001) | 41.5% | -0.46 (0.0068) | 0.81 (0.0004) | 0.58 | 0.51 (0.0068) | 0.21 (0.0001) | 92.1% | -0.07 (0.0068) | 0.81 (0.0004) |
| D30 | 19138.4 (2.6) | 4.6 (0) | 0.76 | 0.966 | 0.51 (0.757) | 0.19 (0.0001) | 35.6% | -0.45 (0.0059) | 0.76 (0.0003) | 0.58 | 0.51 (0.0059) | 0.19 (0.0001) | 93.4% | -0.07 (0.0059) | 0.76 (0.0003) |
| D31 | 19641.4 (2.6) | 5.1 (0) | 0.54 | 2 | 0.44 (0.54) | 0.21 (0.0001) | 0% | -1.56 (0.0068) | 0.83 (0.0004) | 2 | 0.44 (0.0068) | 0.21 (0.0001) | 0% | -1.56 (0.0068) | 0.83 (0.0004) |
| D32 | 19264.4 (2.6) | 4.7 (0) | 0.59 | 2 | 0.43 (0.593) | 0.2 (0.0001) | 0% | -1.57 (0.0059) | 0.78 (0.0003) | 2 | 0.43 (0.0059) | 0.2 (0.0001) | 0% | -1.57 (0.0059) | 0.78 (0.0003) |
| D33 | 19679.8 (2.6) | 5.1 (0) | 0.98 | 2.5 | 0.83 (0.975) | 0.21 (0.0001) | 0% | -1.67 (0.0068) | 0.84 (0.0004) | 2 | 0.83 (0.0068) | 0.21 (0.0001) | 0% | -1.17 (0.0068) | 0.84 (0.0004) |
| D34 | 19308.8 (2.6) | 4.8 (0) | 0.99 | 2.5 | 0.82 (0.988) | 0.2 (0.0001) | 0% | -1.68 (0.0059) | 0.78 (0.0003) | 2 | 0.82 (0.0059) | 0.2 (0.0001) | 0% | -1.18 (0.0059) | 0.78 (0.0003) |
| D35 | 19679.8 (2.6) | 5.1 (0) | 1 | 0.5 | -1.17 (1) | 0.21 (0.0001) | 0% | -1.67 (0.0068) | 0.84 (0.0004) | 0 | -1.17 (0.0068) | 0.21 (0.0001) | 0% | -1.17 (0.0068) | 0.84 (0.0004) |
| D36 | 19308.8 (2.6) | 4.8 (0) | 1 | 0.5 | -1.18 (1) | 0.2 (0.0001) | 0% | -1.68 (0.0059) | 0.78 (0.0003) | 0 | -1.18 (0.0059) | 0.2 (0.0001) | 0% | -1.18 (0.0059) | 0.78 (0.0003) |

S3 Table B: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 2 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + v_{0ik} + \epsilon_{ijk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19479.8 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.052) | 0.3 (0.0001) | 94.8% | -0.01 (0.0096) | 1.18 (0.0006) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.8% | -0.01 (0.0096) | 1.18 (0.0006) |
| D2 | 19074.9 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0001) | 95.3% | 0 (0.0087) | 1.1 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.3% | 0 (0.0087) | 1.1 (0.0005) |
| D3 | 19473.7 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.051) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D4 | 19069.6 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.044) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D5 | 19534.4 (2.7) | 5 (0) | 0.05 | 0 | -0.01 (0.05) | 0.3 (0.0001) | 95% | -0.01 (0.0096) | 1.18 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 95% | -0.01 (0.0096) | 1.18 (0.0005) |
| D6 | 19140.1 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.042) | 0.28 (0.0001) | 95.8% | 0 (0.0087) | 1.11 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.8% | 0 (0.0087) | 1.11 (0.0005) |
| D7 | 19599.6 (2.6) | 5 (0) | 0.05 | 0 | -0.01 (0.047) | 0.31 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) | 0 | -0.01 (0.0096) | 0.31 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) |
| D8 | 19215.6 (2.5) | 4.7 (0) | 0.04 | 0 | 0 (0.042) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) | 0 | 0 (0.0087) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) |
| D9 | 19473.7 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D10 | 19069.6 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D11 | 19473.7 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D12 | 19069.6 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D13 | 19479.9 (2.7) | 4.9 (0) | 1 | 2.9 | 2.12 (1) | 0.3 (0.0001) | 26.3% | -0.78 (0.0096) | 1.17 (0.0005) | 2.9 | 2.12 (0.0096) | 0.3 (0.0001) | 26.3% | -0.78 (0.0096) | 1.17 (0.0005) |
| D14 | 19076.8 (2.6) | 4.6 (0) | 1 | 2.9 | 2.12 (1) | 0.28 (0.0001) | 19.8% | -0.78 (0.0087) | 1.1 (0.0005) | 2.9 | 2.12 (0.0087) | 0.28 (0.0001) | 19.8% | -0.78 (0.0087) | 1.1 (0.0005) |
| D15 | 19479.9 (2.7) | 4.9 (0) | 0.07 | 0.9 | 0.12 (0.07) | 0.3 (0.0001) | 26.3% | -0.78 (0.0096) | 1.17 (0.0005) | 0.9 | 0.12 (0.0096) | 0.3 (0.0001) | 26.3% | -0.78 (0.0096) | 1.17 (0.0005) |
| D16 | 19076.8 (2.6) | 4.6 (0) | 0.07 | 0.9 | 0.12 (0.068) | 0.28 (0.0001) | 19.8% | -0.78 (0.0087) | 1.1 (0.0005) | 0.9 | 0.12 (0.0087) | 0.28 (0.0001) | 19.8% | -0.78 (0.0087) | 1.1 (0.0005) |
| D17 | 19490.9 (2.7) | 4.9 (0) | 1 | 3.5 | 2.21 (1) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.18 (0.0005) | 3.5 | 2.21 (0.0096) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.18 (0.0005) |
| D18 | 19089.4 (2.6) | 4.6 (0) | 1 | 3.5 | 2.19 (1) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) | 3.5 | 2.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D19 | 19490.9 (2.7) | 4.9 (0) | 0.11 | 1.5 | 0.21 (0.11) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.18 (0.0005) | 1.5 | 0.21 (0.0096) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.18 (0.0005) |
| D20 | 19089.4 (2.6) | 4.6 (0) | 0.11 | 1.5 | 0.19 (0.107) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) | 1.5 | 0.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D21 | 19542.2 (2.7) | 5 (0) | 1 | -5 | -2.39 (1) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) | -5 | -2.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D22 | 19147.2 (2.6) | 4.6 (0) | 1 | -5 | -2.36 (1) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) | -5 | -2.36 (0.0089) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) |
| D23 | 19542.2 (2.7) | 5 (0) | 0.27 | -3 | -0.39 (0.268) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) | -3 | -0.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D24 | 19147.2 (2.6) | 4.6 (0) | 0.26 | -3 | -0.36 (0.259) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) | -3 | -0.36 (0.0089) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) |
| D25 | 19534.4 (2.7) | 5 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 95% | -0.01 (0.0096) | 1.18 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 95% | -0.01 (0.0096) | 1.18 (0.0005) |
| D26 | 19140.1 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.8% | 0 (0.0087) | 1.11 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.8% | 0 (0.0087) | 1.11 (0.0005) |
| D27 | 19537.7 (2.7) | 5 (0) | 1 | 2.966 | 2.26 (1) | 0.3 (0.0001) | 35% | -0.7 (0.0096) | 1.18 (0.0005) | 2.58 | 2.26 (0.0096) | 0.3 (0.0001) | 80.6% | -0.32 (0.0096) | 1.18 (0.0005) |
| D28 | 19144 (2.6) | 4.6 (0) | 1 | 2.966 | 2.26 (1) | 0.28 (0.0001) | 28.2% | -0.71 (0.0087) | 1.11 (0.0005) | 2.58 | 2.26 (0.0087) | 0.28 (0.0001) | 79% | -0.32 (0.0087) | 1.11 (0.0005) |
| D29 | 19537.7 (2.7) | 5 (0) | 0.14 | 0.966 | 0.26 (0.137) | 0.3 (0.0001) | 35% | -0.7 (0.0096) | 1.18 (0.0005) | 0.58 | 0.26 (0.0096) | 0.3 (0.0001) | 80.6% | -0.32 (0.0096) | 1.18 (0.0005) |
| D30 | 19144 (2.6) | 4.6 (0) | 0.14 | 0.966 | 0.26 (0.144) | 0.28 (0.0001) | 28.2% | -0.71 (0.0087) | 1.11 (0.0005) | 0.58 | 0.26 (0.0087) | 0.28 (0.0001) | 79% | -0.32 (0.0087) | 1.11 (0.0005) |
| D31 | 19599.6 (2.6) | 5 (0) | 1 | 2 | 1.99 (1) | 0.31 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) | 2 | 1.99 (0.0096) | 0.31 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) |
| D32 | 19215.6 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) | 2 | 2 (0.0087) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) |
| D33 | 19613.2 (2.6) | 5.1 (0) | 1 | 2.5 | 2.75 (1) | 0.31 (0.0001) | 87.5% | 0.25 (0.0096) | 1.2 (0.0005) | 2 | 2.75 (0.0096) | 0.31 (0.0001) | 32.7% | 0.75 (0.0096) | 1.2 (0.0005) |
| D34 | 19231 (2.6) | 4.7 (0) | 1 | 2.5 | 2.77 (1) | 0.29 (0.0001) | 85.8% | 0.27 (0.0087) | 1.12 (0.0005) | 2 | 2.77 (0.0087) | 0.29 (0.0001) | 24.1% | 0.77 (0.0087) | 1.12 (0.0005) |
| D35 | 19613.2 (2.6) | 5.1 (0) | 0.67 | 0.5 | 0.75 (0.673) | 0.31 (0.0001) | 87.5% | 0.25 (0.0096) | 1.2 (0.0005) | 0 | 0.75 (0.0096) | 0.31 (0.0001) | 32.7% | 0.75 (0.0096) | 1.2 (0.0005) |
| D36 | 19231 (2.6) | 4.7 (0) | 0.76 | 0.5 | 0.77 (0.759) | 0.29 (0.0001) | 85.8% | 0.27 (0.0087) | 1.12 (0.0005) | 0 | 0.77 (0.0087) | 0.29 (0.0001) | 24.1% | 0.77 (0.0087) | 1.12 (0.0005) |

S3 Table C: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 3 ($y_{itk} = \beta_0 + \partial x_{tk} + \kappa_t + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19557.6 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.052) | 0.3 (0.0001) | 94.8% | -0.01 (0.0096) | 1.18 (0.0006) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.8% | -0.01 (0.0096) | 1.18 (0.0006) |
| D2 | 19152.5 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0001) | 95.2% | 0 (0.0087) | 1.1 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.2% | 0 (0.0087) | 1.1 (0.0005) |
| D3 | 19551.6 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.051) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D4 | 19147.2 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.044) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D5 | 19551.6 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.051) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D6 | 19147.2 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.044) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D7 | 19551.6 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.051) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D8 | 19147.2 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.044) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D9 | 19551.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D10 | 19147.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D11 | 19551.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D12 | 19147.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D13 | 19557 (2.7) | 4.9 (0) | 1 | 2.9 | 2.12 (1) | 0.3 (0.0001) | 26.1% | -0.78 (0.0096) | 1.17 (0.0005) | 2.9 | 2.12 (0.0096) | 0.3 (0.0001) | 26.1% | -0.78 (0.0096) | 1.17 (0.0005) |
| D14 | 19153.5 (2.6) | 4.6 (0) | 1 | 2.9 | 2.12 (1) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.09 (0.0005) | 2.9 | 2.12 (0.0087) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.09 (0.0005) |
| D15 | 19557 (2.7) | 4.9 (0) | 0.07 | 0.9 | 0.12 (0.071) | 0.3 (0.0001) | 26.1% | -0.78 (0.0096) | 1.17 (0.0005) | 0.9 | 0.12 (0.0096) | 0.3 (0.0001) | 26.1% | -0.78 (0.0096) | 1.17 (0.0005) |
| D16 | 19153.5 (2.6) | 4.6 (0) | 0.07 | 0.9 | 0.12 (0.068) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.09 (0.0005) | 0.9 | 0.12 (0.0087) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.09 (0.0005) |
| D17 | 19566.7 (2.7) | 4.9 (0) | 1 | 3.5 | 2.21 (1) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.17 (0.0005) | 3.5 | 2.21 (0.0096) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.17 (0.0005) |
| D18 | 19164.6 (2.6) | 4.6 (0) | 1 | 3.5 | 2.19 (1) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) | 3.5 | 2.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D19 | 19566.7 (2.7) | 4.9 (0) | 0.11 | 1.5 | 0.21 (0.11) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.17 (0.0005) | 1.5 | 0.21 (0.0096) | 0.3 (0.0001) | 1.1% | -1.29 (0.0096) | 1.17 (0.0005) |
| D20 | 19164.6 (2.6) | 4.6 (0) | 0.11 | 1.5 | 0.19 (0.107) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) | 1.5 | 0.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D21 | 19612 (2.6) | 5 (0) | 1 | -5 | -2.39 (1) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) | -5 | -2.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D22 | 19215.4 (2.6) | 4.6 (0) | 1 | -5 | -2.36 (1) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) | -5 | -2.36 (0.0089) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) |
| D23 | 19612 (2.6) | 5 (0) | 0.27 | -3 | -0.39 (0.268) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) | -3 | -0.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D24 | 19215.4 (2.6) | 4.6 (0) | 0.26 | -3 | -0.36 (0.259) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) | -3 | -0.36 (0.0089) | 0.28 (0.0001) | 0% | 2.64 (0.0089) | 1.11 (0.0005) |
| D25 | 19551.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D26 | 19147.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D27 | 19557.4 (2.7) | 4.9 (0) | 1 | 2.966 | 2.26 (1) | 0.3 (0.0001) | 34% | -0.71 (0.0096) | 1.17 (0.0005) | 2.58 | 2.26 (0.0096) | 0.3 (0.0001) | 80% | -0.32 (0.0096) | 1.17 (0.0005) |
| D28 | 19154.1 (2.6) | 4.6 (0) | 1 | 2.966 | 2.26 (1) | 0.28 (0.0001) | 27.2% | -0.71 (0.0087) | 1.09 (0.0005) | 2.58 | 2.26 (0.0087) | 0.28 (0.0001) | 78.5% | -0.32 (0.0087) | 1.09 (0.0005) |
| D29 | 19557.4 (2.7) | 4.9 (0) | 0.14 | 0.966 | 0.26 (0.141) | 0.3 (0.0001) | 34% | -0.71 (0.0096) | 1.17 (0.0005) | 0.58 | 0.26 (0.0096) | 0.3 (0.0001) | 80% | -0.32 (0.0096) | 1.17 (0.0005) |
| D30 | 19154.1 (2.6) | 4.6 (0) | 0.15 | 0.966 | 0.26 (0.147) | 0.28 (0.0001) | 27.2% | -0.71 (0.0087) | 1.09 (0.0005) | 0.58 | 0.26 (0.0087) | 0.28 (0.0001) | 78.5% | -0.32 (0.0087) | 1.09 (0.0005) |
| D31 | 19551.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D32 | 19147.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D33 | 19569.5 (2.7) | 4.9 (0) | 1 | 2.5 | 2.75 (1) | 0.3 (0.0001) | 86.5% | 0.25 (0.0095) | 1.17 (0.0005) | 2 | 2.75 (0.0095) | 0.3 (0.0001) | 31.3% | 0.75 (0.0095) | 1.17 (0.0005) |
| D34 | 19167.7 (2.6) | 4.6 (0) | 1 | 2.5 | 2.77 (1) | 0.28 (0.0001) | 84.8% | 0.27 (0.0087) | 1.1 (0.0005) | 2 | 2.77 (0.0087) | 0.28 (0.0001) | 22.7% | 0.77 (0.0087) | 1.1 (0.0005) |
| D35 | 19569.5 (2.7) | 4.9 (0) | 0.69 | 0.5 | 0.75 (0.687) | 0.3 (0.0001) | 86.5% | 0.25 (0.0095) | 1.17 (0.0005) | 0 | 0.75 (0.0095) | 0.3 (0.0001) | 31.3% | 0.75 (0.0095) | 1.17 (0.0005) |
| D36 | 19167.7 (2.6) | 4.6 (0) | 0.77 | 0.5 | 0.77 (0.772) | 0.28 (0.0001) | 84.8% | 0.27 (0.0087) | 1.1 (0.0005) | 0 | 0.77 (0.0087) | 0.28 (0.0001) | 22.7% | 0.77 (0.0087) | 1.1 (0.0005) |

S3 Table D: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 4 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \omega x_{tk}t + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19486.8 (2.7) | 4.9 (0) | 0.07 | 0 | -0.01 (0.073) | 0.31 (0.0001) | 94.7% | -0.01 (0.0097) | 1.21 (0.0006) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.8% | -0.01 (0.0096) | 1.18 (0.0006) |
| D2 | 19082.1 (2.6) | 4.6 (0) | 0.07 | 0 | 0 (0.065) | 0.29 (0.0001) | 95.1% | 0 (0.0089) | 1.12 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.3% | 0 (0.0087) | 1.1 (0.0005) |
| D3 | 19480.8 (2.7) | 4.9 (0) | 0.08 | 0 | -0.01 (0.075) | 0.31 (0.0001) | 95% | -0.01 (0.0097) | 1.2 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D4 | 19076.8 (2.6) | 4.6 (0) | 0.07 | 0 | 0 (0.067) | 0.29 (0.0001) | 95.2% | 0 (0.0089) | 1.12 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D5 | 19508.9 (2.7) | 5 (0) | 1 | 0 | 0.35 (1) | 0.31 (0.0001) | 78.7% | 0.35 (0.0097) | 1.2 (0.0005) | 0 | -0.01 (0.0095) | 0.3 (0.0001) | 95% | -0.01 (0.0095) | 1.18 (0.0005) |
| D6 | 19109.5 (2.6) | 4.6 (0) | 1 | 0 | 0.36 (1) | 0.29 (0.0001) | 76% | 0.36 (0.0089) | 1.12 (0.0005) | 0 | 0 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.1 (0.0005) |
| D7 | 19606.7 (2.6) | 5 (0) | 0.06 | 0 | -0.01 (0.064) | 0.31 (0.0001) | 95.7% | -0.01 (0.0097) | 1.22 (0.0005) | 0 | -0.01 (0.0096) | 0.3 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) |
| D8 | 19222.8 (2.5) | 4.7 (0) | 0.06 | 0 | 0 (0.058) | 0.29 (0.0001) | 95.7% | 0 (0.0089) | 1.14 (0.0005) | 0 | 0 (0.0087) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) |
| D9 | 19480.8 (2.7) | 4.9 (0) | 0.99 | 2 | 1.99 (0.985) | 0.31 (0.0001) | 95% | -0.01 (0.0097) | 1.2 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D10 | 19076.8 (2.6) | 4.6 (0) | 1 | 2 | 2 (0.995) | 0.29 (0.0001) | 95.2% | 0 (0.0089) | 1.12 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D11 | 19480.8 (2.7) | 4.9 (0) | 0.99 | 2 | 1.99 (0.985) | 0.31 (0.0001) | 95% | -0.01 (0.0097) | 1.2 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 94.9% | -0.01 (0.0096) | 1.17 (0.0005) |
| D12 | 19076.8 (2.6) | 4.6 (0) | 1 | 2 | 2 (0.995) | 0.29 (0.0001) | 95.2% | 0 (0.0089) | 1.12 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.09 (0.0005) |
| D13 | 19484.8 (2.7) | 4.9 (0) | 0.97 | 2.9 | 2.03 (0.968) | 0.31 (0.0001) | 19.5% | -0.87 (0.0097) | 1.2 (0.0005) | 2.9 | 2.12 (0.0096) | 0.3 (0.0001) | 26.2% | -0.78 (0.0096) | 1.17 (0.0005) |
| D14 | 19081.4 (2.6) | 4.6 (0) | 0.98 | 2.9 | 2.02 (0.984) | 0.29 (0.0001) | 13.4% | -0.88 (0.0089) | 1.12 (0.0005) | 2.9 | 2.12 (0.0087) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.1 (0.0005) |
| D15 | 19484.8 (2.7) | 4.9 (0) | 0.33 | 0.9 | 0.03 (0.33) | 0.31 (0.0001) | 19.5% | -0.87 (0.0097) | 1.2 (0.0005) | 0.9 | 0.12 (0.0096) | 0.3 (0.0001) | 26.2% | -0.78 (0.0096) | 1.17 (0.0005) |
| D16 | 19081.4 (2.6) | 4.6 (0) | 0.36 | 0.9 | 0.02 (0.355) | 0.29 (0.0001) | 13.4% | -0.88 (0.0089) | 1.12 (0.0005) | 0.9 | 0.12 (0.0087) | 0.28 (0.0001) | 19.7% | -0.78 (0.0087) | 1.1 (0.0005) |
| D17 | 19492 (2.7) | 4.9 (0) | 0.98 | 3.5 | 2.05 (0.98) | 0.31 (0.0001) | 0.1% | -1.45 (0.0097) | 1.2 (0.0005) | 3.5 | 2.2 (0.0096) | 0.3 (0.0001) | 1.1% | -1.3 (0.0096) | 1.18 (0.0005) |
| D18 | 19089.6 (2.6) | 4.6 (0) | 1 | 3.5 | 2.04 (0.996) | 0.29 (0.0001) | 0.1% | -1.46 (0.0089) | 1.12 (0.0005) | 3.5 | 2.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D19 | 19492 (2.7) | 4.9 (0) | 0.7 | 1.5 | 0.05 (0.703) | 0.31 (0.0001) | 0.1% | -1.45 (0.0097) | 1.2 (0.0005) | 1.5 | 0.2 (0.0096) | 0.3 (0.0001) | 1.1% | -1.3 (0.0096) | 1.18 (0.0005) |
| D20 | 19089.6 (2.6) | 4.6 (0) | 0.78 | 1.5 | 0.04 (0.775) | 0.29 (0.0001) | 0.1% | -1.46 (0.0089) | 1.12 (0.0005) | 1.5 | 0.19 (0.0087) | 0.28 (0.0001) | 0.3% | -1.31 (0.0087) | 1.1 (0.0005) |
| D21 | 19525.5 (2.7) | 5 (0) | 1 | -5 | -2.08 (1) | 0.31 (0.0001) | 0% | 2.92 (0.0097) | 1.21 (0.0006) | -5 | -2.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D22 | 19126.6 (2.6) | 4.6 (0) | 1 | -5 | -2.04 (1) | 0.29 (0.0001) | 0% | 2.96 (0.0091) | 1.13 (0.0005) | -5 | -2.35 (0.0089) | 0.28 (0.0001) | 0% | 2.65 (0.0089) | 1.11 (0.0005) |
| D23 | 19525.5 (2.7) | 5 (0) | 1 | -3 | -0.08 (0.996) | 0.31 (0.0001) | 0% | 2.92 (0.0097) | 1.21 (0.0006) | -3 | -0.39 (0.0095) | 0.3 (0.0001) | 0% | 2.61 (0.0095) | 1.19 (0.0006) |
| D24 | 19126.6 (2.6) | 4.6 (0) | 1 | -3 | -0.04 (1) | 0.29 (0.0001) | 0% | 2.96 (0.0091) | 1.13 (0.0005) | -3 | -0.35 (0.0089) | 0.28 (0.0001) | 0% | 2.65 (0.0089) | 1.11 (0.0005) |
| D25 | 19508.9 (2.7) | 5 (0) | 1 | 2 | 2.35 (1) | 0.31 (0.0001) | 78.7% | 0.35 (0.0097) | 1.2 (0.0005) | 2 | 1.99 (0.0095) | 0.3 (0.0001) | 95% | -0.01 (0.0095) | 1.18 (0.0005) |
| D26 | 19109.5 (2.6) | 4.6 (0) | 1 | 2 | 2.36 (1) | 0.29 (0.0001) | 76% | 0.36 (0.0089) | 1.12 (0.0005) | 2 | 2 (0.0087) | 0.28 (0.0001) | 95.6% | 0 (0.0087) | 1.1 (0.0005) |
| D27 | 19520 (2.7) | 5 (0) | 1 | 2.966 | 2.58 (1) | 0.31 (0.0001) | 74.4% | -0.39 (0.0097) | 1.2 (0.0005) | 2.58 | 2.26 (0.0096) | 0.3 (0.0001) | 80.3% | -0.32 (0.0096) | 1.18 (0.0005) |
| D28 | 19122.3 (2.6) | 4.6 (0) | 1 | 2.966 | 2.58 (1) | 0.29 (0.0001) | 72.5% | -0.39 (0.0089) | 1.13 (0.0005) | 2.58 | 2.26 (0.0087) | 0.28 (0.0001) | 78.7% | -0.32 (0.0087) | 1.1 (0.0005) |
| D29 | 19520 (2.7) | 5 (0) | 1 | 0.966 | 0.58 (0.999) | 0.31 (0.0001) | 74.4% | -0.39 (0.0097) | 1.2 (0.0005) | 0.58 | 0.26 (0.0096) | 0.3 (0.0001) | 80.3% | -0.32 (0.0096) | 1.18 (0.0005) |
| D30 | 19122.3 (2.6) | 4.6 (0) | 1 | 0.966 | 0.58 (1) | 0.29 (0.0001) | 72.5% | -0.39 (0.0089) | 1.13 (0.0005) | 0.58 | 0.26 (0.0087) | 0.28 (0.0001) | 78.7% | -0.32 (0.0087) | 1.1 (0.0005) |
| D31 | 19606.7 (2.6) | 5 (0) | 0.98 | 2 | 1.99 (0.977) | 0.31 (0.0001) | 95.7% | -0.01 (0.0097) | 1.22 (0.0005) | 2 | 1.99 (0.0096) | 0.3 (0.0001) | 95.3% | -0.01 (0.0096) | 1.2 (0.0005) |
| D32 | 19222.8 (2.5) | 4.7 (0) | 0.99 | 2 | 2 (0.993) | 0.29 (0.0001) | 95.7% | 0 (0.0089) | 1.14 (0.0005) | 2 | 2 (0.0087) | 0.29 (0.0001) | 95.8% | 0 (0.0087) | 1.12 (0.0005) |
| D33 | 19618.5 (2.6) | 5.1 (0) | 1 | 2.5 | 2.83 (1) | 0.31 (0.0001) | 81% | 0.33 (0.0097) | 1.22 (0.0005) | 2 | 2.75 (0.0095) | 0.31 (0.0001) | 32.6% | 0.75 (0.0095) | 1.2 (0.0005) |
| D34 | 19236.2 (2.6) | 4.7 (0) | 1 | 2.5 | 2.85 (1) | 0.29 (0.0001) | 78% | 0.35 (0.0089) | 1.15 (0.0005) | 2 | 2.77 (0.0087) | 0.29 (0.0001) | 24.1% | 0.77 (0.0087) | 1.12 (0.0005) |
| D35 | 19618.5 (2.6) | 5.1 (0) | 0.7 | 0.5 | 0.83 (0.704) | 0.31 (0.0001) | 81% | 0.33 (0.0097) | 1.22 (0.0005) | 0 | 0.75 (0.0095) | 0.31 (0.0001) | 32.6% | 0.75 (0.0095) | 1.2 (0.0005) |
| D36 | 19236.2 (2.6) | 4.7 (0) | 0.78 | 0.5 | 0.85 (0.784) | 0.29 (0.0001) | 78% | 0.35 (0.0089) | 1.15 (0.0005) | 0 | 0.77 (0.0087) | 0.29 (0.0001) | 24.1% | 0.77 (0.0087) | 1.12 (0.0005) |

S3 Table E: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 5 ($y_{itk} = \beta_0 + \partial x_{tk} + \kappa_t + \varphi_t + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19629 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.055) | 0.68 (0.0003) | 97.6% | 0.03 (0.0201) | 2.67 (0.0012) | 0 | -0.01 (0.0101) | 0.32 (0.0002) | 95.4% | -0.01 (0.0101) | 1.24 (0.0006) |
| D2 | 19222.5 (2.6) | 4.6 (0) | 0.11 | 0 | 0.04 (0.105) | 0.63 (0.0003) | 96.6% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0093) | 0.29 (0.0001) | 95.3% | -0.01 (0.0093) | 1.15 (0.0005) |
| D3 | 19622.9 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.055) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D4 | 19217.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.101) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D5 | 19622.9 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.055) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D6 | 19217.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.101) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D7 | 19622.9 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.055) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D8 | 19217.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.101) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D9 | 19622.9 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.387) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D10 | 19217.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.462) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D11 | 19622.9 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.387) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D12 | 19217.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.462) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D13 | 19626.9 (2.7) | 4.9 (0) | 0.29 | 2.9 | 2.05 (0.286) | 0.68 (0.0003) | 75.1% | -0.85 (0.0201) | 2.66 (0.0012) | 2.9 | 2.17 (0.0101) | 0.31 (0.0001) | 36.8% | -0.73 (0.0101) | 1.23 (0.0006) |
| D14 | 19221.8 (2.6) | 4.6 (0) | 0.37 | 2.9 | 2.04 (0.374) | 0.63 (0.0003) | 71% | -0.86 (0.0197) | 2.47 (0.0011) | 2.9 | 2.17 (0.0092) | 0.29 (0.0001) | 29.7% | -0.73 (0.0092) | 1.15 (0.0005) |
| D15 | 19626.9 (2.7) | 4.9 (0) | 0.1 | 0.9 | 0.05 (0.095) | 0.68 (0.0003) | 75.1% | -0.85 (0.0201) | 2.66 (0.0012) | 0.9 | 0.17 (0.0101) | 0.31 (0.0001) | 36.8% | -0.73 (0.0101) | 1.23 (0.0006) |
| D16 | 19221.8 (2.6) | 4.6 (0) | 0.17 | 0.9 | 0.04 (0.165) | 0.63 (0.0003) | 71% | -0.86 (0.0197) | 2.47 (0.0011) | 0.9 | 0.17 (0.0092) | 0.29 (0.0001) | 29.7% | -0.73 (0.0092) | 1.15 (0.0005) |
| D17 | 19634 (2.7) | 4.9 (0) | 0.32 | 3.5 | 2.05 (0.315) | 0.68 (0.0003) | 42.8% | -1.45 (0.0201) | 2.67 (0.0012) | 3.5 | 2.29 (0.0101) | 0.31 (0.0001) | 3.4% | -1.21 (0.0101) | 1.23 (0.0006) |
| D18 | 19229.8 (2.6) | 4.6 (0) | 0.43 | 3.5 | 2.04 (0.434) | 0.63 (0.0003) | 37.4% | -1.46 (0.0197) | 2.48 (0.0011) | 3.5 | 2.28 (0.0093) | 0.29 (0.0001) | 1.5% | -1.22 (0.0093) | 1.15 (0.0005) |
| D19 | 19634 (2.7) | 4.9 (0) | 0.21 | 1.5 | 0.05 (0.208) | 0.68 (0.0003) | 42.8% | -1.45 (0.0201) | 2.67 (0.0012) | 1.5 | 0.29 (0.0101) | 0.31 (0.0001) | 3.4% | -1.21 (0.0101) | 1.23 (0.0006) |
| D20 | 19229.8 (2.6) | 4.6 (0) | 0.32 | 1.5 | 0.04 (0.321) | 0.63 (0.0003) | 37.4% | -1.46 (0.0197) | 2.48 (0.0011) | 1.5 | 0.28 (0.0093) | 0.29 (0.0001) | 1.5% | -1.22 (0.0093) | 1.15 (0.0005) |
| D21 | 19666.8 (2.7) | 4.9 (0) | 0.8 | -5 | -1.97 (0.802) | 0.68 (0.0003) | 0.3% | 3.03 (0.02) | 2.68 (0.0012) | -5 | -2.58 (0.0101) | 0.32 (0.0002) | 0% | 2.42 (0.0101) | 1.25 (0.0006) |
| D22 | 19266 (2.6) | 4.6 (0) | 0.9 | -5 | -1.93 (0.898) | 0.64 (0.0003) | 0.2% | 3.07 (0.0197) | 2.49 (0.0011) | -5 | -2.55 (0.0094) | 0.3 (0.0001) | 0% | 2.45 (0.0094) | 1.16 (0.0005) |
| D23 | 19666.8 (2.7) | 4.9 (0) | 0.81 | -3 | 0.03 (0.805) | 0.68 (0.0003) | 0.3% | 3.03 (0.02) | 2.68 (0.0012) | -3 | -0.58 (0.0101) | 0.32 (0.0002) | 0% | 2.42 (0.0101) | 1.25 (0.0006) |
| D24 | 19266 (2.6) | 4.6 (0) | 0.9 | -3 | 0.07 (0.897) | 0.64 (0.0003) | 0.2% | 3.07 (0.0197) | 2.49 (0.0011) | -3 | -0.55 (0.0094) | 0.3 (0.0001) | 0% | 2.45 (0.0094) | 1.16 (0.0005) |
| D25 | 19622.9 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.387) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D26 | 19217.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.462) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D27 | 19628 (2.7) | 4.9 (0) | 0.32 | 2.966 | 2.26 (0.315) | 0.68 (0.0003) | 80.9% | -0.71 (0.0201) | 2.66 (0.0012) | 2.58 | 2.28 (0.0101) | 0.31 (0.0001) | 84.2% | -0.3 (0.0101) | 1.23 (0.0005) |
| D28 | 19223.1 (2.6) | 4.6 (0) | 0.41 | 2.966 | 2.26 (0.412) | 0.63 (0.0003) | 77.3% | -0.71 (0.0197) | 2.47 (0.0011) | 2.58 | 2.28 (0.0092) | 0.29 (0.0001) | 83.2% | -0.3 (0.0092) | 1.15 (0.0005) |
| D29 | 19628 (2.7) | 4.9 (0) | 0.07 | 0.966 | 0.26 (0.068) | 0.68 (0.0003) | 80.9% | -0.71 (0.0201) | 2.66 (0.0012) | 0.58 | 0.28 (0.0101) | 0.31 (0.0001) | 84.2% | -0.3 (0.0101) | 1.23 (0.0005) |
| D30 | 19223.1 (2.6) | 4.6 (0) | 0.13 | 0.966 | 0.26 (0.128) | 0.63 (0.0003) | 77.3% | -0.71 (0.0197) | 2.47 (0.0011) | 0.58 | 0.28 (0.0092) | 0.29 (0.0001) | 83.2% | -0.3 (0.0092) | 1.15 (0.0005) |
| D31 | 19622.9 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.387) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.31 (0.0001) | 95.2% | -0.01 (0.0101) | 1.23 (0.0005) |
| D32 | 19217.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.462) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0001) | 95.3% | -0.01 (0.0092) | 1.15 (0.0005) |
| D33 | 19639.5 (2.7) | 4.9 (0) | 0.57 | 2.5 | 3.07 (0.573) | 0.68 (0.0003) | 87.7% | 0.57 (0.0201) | 2.67 (0.0012) | 2 | 2.69 (0.0101) | 0.31 (0.0001) | 41.8% | 0.69 (0.0101) | 1.23 (0.0006) |
| D34 | 19236.2 (2.6) | 4.6 (0) | 0.66 | 2.5 | 3.09 (0.66) | 0.63 (0.0003) | 84% | 0.59 (0.0197) | 2.48 (0.0011) | 2 | 2.7 (0.0093) | 0.29 (0.0001) | 34.9% | 0.7 (0.0093) | 1.15 (0.0005) |
| D35 | 19639.5 (2.7) | 4.9 (0) | 0.11 | 0.5 | 1.07 (0.112) | 0.68 (0.0003) | 87.7% | 0.57 (0.0201) | 2.67 (0.0012) | 0 | 0.69 (0.0101) | 0.31 (0.0001) | 41.8% | 0.69 (0.0101) | 1.23 (0.0006) |
| D36 | 19236.2 (2.6) | 4.6 (0) | 0.19 | 0.5 | 1.09 (0.185) | 0.63 (0.0003) | 84% | 0.59 (0.0197) | 2.48 (0.0011) | 0 | 0.7 (0.0093) | 0.29 (0.0001) | 34.9% | 0.7 (0.0093) | 1.15 (0.0005) |

S3 Table F: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 6 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \psi d_{tk} + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19486.6 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.122) | 0.44 (0.0003) | 91.1% | -0.01 (0.0156) | 1.71 (0.0012) | 0 | -0.01 (0.0156) | 0.44 (0.0003) | 91.1% | -0.01 (0.0156) | 1.71 (0.0012) |
| D2 | 19082 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.091) | 0.41 (0.0002) | 96.7% | 0 (0.0121) | 1.6 (0.001) | 0 | 0 (0.0121) | 0.41 (0.0002) | 96.7% | 0 (0.0121) | 1.6 (0.001) |
| D3 | 19480.6 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.12) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 0 | -0.01 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D4 | 19076.7 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.093) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 0 | 0 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D5 | 19533.8 (2.7) | 5 (0) | 0.79 | 0 | -0.85 (0.785) | 0.43 (0.0003) | 50.1% | -0.85 (0.0154) | 1.69 (0.001) | 0 | -0.85 (0.0154) | 0.43 (0.0003) | 50.1% | -0.85 (0.0154) | 1.69 (0.001) |
| D6 | 19138.6 (2.6) | 4.6 (0) | 0.85 | 0 | -0.87 (0.848) | 0.41 (0.0002) | 42.7% | -0.87 (0.0119) | 1.6 (0.0008) | 0 | -0.87 (0.0119) | 0.41 (0.0002) | 42.7% | -0.87 (0.0119) | 1.6 (0.0008) |
| D7 | 19606.5 (2.6) | 5 (0) | 0.11 | 0 | -0.01 (0.113) | 0.44 (0.0002) | 91.7% | -0.01 (0.0154) | 1.71 (0.001) | 0 | -0.01 (0.0154) | 0.44 (0.0002) | 91.7% | -0.01 (0.0154) | 1.71 (0.001) |
| D8 | 19222.8 (2.5) | 4.7 (0) | 0.08 | 0 | 0 (0.08) | 0.41 (0.0002) | 97.1% | 0 (0.0119) | 1.62 (0.0008) | 0 | 0 (0.0119) | 0.41 (0.0002) | 97.1% | 0 (0.0119) | 1.62 (0.0008) |
| D9 | 19480.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 2 | 1.99 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D10 | 19076.7 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 2 | 2 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D11 | 19480.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 2 | 1.99 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D12 | 19076.7 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 2 | 2 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D13 | 19480.6 (2.7) | 4.9 (0) | 1 | 2.9 | 2.89 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 2.9 | 2.89 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D14 | 19076.7 (2.6) | 4.6 (0) | 1 | 2.9 | 2.9 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 2.9 | 2.9 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D15 | 19480.6 (2.7) | 4.9 (0) | 0.71 | 0.9 | 0.89 (0.706) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 0.9 | 0.89 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D16 | 19076.7 (2.6) | 4.6 (0) | 0.78 | 0.9 | 0.9 (0.782) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 0.9 | 0.9 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D17 | 19480.6 (2.7) | 4.9 (0) | 1 | 3.5 | 3.49 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 3.5 | 3.49 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D18 | 19076.7 (2.6) | 4.6 (0) | 1 | 3.5 | 3.5 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 3.5 | 3.5 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D19 | 19480.6 (2.7) | 4.9 (0) | 0.97 | 1.5 | 1.49 (0.974) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | 1.5 | 1.49 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D20 | 19076.7 (2.6) | 4.6 (0) | 1 | 1.5 | 1.5 (0.999) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | 1.5 | 1.5 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D21 | 19480.6 (2.7) | 4.9 (0) | 1 | -5 | -5.01 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | -5 | -5.01 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D22 | 19076.7 (2.6) | 4.6 (0) | 1 | -5 | -5 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | -5 | -5 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D23 | 19480.6 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) | -3 | -3.01 (0.0154) | 0.43 (0.0002) | 91.1% | -0.01 (0.0154) | 1.68 (0.0009) |
| D24 | 19076.7 (2.6) | 4.6 (0) | 1 | -3 | -3 (1) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) | -3 | -3 (0.0119) | 0.4 (0.0002) | 96.5% | 0 (0.0119) | 1.58 (0.0008) |
| D25 | 19533.8 (2.7) | 5 (0) | 1 | 2 | 1.15 (1) | 0.43 (0.0003) | 50.1% | -0.85 (0.0154) | 1.69 (0.001) | 2 | 1.15 (0.0154) | 0.43 (0.0003) | 50.1% | -0.85 (0.0154) | 1.69 (0.001) |
| D26 | 19138.6 (2.6) | 4.6 (0) | 1 | 2 | 1.13 (1) | 0.41 (0.0002) | 42.7% | -0.87 (0.0119) | 1.6 (0.0008) | 2 | 1.13 (0.0119) | 0.41 (0.0002) | 42.7% | -0.87 (0.0119) | 1.6 (0.0008) |
| D27 | 19543.1 (2.7) | 5 (0) | 1 | 2.966 | 1.87 (1) | 0.43 (0.0003) | 30.6% | -1.09 (0.0154) | 1.69 (0.001) | 2.58 | 1.87 (0.0154) | 0.43 (0.0003) | 61.2% | -0.71 (0.0154) | 1.69 (0.001) |
| D28 | 19149.3 (2.6) | 4.6 (0) | 1 | 2.966 | 1.85 (1) | 0.41 (0.0002) | 21.1% | -1.11 (0.0119) | 1.6 (0.0008) | 2.58 | 1.85 (0.0119) | 0.41 (0.0002) | 57.1% | -0.73 (0.0119) | 1.6 (0.0008) |
| D29 | 19543.1 (2.7) | 5 (0) | 0.39 | 0.966 | -0.13 (0.389) | 0.43 (0.0003) | 30.6% | -1.09 (0.0154) | 1.69 (0.001) | 0.58 | -0.13 (0.0154) | 0.43 (0.0003) | 61.2% | -0.71 (0.0154) | 1.69 (0.001) |
| D30 | 19149.3 (2.6) | 4.6 (0) | 0.4 | 0.966 | -0.15 (0.395) | 0.41 (0.0002) | 21.1% | -1.11 (0.0119) | 1.6 (0.0008) | 0.58 | -0.15 (0.0119) | 0.41 (0.0002) | 57.1% | -0.73 (0.0119) | 1.6 (0.0008) |
| D31 | 19606.5 (2.6) | 5 (0) | 1 | 2 | 1.99 (1) | 0.44 (0.0002) | 91.7% | -0.01 (0.0154) | 1.71 (0.001) | 2 | 1.99 (0.0154) | 0.44 (0.0002) | 91.7% | -0.01 (0.0154) | 1.71 (0.001) |
| D32 | 19222.8 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.41 (0.0002) | 97.1% | 0 (0.0119) | 1.62 (0.0008) | 2 | 2 (0.0119) | 0.41 (0.0002) | 97.1% | 0 (0.0119) | 1.62 (0.0008) |
| D33 | 19616.5 (2.6) | 5.1 (0) | 1 | 2.5 | 2.16 (1) | 0.44 (0.0002) | 84.8% | -0.34 (0.0154) | 1.71 (0.001) | 2 | 2.16 (0.0154) | 0.44 (0.0002) | 91.6% | 0.16 (0.0154) | 1.71 (0.001) |
| D34 | 19234.3 (2.6) | 4.7 (0) | 1 | 2.5 | 2.18 (1) | 0.41 (0.0002) | 89.6% | -0.32 (0.0119) | 1.62 (0.0008) | 2 | 2.18 (0.0119) | 0.41 (0.0002) | 95.3% | 0.18 (0.0119) | 1.62 (0.0008) |
| D35 | 19616.5 (2.6) | 5.1 (0) | 0.88 | 0.5 | 0.16 (0.881) | 0.44 (0.0002) | 84.8% | -0.34 (0.0154) | 1.71 (0.001) | 0 | 0.16 (0.0154) | 0.44 (0.0002) | 91.6% | 0.16 (0.0154) | 1.71 (0.001) |
| D36 | 19234.3 (2.6) | 4.7 (0) | 0.9 | 0.5 | 0.18 (0.895) | 0.41 (0.0002) | 89.6% | -0.32 (0.0119) | 1.62 (0.0008) | 0 | 0.18 (0.0119) | 0.41 (0.0002) | 95.3% | 0.18 (0.0119) | 1.62 (0.0008) |

S3 Table G: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 7 ($y_{itk} = \beta_0 + \tau t + \psi d_{tk} + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19479.6 (2.7) | 4.9 (0) | 0.09 | 0 | -0.01 (0.092) | 0.36 (0.0002) | 90.8% | -0.01 (0.0126) | 1.4 (0.0009) | 0 | -0.01 (0.0126) | 0.36 (0.0002) | 90.8% | -0.01 (0.0126) | 1.4 (0.0009) |
| D2 | 19075 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.041) | 0.34 (0.0002) | 95.9% | 0 (0.0101) | 1.31 (0.0007) | 0 | 0 (0.0101) | 0.34 (0.0002) | 95.9% | 0 (0.0101) | 1.31 (0.0007) |
| D3 | 19473.5 (2.7) | 4.9 (0) | 0.08 | 0 | -0.01 (0.082) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) | 0 | -0.01 (0.0124) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) |
| D4 | 19069.7 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.035) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) | 0 | 0 (0.0099) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) |
| D5 | 19526.9 (2.7) | 5 (0) | 0.76 | 0 | -0.96 (0.761) | 0.36 (0.0002) | 23.8% | -0.96 (0.0124) | 1.4 (0.0007) | 0 | -0.96 (0.0124) | 0.36 (0.0002) | 23.8% | -0.96 (0.0124) | 1.4 (0.0007) |
| D6 | 19131.7 (2.6) | 4.6 (0) | 0.84 | 0 | -0.98 (0.844) | 0.34 (0.0002) | 15.6% | -0.98 (0.01) | 1.32 (0.0006) | 0 | -0.98 (0.01) | 0.34 (0.0002) | 15.6% | -0.98 (0.01) | 1.32 (0.0006) |
| D7 | 19599.4 (2.6) | 5 (0) | 0.08 | 0 | -0.01 (0.081) | 0.36 (0.0002) | 91.9% | -0.01 (0.0124) | 1.41 (0.0007) | 0 | -0.01 (0.0124) | 0.36 (0.0002) | 91.9% | -0.01 (0.0124) | 1.41 (0.0007) |
| D8 | 19215.7 (2.5) | 4.7 (0) | 0.03 | 0 | 0 (0.031) | 0.34 (0.0002) | 96.9% | 0 (0.0099) | 1.33 (0.0006) | 0 | 0 (0.0099) | 0.34 (0.0002) | 96.9% | 0 (0.0099) | 1.33 (0.0006) |
| D9 | 19516.3 (2.6) | 5 (0) | 0.21 | 2 | 0.39 (0.208) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) | 2 | 0.39 (0.0125) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) |
| D10 | 19119.3 (2.6) | 4.6 (0) | 0.19 | 2 | 0.36 (0.187) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) | 2 | 0.36 (0.01) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) |
| D11 | 19516.3 (2.6) | 5 (0) | 0.21 | 2 | 0.39 (0.208) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) | 2 | 0.39 (0.0125) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) |
| D12 | 19119.3 (2.6) | 4.6 (0) | 0.19 | 2 | 0.36 (0.187) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) | 2 | 0.36 (0.01) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) |
| D13 | 19516.3 (2.6) | 5 (0) | 0.93 | 2.9 | 1.29 (0.931) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) | 2.9 | 1.29 (0.0125) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) |
| D14 | 19119.3 (2.6) | 4.6 (0) | 0.97 | 2.9 | 1.26 (0.971) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) | 2.9 | 1.26 (0.01) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) |
| D15 | 19473.5 (2.7) | 4.9 (0) | 0.71 | 0.9 | 0.89 (0.707) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) | 0.9 | 0.89 (0.0124) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) |
| D16 | 19069.7 (2.6) | 4.6 (0) | 0.79 | 0.9 | 0.9 (0.787) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) | 0.9 | 0.9 (0.0099) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) |
| D17 | 19516.3 (2.6) | 5 (0) | 1 | 3.5 | 1.89 (0.997) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) | 3.5 | 1.89 (0.0125) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.4 (0.0008) |
| D18 | 19119.3 (2.6) | 4.6 (0) | 1 | 3.5 | 1.86 (1) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) | 3.5 | 1.86 (0.01) | 0.34 (0.0002) | 0.1% | -1.64 (0.01) | 1.31 (0.0006) |
| D19 | 19473.5 (2.7) | 4.9 (0) | 0.97 | 1.5 | 1.49 (0.973) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) | 1.5 | 1.49 (0.0124) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) |
| D20 | 19069.7 (2.6) | 4.6 (0) | 1 | 1.5 | 1.5 (0.999) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) | 1.5 | 1.5 (0.0099) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) |
| D21 | 19516.7 (2.7) | 5 (0) | 1 | -5 | -3.4 (1) | 0.36 (0.0002) | 1.4% | 1.6 (0.0124) | 1.4 (0.0008) | -5 | -3.4 (0.0124) | 0.36 (0.0002) | 1.4% | 1.6 (0.0124) | 1.4 (0.0008) |
| D22 | 19119.2 (2.6) | 4.6 (0) | 1 | -5 | -3.36 (1) | 0.34 (0.0002) | 0% | 1.64 (0.01) | 1.31 (0.0006) | -5 | -3.36 (0.01) | 0.34 (0.0002) | 0% | 1.64 (0.01) | 1.31 (0.0006) |
| D23 | 19473.5 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) | -3 | -3.01 (0.0124) | 0.35 (0.0002) | 91.8% | -0.01 (0.0124) | 1.38 (0.0007) |
| D24 | 19069.7 (2.6) | 4.6 (0) | 1 | -3 | -3 (1) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) | -3 | -3 (0.0099) | 0.33 (0.0002) | 96.4% | 0 (0.0099) | 1.3 (0.0006) |
| D25 | 19574.7 (2.7) | 5 (0) | 0.38 | 2 | -0.6 (0.383) | 0.36 (0.0002) | 0% | -2.6 (0.0126) | 1.42 (0.0008) | 2 | -0.6 (0.0126) | 0.36 (0.0002) | 0% | -2.6 (0.0126) | 1.42 (0.0008) |
| D26 | 19186.3 (2.6) | 4.7 (0) | 0.47 | 2 | -0.64 (0.47) | 0.34 (0.0002) | 0% | -2.64 (0.0102) | 1.33 (0.0007) | 2 | -0.64 (0.0102) | 0.34 (0.0002) | 0% | -2.64 (0.0102) | 1.33 (0.0007) |
| D27 | 19592.6 (2.6) | 5 (0) | 0.09 | 2.966 | -0.03 (0.086) | 0.36 (0.0002) | 0% | -2.99 (0.0126) | 1.42 (0.0009) | 2.58 | -0.03 (0.0126) | 0.36 (0.0002) | 0% | -2.61 (0.0126) | 1.42 (0.0009) |
| D28 | 19206.9 (2.6) | 4.7 (0) | 0.04 | 2.966 | -0.07 (0.04) | 0.34 (0.0002) | 0% | -3.04 (0.0102) | 1.34 (0.0007) | 2.58 | -0.07 (0.0102) | 0.34 (0.0002) | 0% | -2.65 (0.0102) | 1.34 (0.0007) |
| D29 | 19537.1 (2.7) | 5 (0) | 0.22 | 0.966 | -0.39 (0.217) | 0.36 (0.0002) | 5.8% | -1.36 (0.0124) | 1.4 (0.0007) | 0.58 | -0.39 (0.0124) | 0.36 (0.0002) | 23.4% | -0.97 (0.0124) | 1.4 (0.0007) |
| D30 | 19143.5 (2.6) | 4.6 (0) | 0.22 | 0.966 | -0.41 (0.215) | 0.34 (0.0002) | 1% | -1.37 (0.01) | 1.32 (0.0006) | 0.58 | -0.41 (0.01) | 0.34 (0.0002) | 15.2% | -0.99 (0.01) | 1.32 (0.0006) |
| D31 | 19640.5 (2.6) | 5.1 (0) | 0.2 | 2 | 0.39 (0.202) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.42 (0.0008) | 2 | 0.39 (0.0125) | 0.36 (0.0002) | 1.1% | -1.61 (0.0125) | 1.42 (0.0008) |
| D32 | 19262.9 (2.5) | 4.7 (0) | 0.17 | 2 | 0.37 (0.174) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.34 (0.0007) | 2 | 0.37 (0.01) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.34 (0.0007) |
| D33 | 19692.3 (2.6) | 5.1 (0) | 0.09 | 2.5 | -0.13 (0.085) | 0.37 (0.0002) | 0% | -2.63 (0.0125) | 1.44 (0.0008) | 2 | -0.13 (0.0125) | 0.37 (0.0002) | 0% | -2.13 (0.0125) | 1.44 (0.0008) |
| D34 | 19322.2 (2.5) | 4.8 (0) | 0.06 | 2.5 | -0.16 (0.06) | 0.35 (0.0002) | 0% | -2.66 (0.0101) | 1.36 (0.0007) | 2 | -0.16 (0.0101) | 0.35 (0.0002) | 0% | -2.16 (0.0101) | 1.36 (0.0007) |
| D35 | 19616.9 (2.6) | 5.1 (0) | 0.3 | 0.5 | -0.52 (0.304) | 0.36 (0.0002) | 20.5% | -1.02 (0.0124) | 1.41 (0.0007) | 0 | -0.52 (0.0124) | 0.36 (0.0002) | 69.6% | -0.52 (0.0124) | 1.41 (0.0007) |
| D36 | 19235.9 (2.6) | 4.7 (0) | 0.32 | 0.5 | -0.52 (0.324) | 0.34 (0.0002) | 13.8% | -1.02 (0.0099) | 1.34 (0.0006) | 0 | -0.52 (0.0099) | 0.34 (0.0002) | 67.5% | -0.52 (0.0099) | 1.34 (0.0006) |

S3 Table H: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 8 ($y_{itk} = \beta_0 + \kappa_t + \xi_d + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|---------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19635.9 (2.7) | 4.9 (0) | 0.04 | 0 | 0 (0.043) | 0.59 (0.0003) | 93.3% | 0 (0.0204) | 2.32 (0.0013) | 0 | -0.02 (0.0174) | 0.49 (0.0004) | 91.4% | -0.02 (0.0174) | 1.91 (0.0015) |
| D2 | 19229.6 (2.6) | 4.6 (0) | 0.04 | 0 | 0.01 (0.044) | 0.55 (0.0003) | 95.8% | 0.01 (0.0175) | 2.17 (0.0011) | 0 | 0 (0.0135) | 0.46 (0.0003) | 96.9% | 0 (0.0135) | 1.8 (0.0011) |
| D3 | 19629.8 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D4 | 19224.3 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0 | 0 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D5 | 19629.8 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D6 | 19224.3 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0 | 0 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D7 | 19629.8 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D8 | 19224.3 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0 | 0 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D9 | 19629.8 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D10 | 19224.3 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2 | 2 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D11 | 19629.8 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D12 | 19224.3 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2 | 2 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D13 | 19629.8 (2.7) | 4.9 (0) | 1 | 2.9 | 2.9 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2.9 | 2.96 (0.0171) | 0.48 (0.0003) | 91.4% | 0.06 (0.0171) | 1.87 (0.0011) |
| D14 | 19224.3 (2.6) | 4.6 (0) | 1 | 2.9 | 2.92 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2.9 | 2.97 (0.0131) | 0.45 (0.0002) | 96.9% | 0.07 (0.0131) | 1.77 (0.0009) |
| D15 | 19629.8 (2.7) | 4.9 (0) | 1 | 0.9 | 0.9 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0.9 | 0.96 (0.0171) | 0.48 (0.0003) | 91.4% | 0.06 (0.0171) | 1.87 (0.0011) |
| D16 | 19224.3 (2.6) | 4.6 (0) | 1 | 0.9 | 0.92 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0.9 | 0.97 (0.0131) | 0.45 (0.0002) | 96.9% | 0.07 (0.0131) | 1.77 (0.0009) |
| D17 | 19629.8 (2.7) | 4.9 (0) | 1 | 3.5 | 3.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 3.5 | 3.61 (0.0171) | 0.48 (0.0003) | 91.2% | 0.11 (0.0171) | 1.87 (0.0011) |
| D18 | 19224.3 (2.6) | 4.6 (0) | 1 | 3.5 | 3.52 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 3.5 | 3.62 (0.0131) | 0.45 (0.0002) | 96.5% | 0.12 (0.0131) | 1.77 (0.0009) |
| D19 | 19629.8 (2.7) | 4.9 (0) | 1 | 1.5 | 1.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 1.5 | 1.61 (0.0171) | 0.48 (0.0003) | 91.2% | 0.11 (0.0171) | 1.87 (0.0011) |
| D20 | 19224.3 (2.6) | 4.6 (0) | 1 | 1.5 | 1.52 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 1.5 | 1.62 (0.0131) | 0.45 (0.0002) | 96.5% | 0.12 (0.0131) | 1.77 (0.0009) |
| D21 | 19629.8 (2.7) | 4.9 (0) | 1 | -5 | -5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | -5 | -5.27 (0.0171) | 0.48 (0.0003) | 87.8% | -0.27 (0.0171) | 1.87 (0.0011) |
| D22 | 19224.3 (2.6) | 4.6 (0) | 1 | -5 | -4.98 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | -5 | -5.25 (0.0131) | 0.45 (0.0002) | 93% | -0.25 (0.0131) | 1.77 (0.0009) |
| D23 | 19629.8 (2.7) | 4.9 (0) | 0.44 | -3 | -3 (0.442) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | -3 | -3.27 (0.0171) | 0.48 (0.0003) | 87.8% | -0.27 (0.0171) | 1.87 (0.0011) |
| D24 | 19224.3 (2.6) | 4.6 (0) | 0.53 | -3 | -2.98 (0.525) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | -3 | -3.25 (0.0131) | 0.45 (0.0002) | 93% | -0.25 (0.0131) | 1.77 (0.0009) |
| D25 | 19629.8 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D26 | 19224.3 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2 | 2 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D27 | 19629.8 (2.7) | 4.9 (0) | 1 | 2.966 | 2.97 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2.58 | 2.61 (0.0171) | 0.48 (0.0003) | 91.3% | 0.03 (0.0171) | 1.87 (0.0011) |
| D28 | 19224.3 (2.6) | 4.6 (0) | 1 | 2.966 | 2.98 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2.58 | 2.63 (0.0131) | 0.45 (0.0002) | 96.8% | 0.05 (0.0131) | 1.77 (0.0009) |
| D29 | 19629.8 (2.7) | 4.9 (0) | 1 | 0.966 | 0.97 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0.58 | 0.61 (0.0171) | 0.48 (0.0003) | 91.3% | 0.03 (0.0171) | 1.87 (0.0011) |
| D30 | 19224.3 (2.6) | 4.6 (0) | 1 | 0.966 | 0.98 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0.58 | 0.63 (0.0131) | 0.45 (0.0002) | 96.8% | 0.05 (0.0131) | 1.77 (0.0009) |
| D31 | 19629.8 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D32 | 19224.3 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2 | 2 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D33 | 19629.8 (2.7) | 4.9 (0) | 1 | 2.5 | 2.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D34 | 19224.3 (2.6) | 4.6 (0) | 1 | 2.5 | 2.52 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 2 | 2 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |
| D35 | 19629.8 (2.7) | 4.9 (0) | 1 | 0.5 | 0.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.3 (0.0011) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.4% | -0.02 (0.0171) | 1.87 (0.0011) |
| D36 | 19224.3 (2.6) | 4.6 (0) | 1 | 0.5 | 0.52 (1) | 0.55 (0.0002) | 95.8% | 0.02 (0.0174) | 2.15 (0.0009) | 0 | 0 (0.0131) | 0.45 (0.0002) | 96.9% | 0 (0.0131) | 1.77 (0.0009) |

S3 Table I: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 9 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \psi d_{tk} + \zeta t^2 + v_{0ik} + \epsilon_{itk}$) with compound symmetric covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19493.6 (2.7) | 4.9 (0) | 0.13 | 0 | -0.01 (0.129) | 0.45 (0.0003) | 91% | -0.01 (0.0162) | 1.77 (0.0014) | 0 | -0.01 (0.0162) | 0.45 (0.0003) | 91% | -0.01 (0.0162) | 1.77 (0.0014) |
| D2 | 19089.2 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.093) | 0.42 (0.0003) | 96.4% | 0 (0.0126) | 1.67 (0.0011) | 0 | 0 (0.0126) | 0.42 (0.0003) | 96.4% | 0 (0.0126) | 1.67 (0.0011) |
| D3 | 19487.5 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.12) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 0 | -0.01 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D4 | 19083.9 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.089) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 0 | 0 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D5 | 19487.8 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.12) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 0 | -0.01 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D6 | 19084.2 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.089) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 0 | 0 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D7 | 19613.5 (2.6) | 5 (0) | 0.11 | 0 | -0.01 (0.114) | 0.45 (0.0003) | 91.7% | -0.01 (0.0159) | 1.77 (0.001) | 0 | -0.01 (0.0159) | 0.45 (0.0003) | 91.7% | -0.01 (0.0159) | 1.77 (0.001) |
| D8 | 19230 (2.5) | 4.7 (0) | 0.08 | 0 | 0 (0.077) | 0.43 (0.0002) | 97% | 0 (0.0122) | 1.68 (0.0009) | 0 | 0 (0.0122) | 0.43 (0.0002) | 97% | 0 (0.0122) | 1.68 (0.0009) |
| D9 | 19487.5 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 2 | 1.99 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D10 | 19083.9 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 2 | 2 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D11 | 19487.5 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 2 | 1.99 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D12 | 19083.9 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 2 | 2 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D13 | 19487.5 (2.7) | 4.9 (0) | 1 | 2.9 | 2.89 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 2.9 | 2.89 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D14 | 19083.9 (2.6) | 4.6 (0) | 1 | 2.9 | 2.9 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 2.9 | 2.9 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D15 | 19487.5 (2.7) | 4.9 (0) | 0.65 | 0.9 | 0.89 (0.649) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 0.9 | 0.89 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D16 | 19083.9 (2.6) | 4.6 (0) | 0.73 | 0.9 | 0.9 (0.734) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 0.9 | 0.9 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D17 | 19487.5 (2.7) | 4.9 (0) | 1 | 3.5 | 3.49 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 3.5 | 3.49 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D18 | 19083.9 (2.6) | 4.6 (0) | 1 | 3.5 | 3.5 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 3.5 | 3.5 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D19 | 19487.5 (2.7) | 4.9 (0) | 0.96 | 1.5 | 1.49 (0.958) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 1.5 | 1.49 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D20 | 19083.9 (2.6) | 4.6 (0) | 0.99 | 1.5 | 1.5 (0.992) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 1.5 | 1.5 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D21 | 19487.5 (2.7) | 4.9 (0) | 1 | -5 | -5.01 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | -5 | -5.01 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D22 | 19083.9 (2.6) | 4.6 (0) | 1 | -5 | -5 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | -5 | -5 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D23 | 19487.5 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | -3 | -3.01 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D24 | 19083.9 (2.6) | 4.6 (0) | 1 | -3 | -3 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | -3 | -3 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D25 | 19487.8 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) | 2 | 1.99 (0.0159) | 0.44 (0.0003) | 91.2% | -0.01 (0.0159) | 1.73 (0.001) |
| D26 | 19084.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) | 2 | 2 (0.0123) | 0.42 (0.0002) | 96.5% | 0 (0.0123) | 1.64 (0.0008) |
| D27 | 19491.4 (2.7) | 4.9 (0) | 1 | 2.966 | 2.76 (1) | 0.44 (0.0003) | 88.6% | -0.21 (0.0159) | 1.73 (0.001) | 2.58 | 2.76 (0.0159) | 0.44 (0.0003) | 89.8% | 0.18 (0.0159) | 1.73 (0.001) |
| D28 | 19088.5 (2.6) | 4.6 (0) | 1 | 2.966 | 2.78 (1) | 0.42 (0.0002) | 93.4% | -0.19 (0.0123) | 1.64 (0.0008) | 2.58 | 2.78 (0.0123) | 0.42 (0.0002) | 93.5% | 0.2 (0.0123) | 1.64 (0.0008) |
| D29 | 19491.4 (2.7) | 4.9 (0) | 0.4 | 0.966 | 0.76 (0.404) | 0.44 (0.0003) | 88.6% | -0.21 (0.0159) | 1.73 (0.001) | 0.58 | 0.76 (0.0159) | 0.44 (0.0003) | 89.8% | 0.18 (0.0159) | 1.73 (0.001) |
| D30 | 19088.5 (2.6) | 4.6 (0) | 0.45 | 0.966 | 0.78 (0.451) | 0.42 (0.0002) | 93.4% | -0.19 (0.0123) | 1.64 (0.0008) | 0.58 | 0.78 (0.0123) | 0.42 (0.0002) | 93.5% | 0.2 (0.0123) | 1.64 (0.0008) |
| D31 | 19613.5 (2.6) | 5 (0) | 1 | 2 | 1.99 (1) | 0.45 (0.0003) | 91.7% | -0.01 (0.0159) | 1.77 (0.001) | 2 | 1.99 (0.0159) | 0.45 (0.0003) | 91.7% | -0.01 (0.0159) | 1.77 (0.001) |
| D32 | 19230 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.43 (0.0002) | 97% | 0 (0.0122) | 1.68 (0.0009) | 2 | 2 (0.0122) | 0.43 (0.0002) | 97% | 0 (0.0122) | 1.68 (0.0009) |
| D33 | 19623.2 (2.6) | 5 (0) | 1 | 2.5 | 2.22 (1) | 0.45 (0.0003) | 87.8% | -0.28 (0.0159) | 1.77 (0.001) | 2 | 2.22 (0.0159) | 0.45 (0.0003) | 88.9% | 0.22 (0.0159) | 1.77 (0.001) |
| D34 | 19241.2 (2.6) | 4.7 (0) | 1 | 2.5 | 2.24 (1) | 0.43 (0.0002) | 92.7% | -0.26 (0.0122) | 1.68 (0.0009) | 2 | 2.24 (0.0122) | 0.43 (0.0002) | 93% | 0.24 (0.0122) | 1.68 (0.0009) |
| D35 | 19623.2 (2.6) | 5 (0) | 0.85 | 0.5 | 0.22 (0.849) | 0.45 (0.0003) | 87.8% | -0.28 (0.0159) | 1.77 (0.001) | 0 | 0.22 (0.0159) | 0.45 (0.0003) | 88.9% | 0.22 (0.0159) | 1.77 (0.001) |
| D36 | 19241.2 (2.6) | 4.7 (0) | 0.87 | 0.5 | 0.24 (0.869) | 0.43 (0.0002) | 92.7% | -0.26 (0.0122) | 1.68 (0.0009) | 0 | 0.24 (0.0122) | 0.43 (0.0002) | 93% | 0.24 (0.0122) | 1.68 (0.0009) |

S3 Table J: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 1 ($y_{itk} = \beta_0 + \partial x_{tk} + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19479.6 (2.7) | 4.9 (0) | 0.06 | 0 | -0.01 (0.059) | 0.21 (0.0001) | 94% | -0.01 (0.0068) | 0.82 (0.0005) | 0 | -0.01 (0.0068) | 0.21 (0.0001) | 94% | -0.01 (0.0068) | 0.82 (0.0005) |
| D2 | 19074.8 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.19 (0.0001) | 95.3% | 0 (0.0059) | 0.75 (0.0005) | 0 | 0 (0.0059) | 0.19 (0.0001) | 95.3% | 0 (0.0059) | 0.75 (0.0005) |
| D3 | 19524.6 (2.6) | 5 (0) | 1 | 0 | 1.57 (1) | 0.21 (0.0001) | 0% | 1.57 (0.0068) | 0.83 (0.0005) | 0 | 1.57 (0.0068) | 0.21 (0.0001) | 0% | 1.57 (0.0068) | 0.83 (0.0005) |
| D4 | 19129.6 (2.5) | 4.6 (0) | 1 | 0 | 1.59 (1) | 0.19 (0.0001) | 0% | 1.59 (0.006) | 0.76 (0.0005) | 0 | 1.59 (0.006) | 0.19 (0.0001) | 0% | 1.59 (0.006) | 0.76 (0.0005) |
| D5 | 19532.3 (2.7) | 5 (0) | 0.06 | 0 | -0.01 (0.055) | 0.21 (0.0001) | 94.5% | -0.01 (0.0068) | 0.83 (0.0005) | 0 | -0.01 (0.0068) | 0.21 (0.0001) | 94.5% | -0.01 (0.0068) | 0.83 (0.0005) |
| D6 | 19139.6 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.039) | 0.2 (0.0001) | 96.1% | 0 (0.0059) | 0.77 (0.0005) | 0 | 0 (0.0059) | 0.2 (0.0001) | 96.1% | 0 (0.0059) | 0.77 (0.0005) |
| D7 | 19637.2 (2.6) | 5.1 (0) | 1 | 0 | -1.47 (1) | 0.22 (0.0001) | 0% | -1.47 (0.0069) | 0.87 (0.0006) | 0 | -1.47 (0.0069) | 0.22 (0.0001) | 0% | -1.47 (0.0069) | 0.87 (0.0006) |
| D8 | 19264.2 (2.6) | 4.8 (0) | 1 | 0 | -1.5 (1) | 0.21 (0.0001) | 0% | -1.5 (0.006) | 0.81 (0.0005) | 0 | -1.5 (0.006) | 0.21 (0.0001) | 0% | -1.5 (0.006) | 0.81 (0.0005) |
| D9 | 19473.5 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.21 (0.0001) | 94.1% | -0.01 (0.0068) | 0.81 (0.0005) | 2 | 1.99 (0.0068) | 0.21 (0.0001) | 94.1% | -0.01 (0.0068) | 0.81 (0.0005) |
| D10 | 19069.4 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.19 (0.0001) | 95.4% | 0 (0.0059) | 0.75 (0.0005) | 2 | 2 (0.0059) | 0.19 (0.0001) | 95.4% | 0 (0.0059) | 0.75 (0.0005) |
| D11 | 19524.7 (2.6) | 5 (0) | 1 | 2 | 3.57 (0.999) | 0.21 (0.0001) | 0% | 1.57 (0.0068) | 0.83 (0.0005) | 2 | 3.57 (0.0068) | 0.21 (0.0001) | 0% | 1.57 (0.0068) | 0.83 (0.0005) |
| D12 | 19129.6 (2.5) | 4.6 (0) | 1 | 2 | 3.59 (1) | 0.19 (0.0001) | 0% | 1.59 (0.006) | 0.76 (0.0005) | 2 | 3.59 (0.006) | 0.19 (0.0001) | 0% | 1.59 (0.006) | 0.76 (0.0005) |
| D13 | 19561.9 (2.6) | 5 (0) | 1 | 2.9 | 4.13 (1) | 0.21 (0.0001) | 0% | 1.23 (0.0068) | 0.84 (0.0005) | 2.9 | 4.13 (0.0068) | 0.21 (0.0001) | 0% | 1.23 (0.0068) | 0.84 (0.0005) |
| D14 | 19174.4 (2.5) | 4.7 (0) | 1 | 2.9 | 4.15 (1) | 0.2 (0.0001) | 0% | 1.25 (0.006) | 0.78 (0.0005) | 2.9 | 4.15 (0.006) | 0.2 (0.0001) | 0% | 1.25 (0.006) | 0.78 (0.0005) |
| D15 | 19561.9 (2.6) | 5 (0) | 1 | 0.9 | 2.13 (1) | 0.21 (0.0001) | 0% | 1.23 (0.0068) | 0.84 (0.0005) | 0.9 | 2.13 (0.0068) | 0.21 (0.0001) | 0% | 1.23 (0.0068) | 0.84 (0.0005) |
| D16 | 19174.4 (2.5) | 4.7 (0) | 1 | 0.9 | 2.15 (1) | 0.2 (0.0001) | 0% | 1.25 (0.006) | 0.78 (0.0005) | 0.9 | 2.15 (0.006) | 0.2 (0.0001) | 0% | 1.25 (0.006) | 0.78 (0.0005) |
| D17 | 19596.5 (2.6) | 5.1 (0) | 1 | 3.5 | 4.5 (1) | 0.22 (0.0001) | 0.2% | 1 (0.0068) | 0.85 (0.0006) | 3.5 | 4.5 (0.0068) | 0.22 (0.0001) | 0.2% | 1 (0.0068) | 0.85 (0.0006) |
| D18 | 19215.6 (2.5) | 4.7 (0) | 1 | 3.5 | 4.52 (1) | 0.2 (0.0001) | 0% | 1.02 (0.006) | 0.79 (0.0005) | 3.5 | 4.52 (0.006) | 0.2 (0.0001) | 0% | 1.02 (0.006) | 0.79 (0.0005) |
| D19 | 19596.5 (2.6) | 5.1 (0) | 1 | 1.5 | 2.5 (1) | 0.22 (0.0001) | 0.2% | 1 (0.0068) | 0.85 (0.0006) | 1.5 | 2.5 (0.0068) | 0.22 (0.0001) | 0.2% | 1 (0.0068) | 0.85 (0.0006) |
| D20 | 19215.6 (2.5) | 4.7 (0) | 1 | 1.5 | 2.52 (1) | 0.2 (0.0001) | 0% | 1.02 (0.006) | 0.79 (0.0005) | 1.5 | 2.52 (0.006) | 0.2 (0.0001) | 0% | 1.02 (0.006) | 0.79 (0.0005) |
| D21 | 19539.6 (2.7) | 5 (0) | 1 | -5 | -2.32 (1) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.84 (0.0006) | -5 | -2.32 (0.0068) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.84 (0.0006) |
| D22 | 19146.4 (2.6) | 4.6 (0) | 1 | -5 | -2.3 (1) | 0.2 (0.0001) | 0% | 2.7 (0.006) | 0.77 (0.0005) | -5 | -2.3 (0.006) | 0.2 (0.0001) | 0% | 2.7 (0.006) | 0.77 (0.0005) |
| D23 | 19539.6 (2.7) | 5 (0) | 0.33 | -3 | -0.32 (0.327) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.84 (0.0006) | -3 | -0.32 (0.0068) | 0.21 (0.0001) | 0% | 2.68 (0.0068) | 0.84 (0.0006) |
| D24 | 19146.4 (2.6) | 4.6 (0) | 0.32 | -3 | -0.3 (0.321) | 0.2 (0.0001) | 0% | 2.7 (0.006) | 0.77 (0.0005) | -3 | -0.3 (0.006) | 0.2 (0.0001) | 0% | 2.7 (0.006) | 0.77 (0.0005) |
| D25 | 19532.3 (2.7) | 5 (0) | 1 | 2 | 1.99 (1) | 0.21 (0.0001) | 94.5% | -0.01 (0.0068) | 0.83 (0.0005) | 2 | 1.99 (0.0068) | 0.21 (0.0001) | 94.5% | -0.01 (0.0068) | 0.83 (0.0005) |
| D26 | 19139.6 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.2 (0.0001) | 96.1% | 0 (0.0059) | 0.77 (0.0005) | 2 | 2 (0.0059) | 0.2 (0.0001) | 96.1% | 0 (0.0059) | 0.77 (0.0005) |
| D27 | 19536.7 (2.7) | 5 (0) | 1 | 2.966 | 2.5 (1) | 0.21 (0.0001) | 41.8% | -0.46 (0.0068) | 0.83 (0.0005) | 2.58 | 2.5 (0.0068) | 0.21 (0.0001) | 92.8% | -0.08 (0.0068) | 0.83 (0.0005) |
| D28 | 19144.9 (2.6) | 4.6 (0) | 1 | 2.966 | 2.51 (1) | 0.2 (0.0001) | 36% | -0.46 (0.0059) | 0.77 (0.0005) | 2.58 | 2.51 (0.0059) | 0.2 (0.0001) | 93.5% | -0.07 (0.0059) | 0.77 (0.0005) |
| D29 | 19536.7 (2.7) | 5 (0) | 0.66 | 0.966 | 0.5 (0.662) | 0.21 (0.0001) | 41.8% | -0.46 (0.0068) | 0.83 (0.0005) | 0.58 | 0.5 (0.0068) | 0.21 (0.0001) | 92.8% | -0.08 (0.0068) | 0.83 (0.0005) |
| D30 | 19144.9 (2.6) | 4.6 (0) | 0.75 | 0.966 | 0.51 (0.749) | 0.2 (0.0001) | 36% | -0.46 (0.0059) | 0.77 (0.0005) | 0.58 | 0.51 (0.0059) | 0.2 (0.0001) | 93.5% | -0.07 (0.0059) | 0.77 (0.0005) |
| D31 | 19637.2 (2.6) | 5.1 (0) | 0.67 | 2 | 0.53 (0.669) | 0.22 (0.0001) | 0% | -1.47 (0.0069) | 0.87 (0.0006) | 2 | 0.53 (0.0069) | 0.22 (0.0001) | 0% | -1.47 (0.0069) | 0.87 (0.0006) |
| D32 | 19264.2 (2.6) | 4.8 (0) | 0.7 | 2 | 0.5 (0.696) | 0.21 (0.0001) | 0% | -1.5 (0.006) | 0.81 (0.0005) | 2 | 0.5 (0.006) | 0.21 (0.0001) | 0% | -1.5 (0.006) | 0.81 (0.0005) |
| D33 | 19669 (2.6) | 5.2 (0) | 0.99 | 2.5 | 0.92 (0.985) | 0.23 (0.0002) | 0% | -1.58 (0.0069) | 0.89 (0.0006) | 2 | 0.92 (0.0069) | 0.23 (0.0002) | 0.2% | -1.08 (0.0069) | 0.89 (0.0006) |
| D34 | 19302.5 (2.6) | 4.8 (0) | 0.99 | 2.5 | 0.89 (0.993) | 0.21 (0.0001) | 0% | -1.61 (0.006) | 0.82 (0.0005) | 2 | 0.89 (0.006) | 0.21 (0.0001) | 0% | -1.11 (0.006) | 0.82 (0.0005) |
| D35 | 19669 (2.6) | 5.2 (0) | 1 | 0.5 | -1.08 (0.998) | 0.23 (0.0002) | 0% | -1.58 (0.0069) | 0.89 (0.0006) | 0 | -1.08 (0.0069) | 0.23 (0.0002) | 0.2% | -1.08 (0.0069) | 0.89 (0.0006) |
| D36 | 19302.5 (2.6) | 4.8 (0) | 1 | 0.5 | -1.11 (1) | 0.21 (0.0001) | 0% | -1.61 (0.006) | 0.82 (0.0005) | 0 | -1.11 (0.006) | 0.21 (0.0001) | 0% | -1.11 (0.006) | 0.82 (0.0005) |

S3 Table K: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 2 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + v_{0ik} + \epsilon_{ijk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19486.6 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.052) | 0.3 (0.0002) | 94.8% | -0.01 (0.0096) | 1.19 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 94.8% | -0.01 (0.0096) | 1.19 (0.0007) |
| D2 | 19081.9 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.05) | 0.28 (0.0002) | 95% | 0 (0.0088) | 1.1 (0.0006) | 0 | 0 (0.0088) | 0.28 (0.0002) | 95% | 0 (0.0088) | 1.1 (0.0006) |
| D3 | 19480.5 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.05) | 0.3 (0.0002) | 94.8% | -0.01 (0.0096) | 1.18 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 94.8% | -0.01 (0.0096) | 1.18 (0.0007) |
| D4 | 19076.5 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0002) | 95.2% | 0 (0.0087) | 1.09 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.2% | 0 (0.0087) | 1.09 (0.0006) |
| D5 | 19539.3 (2.7) | 5 (0) | 0.04 | 0 | -0.01 (0.044) | 0.31 (0.0002) | 95.6% | -0.01 (0.0096) | 1.2 (0.0007) | 0 | -0.01 (0.0096) | 0.31 (0.0002) | 95.6% | -0.01 (0.0096) | 1.2 (0.0007) |
| D6 | 19147 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.041) | 0.28 (0.0002) | 95.8% | 0 (0.0087) | 1.11 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.8% | 0 (0.0087) | 1.11 (0.0006) |
| D7 | 19601.8 (2.6) | 5.1 (0) | 0.04 | 0 | -0.01 (0.042) | 0.31 (0.0002) | 95.8% | -0.01 (0.0096) | 1.23 (0.0007) | 0 | -0.01 (0.0096) | 0.31 (0.0002) | 95.8% | -0.01 (0.0096) | 1.23 (0.0007) |
| D8 | 19220.6 (2.5) | 4.7 (0) | 0.04 | 0 | 0 (0.04) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) | 0 | 0 (0.0087) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) |
| D9 | 19480.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (0.999) | 0.3 (0.0002) | 94.9% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 94.9% | -0.01 (0.0096) | 1.18 (0.0007) |
| D10 | 19076.6 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D11 | 19480.5 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D12 | 19076.6 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D13 | 19486.6 (2.7) | 4.9 (0) | 1 | 2.9 | 2.12 (1) | 0.3 (0.0002) | 26.5% | -0.78 (0.0096) | 1.18 (0.0007) | 2.9 | 2.12 (0.0096) | 0.3 (0.0002) | 26.5% | -0.78 (0.0096) | 1.18 (0.0007) |
| D14 | 19083.7 (2.6) | 4.6 (0) | 1 | 2.9 | 2.12 (0.999) | 0.28 (0.0002) | 19.5% | -0.78 (0.0087) | 1.09 (0.0006) | 2.9 | 2.12 (0.0087) | 0.28 (0.0002) | 19.5% | -0.78 (0.0087) | 1.09 (0.0006) |
| D15 | 19486.6 (2.7) | 4.9 (0) | 0.07 | 0.9 | 0.12 (0.067) | 0.3 (0.0002) | 26.5% | -0.78 (0.0096) | 1.18 (0.0007) | 0.9 | 0.12 (0.0096) | 0.3 (0.0002) | 26.5% | -0.78 (0.0096) | 1.18 (0.0007) |
| D16 | 19083.8 (2.6) | 4.6 (0) | 0.07 | 0.9 | 0.12 (0.07) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) | 0.9 | 0.12 (0.0087) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) |
| D17 | 19497.3 (2.7) | 5 (0) | 1 | 3.5 | 2.21 (1) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.19 (0.0007) | 3.5 | 2.21 (0.0096) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.19 (0.0007) |
| D18 | 19096.5 (2.6) | 4.6 (0) | 1 | 3.5 | 2.19 (1) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) | 3.5 | 2.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) |
| D19 | 19497.3 (2.7) | 5 (0) | 0.11 | 1.5 | 0.21 (0.105) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.19 (0.0007) | 1.5 | 0.21 (0.0096) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.19 (0.0007) |
| D20 | 19096.5 (2.6) | 4.6 (0) | 0.11 | 1.5 | 0.19 (0.109) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) | 1.5 | 0.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) |
| D21 | 19546.5 (2.7) | 5 (0) | 1 | -5 | -2.4 (1) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.22 (0.0008) | -5 | -2.4 (0.0095) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.22 (0.0008) |
| D22 | 19153.5 (2.6) | 4.6 (0) | 1 | -5 | -2.36 (1) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) | -5 | -2.36 (0.0089) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) |
| D23 | 19546.5 (2.7) | 5 (0) | 0.26 | -3 | -0.4 (0.259) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.22 (0.0008) | -3 | -0.4 (0.0095) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.22 (0.0008) |
| D24 | 19153.5 (2.6) | 4.6 (0) | 0.25 | -3 | -0.36 (0.253) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) | -3 | -0.36 (0.0089) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) |
| D25 | 19539.1 (2.7) | 5 (0) | 1 | 2 | 1.99 (0.999) | 0.31 (0.0002) | 95.5% | -0.01 (0.0096) | 1.2 (0.0007) | 2 | 1.99 (0.0096) | 0.31 (0.0002) | 95.5% | -0.01 (0.0096) | 1.2 (0.0007) |
| D26 | 19146.8 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.9% | 0 (0.0087) | 1.11 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.9% | 0 (0.0087) | 1.11 (0.0006) |
| D27 | 19542.5 (2.7) | 5 (0) | 1 | 2.966 | 2.26 (1) | 0.31 (0.0002) | 35.7% | -0.71 (0.0096) | 1.2 (0.0007) | 2.58 | 2.26 (0.0096) | 0.31 (0.0002) | 81.1% | -0.32 (0.0096) | 1.2 (0.0007) |
| D28 | 19150.6 (2.6) | 4.6 (0) | 1 | 2.966 | 2.26 (1) | 0.28 (0.0002) | 29.1% | -0.71 (0.0087) | 1.12 (0.0006) | 2.58 | 2.26 (0.0087) | 0.28 (0.0002) | 78.8% | -0.32 (0.0087) | 1.12 (0.0006) |
| D29 | 19542.5 (2.7) | 5 (0) | 0.13 | 0.966 | 0.26 (0.129) | 0.31 (0.0002) | 35.7% | -0.71 (0.0096) | 1.2 (0.0007) | 0.58 | 0.26 (0.0096) | 0.31 (0.0002) | 81.1% | -0.32 (0.0096) | 1.2 (0.0007) |
| D30 | 19150.6 (2.6) | 4.6 (0) | 0.14 | 0.966 | 0.26 (0.141) | 0.28 (0.0002) | 29.1% | -0.71 (0.0087) | 1.12 (0.0006) | 0.58 | 0.26 (0.0087) | 0.28 (0.0002) | 78.8% | -0.32 (0.0087) | 1.12 (0.0006) |
| D31 | 19601.8 (2.6) | 5.1 (0) | 1 | 2 | 1.99 (0.999) | 0.31 (0.0002) | 95.7% | -0.01 (0.0096) | 1.23 (0.0007) | 2 | 1.99 (0.0096) | 0.31 (0.0002) | 95.7% | -0.01 (0.0096) | 1.23 (0.0007) |
| D32 | 19220.6 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) | 2 | 2 (0.0087) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) |
| D33 | 19614.6 (2.6) | 5.1 (0) | 1 | 2.5 | 2.71 (1) | 0.31 (0.0002) | 90.9% | 0.21 (0.0096) | 1.23 (0.0007) | 2 | 2.71 (0.0096) | 0.31 (0.0002) | 38.2% | 0.71 (0.0096) | 1.23 (0.0007) |
| D34 | 19235.4 (2.6) | 4.7 (0) | 1 | 2.5 | 2.74 (1) | 0.29 (0.0002) | 87.5% | 0.24 (0.0087) | 1.14 (0.0006) | 2 | 2.74 (0.0087) | 0.29 (0.0002) | 27.5% | 0.74 (0.0087) | 1.14 (0.0006) |
| D35 | 19614.5 (2.6) | 5.1 (0) | 0.62 | 0.5 | 0.71 (0.617) | 0.31 (0.0002) | 90.8% | 0.21 (0.0096) | 1.23 (0.0007) | 0 | 0.71 (0.0096) | 0.31 (0.0002) | 38.2% | 0.71 (0.0096) | 1.23 (0.0007) |
| D36 | 19235.4 (2.6) | 4.7 (0) | 0.72 | 0.5 | 0.74 (0.723) | 0.29 (0.0002) | 87.5% | 0.24 (0.0087) | 1.14 (0.0006) | 0 | 0.74 (0.0087) | 0.29 (0.0002) | 27.5% | 0.74 (0.0087) | 1.14 (0.0006) |

S3 Table L: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 3 ($y_{itk} = \beta_0 + \partial x_{tk} + \kappa_t + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19564.4 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.052) | 0.3 (0.0002) | 94.7% | -0.01 (0.0096) | 1.19 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 94.7% | -0.01 (0.0096) | 1.19 (0.0007) |
| D2 | 19159.5 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.049) | 0.28 (0.0002) | 95% | 0 (0.0088) | 1.09 (0.0006) | 0 | 0 (0.0088) | 0.28 (0.0002) | 95% | 0 (0.0088) | 1.09 (0.0006) |
| D3 | 19558.4 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.05) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D4 | 19154.2 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D5 | 19558.4 (2.7) | 4.9 (0) | 0.05 | 0 | 0 (0.05) | 0.3 (0.0002) | 94.9% | 0 (0.0096) | 1.18 (0.0007) | 0 | 0 (0.0096) | 0.3 (0.0002) | 94.9% | 0 (0.0096) | 1.18 (0.0007) |
| D6 | 19154.2 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D7 | 19558.4 (2.7) | 4.9 (0) | 0.05 | 0 | -0.01 (0.05) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D8 | 19154.2 (2.6) | 4.6 (0) | 0.05 | 0 | 0 (0.047) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D9 | 19558.4 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D10 | 19154.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D11 | 19558.4 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D12 | 19154.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D13 | 19563.8 (2.7) | 4.9 (0) | 1 | 2.9 | 2.12 (0.999) | 0.3 (0.0002) | 26.3% | -0.78 (0.0096) | 1.18 (0.0007) | 2.9 | 2.12 (0.0096) | 0.3 (0.0002) | 26.3% | -0.78 (0.0096) | 1.18 (0.0007) |
| D14 | 19160.5 (2.6) | 4.6 (0) | 1 | 2.9 | 2.12 (1) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) | 2.9 | 2.12 (0.0087) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) |
| D15 | 19563.6 (2.7) | 4.9 (0) | 0.07 | 0.9 | 0.12 (0.067) | 0.3 (0.0002) | 26.3% | -0.78 (0.0096) | 1.18 (0.0007) | 0.9 | 0.12 (0.0096) | 0.3 (0.0002) | 26.3% | -0.78 (0.0096) | 1.18 (0.0007) |
| D16 | 19160.5 (2.6) | 4.6 (0) | 0.07 | 0.9 | 0.12 (0.07) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) | 0.9 | 0.12 (0.0087) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) |
| D17 | 19573.1 (2.7) | 4.9 (0) | 1 | 3.5 | 2.21 (1) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.18 (0.0007) | 3.5 | 2.21 (0.0096) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.18 (0.0007) |
| D18 | 19171.7 (2.6) | 4.6 (0) | 1 | 3.5 | 2.19 (1) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) | 3.5 | 2.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) |
| D19 | 19573.1 (2.7) | 4.9 (0) | 0.11 | 1.5 | 0.21 (0.106) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.18 (0.0007) | 1.5 | 0.21 (0.0096) | 0.3 (0.0002) | 1.2% | -1.29 (0.0096) | 1.18 (0.0007) |
| D20 | 19171.7 (2.6) | 4.6 (0) | 0.11 | 1.5 | 0.19 (0.109) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) | 1.5 | 0.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.1 (0.0006) |
| D21 | 19616.6 (2.6) | 5 (0) | 1 | -5 | -2.4 (1) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.21 (0.0008) | -5 | -2.4 (0.0095) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.21 (0.0008) |
| D22 | 19221.9 (2.6) | 4.6 (0) | 1 | -5 | -2.36 (1) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) | -5 | -2.36 (0.0089) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) |
| D23 | 19616.6 (2.6) | 5 (0) | 0.26 | -3 | -0.4 (0.259) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.21 (0.0008) | -3 | -0.4 (0.0095) | 0.31 (0.0002) | 0% | 2.6 (0.0095) | 1.21 (0.0008) |
| D24 | 19221.9 (2.6) | 4.6 (0) | 0.26 | -3 | -0.36 (0.256) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) | -3 | -0.36 (0.0089) | 0.29 (0.0002) | 0% | 2.64 (0.0089) | 1.12 (0.0006) |
| D25 | 19558.4 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D26 | 19154.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D27 | 19564.1 (2.7) | 4.9 (0) | 1 | 2.966 | 2.26 (1) | 0.3 (0.0002) | 34.4% | -0.71 (0.0096) | 1.18 (0.0007) | 2.58 | 2.26 (0.0096) | 0.3 (0.0002) | 80.2% | -0.32 (0.0096) | 1.18 (0.0007) |
| D28 | 19161.1 (2.6) | 4.6 (0) | 1 | 2.966 | 2.26 (1) | 0.28 (0.0002) | 27.2% | -0.71 (0.0087) | 1.09 (0.0006) | 2.58 | 2.26 (0.0087) | 0.28 (0.0002) | 78.3% | -0.32 (0.0087) | 1.09 (0.0006) |
| D29 | 19564.1 (2.7) | 4.9 (0) | 0.14 | 0.966 | 0.26 (0.136) | 0.3 (0.0002) | 34.4% | -0.71 (0.0096) | 1.18 (0.0007) | 0.58 | 0.26 (0.0096) | 0.3 (0.0002) | 80.2% | -0.32 (0.0096) | 1.18 (0.0007) |
| D30 | 19161.1 (2.6) | 4.6 (0) | 0.15 | 0.966 | 0.26 (0.152) | 0.28 (0.0002) | 27.2% | -0.71 (0.0087) | 1.09 (0.0006) | 0.58 | 0.26 (0.0087) | 0.28 (0.0002) | 78.3% | -0.32 (0.0087) | 1.09 (0.0006) |
| D31 | 19558.4 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D32 | 19154.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D33 | 19575.9 (2.7) | 4.9 (0) | 1 | 2.5 | 2.74 (1) | 0.3 (0.0002) | 88.1% | 0.24 (0.0096) | 1.18 (0.0007) | 2 | 2.74 (0.0096) | 0.3 (0.0002) | 32.6% | 0.74 (0.0096) | 1.18 (0.0007) |
| D34 | 19174.8 (2.6) | 4.6 (0) | 1 | 2.5 | 2.77 (1) | 0.28 (0.0002) | 84.2% | 0.27 (0.0087) | 1.09 (0.0006) | 2 | 2.77 (0.0087) | 0.28 (0.0002) | 22.2% | 0.77 (0.0087) | 1.09 (0.0006) |
| D35 | 19575.9 (2.7) | 4.9 (0) | 0.67 | 0.5 | 0.74 (0.672) | 0.3 (0.0002) | 88.1% | 0.24 (0.0096) | 1.18 (0.0007) | 0 | 0.74 (0.0096) | 0.3 (0.0002) | 32.6% | 0.74 (0.0096) | 1.18 (0.0007) |
| D36 | 19174.9 (2.6) | 4.6 (0) | 0.77 | 0.5 | 0.77 (0.772) | 0.28 (0.0002) | 84.1% | 0.27 (0.0087) | 1.09 (0.0006) | 0 | 0.77 (0.0087) | 0.28 (0.0002) | 22.2% | 0.77 (0.0087) | 1.09 (0.0006) |

S3 Table M: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 4 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \omega x_{tk}t + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19493.7 (2.7) | 4.9 (0) | 0.07 | 0 | -0.01 (0.073) | 0.31 (0.0002) | 94.6% | -0.01 (0.0097) | 1.21 (0.0008) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 94.8% | -0.01 (0.0096) | 1.19 (0.0007) |
| D2 | 19089 (2.6) | 4.6 (0) | 0.07 | 0 | 0 (0.068) | 0.29 (0.0002) | 94.8% | 0 (0.0089) | 1.12 (0.0006) | 0 | 0 (0.0088) | 0.28 (0.0002) | 95% | 0 (0.0088) | 1.09 (0.0006) |
| D3 | 19487.6 (2.7) | 4.9 (0) | 0.07 | 0 | -0.01 (0.073) | 0.31 (0.0002) | 95.1% | -0.01 (0.0097) | 1.2 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D4 | 19083.7 (2.6) | 4.6 (0) | 0.07 | 0 | 0 (0.067) | 0.28 (0.0002) | 95% | 0 (0.0089) | 1.11 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D5 | 19515.2 (2.7) | 5 (0) | 1 | 0 | 0.35 (1) | 0.31 (0.0002) | 78.9% | 0.35 (0.0097) | 1.22 (0.0007) | 0 | -0.01 (0.0096) | 0.3 (0.0002) | 95.5% | -0.01 (0.0096) | 1.19 (0.0007) |
| D6 | 19116.7 (2.6) | 4.6 (0) | 1 | 0 | 0.36 (0.999) | 0.29 (0.0002) | 76.1% | 0.36 (0.0089) | 1.12 (0.0006) | 0 | 0 (0.0087) | 0.28 (0.0002) | 95.4% | 0 (0.0087) | 1.1 (0.0006) |
| D7 | 19609 (2.6) | 5.1 (0) | 0.06 | 0 | -0.01 (0.061) | 0.32 (0.0002) | 95.8% | -0.01 (0.0097) | 1.25 (0.0007) | 0 | -0.01 (0.0096) | 0.31 (0.0002) | 95.8% | -0.01 (0.0096) | 1.23 (0.0007) |
| D8 | 19227.8 (2.5) | 4.7 (0) | 0.05 | 0 | 0 (0.052) | 0.3 (0.0002) | 95.8% | 0 (0.0089) | 1.16 (0.0006) | 0 | 0 (0.0087) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) |
| D9 | 19487.6 (2.7) | 4.9 (0) | 0.98 | 2 | 1.99 (0.98) | 0.31 (0.0002) | 95% | -0.01 (0.0097) | 1.2 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 94.9% | -0.01 (0.0096) | 1.18 (0.0007) |
| D10 | 19083.7 (2.6) | 4.6 (0) | 0.99 | 2 | 2 (0.994) | 0.28 (0.0002) | 95% | 0 (0.0089) | 1.11 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.3% | 0 (0.0087) | 1.09 (0.0006) |
| D11 | 19487.6 (2.7) | 4.9 (0) | 0.98 | 2 | 1.99 (0.981) | 0.31 (0.0002) | 95.1% | -0.01 (0.0097) | 1.2 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95% | -0.01 (0.0096) | 1.18 (0.0007) |
| D12 | 19083.7 (2.6) | 4.6 (0) | 0.99 | 2 | 2 (0.993) | 0.28 (0.0002) | 94.9% | 0 (0.0089) | 1.11 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.2% | 0 (0.0087) | 1.09 (0.0006) |
| D13 | 19491.6 (2.7) | 4.9 (0) | 0.96 | 2.9 | 2.03 (0.963) | 0.31 (0.0002) | 19.7% | -0.87 (0.0097) | 1.21 (0.0007) | 2.9 | 2.12 (0.0096) | 0.3 (0.0002) | 26.3% | -0.78 (0.0096) | 1.18 (0.0007) |
| D14 | 19088.4 (2.6) | 4.6 (0) | 0.99 | 2.9 | 2.02 (0.986) | 0.28 (0.0002) | 13.3% | -0.88 (0.0089) | 1.11 (0.0006) | 2.9 | 2.12 (0.0087) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) |
| D15 | 19491.5 (2.7) | 4.9 (0) | 0.33 | 0.9 | 0.03 (0.326) | 0.31 (0.0002) | 19.8% | -0.87 (0.0097) | 1.21 (0.0007) | 0.9 | 0.12 (0.0096) | 0.3 (0.0002) | 26.4% | -0.78 (0.0096) | 1.18 (0.0007) |
| D16 | 19088.4 (2.6) | 4.6 (0) | 0.36 | 0.9 | 0.02 (0.358) | 0.28 (0.0002) | 13.3% | -0.88 (0.0089) | 1.11 (0.0006) | 0.9 | 0.12 (0.0087) | 0.28 (0.0002) | 19.6% | -0.78 (0.0087) | 1.09 (0.0006) |
| D17 | 19498.6 (2.7) | 4.9 (0) | 0.98 | 3.5 | 2.05 (0.98) | 0.31 (0.0002) | 0.3% | -1.45 (0.0097) | 1.21 (0.0007) | 3.5 | 2.21 (0.0096) | 0.3 (0.0002) | 1.1% | -1.29 (0.0096) | 1.18 (0.0007) |
| D18 | 19096.8 (2.6) | 4.6 (0) | 1 | 3.5 | 2.04 (0.995) | 0.29 (0.0002) | 0.1% | -1.46 (0.0089) | 1.12 (0.0006) | 3.5 | 2.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.09 (0.0006) |
| D19 | 19498.6 (2.7) | 4.9 (0) | 0.69 | 1.5 | 0.05 (0.687) | 0.31 (0.0002) | 0.3% | -1.45 (0.0097) | 1.21 (0.0007) | 1.5 | 0.21 (0.0096) | 0.3 (0.0002) | 1.1% | -1.29 (0.0096) | 1.18 (0.0007) |
| D20 | 19096.6 (2.6) | 4.6 (0) | 0.78 | 1.5 | 0.04 (0.779) | 0.29 (0.0002) | 0.1% | -1.46 (0.0089) | 1.12 (0.0006) | 1.5 | 0.19 (0.0087) | 0.28 (0.0002) | 0.3% | -1.31 (0.0087) | 1.09 (0.0006) |
| D21 | 19531.4 (2.7) | 5 (0) | 1 | -5 | -2.09 (1) | 0.31 (0.0002) | 0% | 2.91 (0.0097) | 1.23 (0.0008) | -5 | -2.39 (0.0095) | 0.31 (0.0002) | 0% | 2.61 (0.0095) | 1.2 (0.0007) |
| D22 | 19133.6 (2.6) | 4.6 (0) | 1 | -5 | -2.04 (1) | 0.29 (0.0002) | 0% | 2.96 (0.0091) | 1.13 (0.0006) | -5 | -2.35 (0.0089) | 0.28 (0.0002) | 0% | 2.65 (0.0089) | 1.11 (0.0006) |
| D23 | 19531.4 (2.7) | 5 (0) | 1 | -3 | -0.09 (0.995) | 0.31 (0.0002) | 0% | 2.91 (0.0097) | 1.23 (0.0008) | -3 | -0.39 (0.0095) | 0.31 (0.0002) | 0% | 2.61 (0.0095) | 1.2 (0.0007) |
| D24 | 19133.6 (2.6) | 4.6 (0) | 1 | -3 | -0.04 (1) | 0.29 (0.0002) | 0% | 2.96 (0.0091) | 1.13 (0.0006) | -3 | -0.35 (0.0089) | 0.28 (0.0002) | 0% | 2.65 (0.0089) | 1.11 (0.0006) |
| D25 | 19515.2 (2.7) | 5 (0) | 1 | 2 | 2.35 (1) | 0.31 (0.0002) | 78.9% | 0.35 (0.0097) | 1.22 (0.0007) | 2 | 1.99 (0.0096) | 0.3 (0.0002) | 95.5% | -0.01 (0.0096) | 1.19 (0.0007) |
| D26 | 19116.4 (2.6) | 4.6 (0) | 1 | 2 | 2.36 (0.999) | 0.29 (0.0002) | 76% | 0.36 (0.0089) | 1.12 (0.0006) | 2 | 2 (0.0087) | 0.28 (0.0002) | 95.4% | 0 (0.0087) | 1.1 (0.0006) |
| D27 | 19525.8 (2.7) | 5 (0) | 1 | 2.966 | 2.57 (1) | 0.31 (0.0002) | 75% | -0.39 (0.0097) | 1.22 (0.0007) | 2.58 | 2.26 (0.0096) | 0.3 (0.0002) | 80.8% | -0.32 (0.0096) | 1.19 (0.0007) |
| D28 | 19129.3 (2.6) | 4.6 (0) | 1 | 2.966 | 2.58 (1) | 0.29 (0.0002) | 72.5% | -0.39 (0.0089) | 1.13 (0.0006) | 2.58 | 2.26 (0.0087) | 0.28 (0.0002) | 78.6% | -0.32 (0.0087) | 1.11 (0.0006) |
| D29 | 19525.8 (2.7) | 5 (0) | 1 | 0.966 | 0.57 (0.998) | 0.31 (0.0002) | 75% | -0.39 (0.0097) | 1.22 (0.0007) | 0.58 | 0.26 (0.0096) | 0.3 (0.0002) | 80.8% | -0.32 (0.0096) | 1.19 (0.0007) |
| D30 | 19129.3 (2.6) | 4.6 (0) | 1 | 0.966 | 0.58 (1) | 0.29 (0.0002) | 72.5% | -0.39 (0.0089) | 1.13 (0.0006) | 0.58 | 0.26 (0.0087) | 0.28 (0.0002) | 78.6% | -0.32 (0.0087) | 1.11 (0.0006) |
| D31 | 19609 (2.6) | 5.1 (0) | 0.97 | 2 | 1.99 (0.974) | 0.32 (0.0002) | 95.7% | -0.01 (0.0098) | 1.25 (0.0007) | 2 | 1.99 (0.0096) | 0.31 (0.0002) | 95.7% | -0.01 (0.0096) | 1.23 (0.0007) |
| D32 | 19227.8 (2.5) | 4.7 (0) | 0.99 | 2 | 2 (0.99) | 0.3 (0.0002) | 95.8% | 0 (0.0089) | 1.16 (0.0006) | 2 | 2 (0.0087) | 0.29 (0.0002) | 96% | 0 (0.0087) | 1.14 (0.0006) |
| D33 | 19620.2 (2.6) | 5.1 (0) | 1 | 2.5 | 2.8 (1) | 0.32 (0.0002) | 84.7% | 0.3 (0.0098) | 1.26 (0.0007) | 2 | 2.71 (0.0096) | 0.31 (0.0002) | 38% | 0.71 (0.0096) | 1.23 (0.0007) |
| D34 | 19240.7 (2.6) | 4.7 (0) | 1 | 2.5 | 2.83 (0.999) | 0.3 (0.0002) | 81.5% | 0.33 (0.0089) | 1.17 (0.0006) | 2 | 2.74 (0.0087) | 0.29 (0.0002) | 27.4% | 0.74 (0.0087) | 1.14 (0.0006) |
| D35 | 19620.2 (2.6) | 5.1 (0) | 0.66 | 0.5 | 0.8 (0.655) | 0.32 (0.0002) | 84.7% | 0.3 (0.0098) | 1.26 (0.0007) | 0 | 0.71 (0.0096) | 0.31 (0.0002) | 38% | 0.71 (0.0096) | 1.23 (0.0007) |
| D36 | 19240.8 (2.6) | 4.7 (0) | 0.76 | 0.5 | 0.83 (0.756) | 0.3 (0.0002) | 81.5% | 0.33 (0.0089) | 1.17 (0.0006) | 0 | 0.74 (0.0087) | 0.29 (0.0002) | 27.4% | 0.74 (0.0087) | 1.14 (0.0006) |

S3 Table N: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 5 ($y_{itk} = \beta_0 + \partial x_{tk} + \kappa_t + \varphi_t + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19635.8 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.058) | 0.68 (0.0003) | 97.6% | 0.03 (0.0201) | 2.67 (0.0012) | 0 | -0.01 (0.0101) | 0.32 (0.0002) | 95.6% | -0.01 (0.0101) | 1.25 (0.0007) |
| D2 | 19229.5 (2.6) | 4.6 (0) | 0.11 | 0 | 0.04 (0.108) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0093) | 0.29 (0.0002) | 95.2% | -0.01 (0.0093) | 1.15 (0.0006) |
| D3 | 19629.7 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.059) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.32 (0.0002) | 95.2% | -0.01 (0.0101) | 1.24 (0.0007) |
| D4 | 19224.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.104) | 0.63 (0.0003) | 96.9% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0092) | 0.29 (0.0002) | 95.1% | -0.01 (0.0092) | 1.14 (0.0006) |
| D5 | 19629.7 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.059) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.32 (0.0002) | 95.2% | -0.01 (0.0101) | 1.24 (0.0007) |
| D6 | 19224.4 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.104) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | 0 (0.0092) | 0.29 (0.0002) | 95% | 0 (0.0092) | 1.14 (0.0006) |
| D7 | 19629.7 (2.7) | 4.9 (0) | 0.06 | 0 | 0.03 (0.059) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 0 | -0.01 (0.0101) | 0.32 (0.0002) | 95.2% | -0.01 (0.0101) | 1.24 (0.0007) |
| D8 | 19224.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0.04 (0.104) | 0.63 (0.0003) | 96.9% | 0.04 (0.0197) | 2.47 (0.0011) | 0 | -0.01 (0.0092) | 0.29 (0.0002) | 95.1% | -0.01 (0.0092) | 1.14 (0.0006) |
| D9 | 19629.7 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.389) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.32 (0.0002) | 95.2% | -0.01 (0.0101) | 1.24 (0.0007) |
| D10 | 19224.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.458) | 0.63 (0.0003) | 96.9% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0002) | 95.1% | -0.01 (0.0092) | 1.14 (0.0006) |
| D11 | 19629.7 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.389) | 0.68 (0.0003) | 97.8% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.32 (0.0002) | 95.1% | -0.01 (0.0101) | 1.24 (0.0007) |
| D12 | 19224.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.458) | 0.63 (0.0003) | 96.9% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0002) | 95.1% | -0.01 (0.0092) | 1.14 (0.0006) |
| D13 | 19633.6 (2.7) | 4.9 (0) | 0.3 | 2.9 | 2.05 (0.295) | 0.68 (0.0003) | 75.2% | -0.85 (0.0201) | 2.67 (0.0012) | 2.9 | 2.17 (0.0101) | 0.32 (0.0002) | 37% | -0.73 (0.0101) | 1.24 (0.0007) |
| D14 | 19228.8 (2.6) | 4.6 (0) | 0.37 | 2.9 | 2.04 (0.373) | 0.63 (0.0003) | 71.2% | -0.86 (0.0197) | 2.47 (0.0011) | 2.9 | 2.17 (0.0092) | 0.29 (0.0002) | 29.7% | -0.73 (0.0092) | 1.15 (0.0006) |
| D15 | 19633.6 (2.7) | 4.9 (0) | 0.1 | 0.9 | 0.05 (0.096) | 0.68 (0.0003) | 75.2% | -0.85 (0.0201) | 2.67 (0.0012) | 0.9 | 0.17 (0.0101) | 0.32 (0.0002) | 37% | -0.73 (0.0101) | 1.24 (0.0007) |
| D16 | 19228.8 (2.6) | 4.6 (0) | 0.17 | 0.9 | 0.04 (0.167) | 0.63 (0.0003) | 71.2% | -0.86 (0.0197) | 2.47 (0.0011) | 0.9 | 0.17 (0.0092) | 0.29 (0.0002) | 29.7% | -0.73 (0.0092) | 1.15 (0.0006) |
| D17 | 19640.6 (2.7) | 4.9 (0) | 0.32 | 3.5 | 2.06 (0.322) | 0.68 (0.0003) | 43.5% | -1.44 (0.0201) | 2.67 (0.0012) | 3.5 | 2.29 (0.0101) | 0.32 (0.0002) | 3.3% | -1.21 (0.0101) | 1.24 (0.0007) |
| D18 | 19236.9 (2.6) | 4.6 (0) | 0.44 | 3.5 | 2.04 (0.435) | 0.63 (0.0003) | 37.6% | -1.46 (0.0197) | 2.47 (0.0011) | 3.5 | 2.28 (0.0093) | 0.29 (0.0002) | 1.5% | -1.22 (0.0093) | 1.15 (0.0006) |
| D19 | 19640.6 (2.7) | 4.9 (0) | 0.2 | 1.5 | 0.06 (0.204) | 0.68 (0.0003) | 43.5% | -1.44 (0.0201) | 2.67 (0.0012) | 1.5 | 0.29 (0.0101) | 0.32 (0.0002) | 3.3% | -1.21 (0.0101) | 1.24 (0.0007) |
| D20 | 19236.9 (2.6) | 4.6 (0) | 0.32 | 1.5 | 0.04 (0.324) | 0.63 (0.0003) | 37.6% | -1.46 (0.0197) | 2.47 (0.0011) | 1.5 | 0.28 (0.0093) | 0.29 (0.0002) | 1.5% | -1.22 (0.0093) | 1.15 (0.0006) |
| D21 | 19672.8 (2.7) | 5 (0) | 0.77 | -5 | -1.98 (0.768) | 0.69 (0.0003) | 0.3% | 3.02 (0.02) | 2.69 (0.0012) | -5 | -2.58 (0.0101) | 0.32 (0.0002) | 0% | 2.42 (0.0101) | 1.26 (0.0007) |
| D22 | 19273.1 (2.6) | 4.6 (0) | 0.89 | -5 | -1.93 (0.89) | 0.64 (0.0003) | 0.2% | 3.07 (0.0197) | 2.49 (0.0011) | -5 | -2.55 (0.0094) | 0.3 (0.0002) | 0% | 2.45 (0.0094) | 1.16 (0.0006) |
| D23 | 19672.8 (2.7) | 5 (0) | 0.77 | -3 | 0.02 (0.767) | 0.69 (0.0003) | 0.3% | 3.02 (0.02) | 2.69 (0.0012) | -3 | -0.58 (0.0101) | 0.32 (0.0002) | 0% | 2.42 (0.0101) | 1.26 (0.0007) |
| D24 | 19273.1 (2.6) | 4.6 (0) | 0.89 | -3 | 0.07 (0.888) | 0.64 (0.0003) | 0.2% | 3.07 (0.0197) | 2.49 (0.0011) | -3 | -0.55 (0.0094) | 0.3 (0.0002) | 0% | 2.45 (0.0094) | 1.16 (0.0006) |
| D25 | 19629.6 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.389) | 0.68 (0.0003) | 97.8% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.32 (0.0002) | 95.1% | -0.01 (0.0101) | 1.24 (0.0007) |
| D26 | 19224.3 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.458) | 0.63 (0.0003) | 96.8% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0002) | 95% | -0.01 (0.0092) | 1.14 (0.0006) |
| D27 | 19634.7 (2.7) | 4.9 (0) | 0.31 | 2.966 | 2.25 (0.314) | 0.68 (0.0003) | 80.6% | -0.71 (0.0201) | 2.67 (0.0012) | 2.58 | 2.28 (0.0101) | 0.32 (0.0002) | 84.5% | -0.3 (0.0101) | 1.24 (0.0007) |
| D28 | 19230.1 (2.6) | 4.6 (0) | 0.41 | 2.966 | 2.26 (0.407) | 0.63 (0.0003) | 77.5% | -0.71 (0.0197) | 2.47 (0.0011) | 2.58 | 2.28 (0.0092) | 0.29 (0.0002) | 83.2% | -0.3 (0.0092) | 1.15 (0.0006) |
| D29 | 19634.7 (2.7) | 4.9 (0) | 0.07 | 0.966 | 0.25 (0.069) | 0.68 (0.0003) | 80.6% | -0.71 (0.0201) | 2.67 (0.0012) | 0.58 | 0.28 (0.0101) | 0.32 (0.0002) | 84.5% | -0.3 (0.0101) | 1.24 (0.0007) |
| D30 | 19230.1 (2.6) | 4.6 (0) | 0.13 | 0.966 | 0.26 (0.128) | 0.63 (0.0003) | 77.5% | -0.71 (0.0197) | 2.47 (0.0011) | 0.58 | 0.28 (0.0092) | 0.29 (0.0002) | 83.2% | -0.3 (0.0092) | 1.15 (0.0006) |
| D31 | 19629.7 (2.7) | 4.9 (0) | 0.39 | 2 | 2.03 (0.389) | 0.68 (0.0003) | 97.9% | 0.03 (0.0201) | 2.66 (0.0012) | 2 | 1.99 (0.0101) | 0.32 (0.0002) | 95.2% | -0.01 (0.0101) | 1.24 (0.0007) |
| D32 | 19224.2 (2.6) | 4.6 (0) | 0.46 | 2 | 2.04 (0.458) | 0.63 (0.0003) | 96.9% | 0.04 (0.0197) | 2.47 (0.0011) | 2 | 1.99 (0.0092) | 0.29 (0.0002) | 95.1% | -0.01 (0.0092) | 1.14 (0.0006) |
| D33 | 19646 (2.7) | 4.9 (0) | 0.57 | 2.5 | 3.06 (0.571) | 0.68 (0.0003) | 88.6% | 0.56 (0.0201) | 2.67 (0.0012) | 2 | 2.68 (0.0101) | 0.32 (0.0002) | 43.3% | 0.68 (0.0101) | 1.24 (0.0007) |
| D34 | 19243.2 (2.6) | 4.6 (0) | 0.67 | 2.5 | 3.09 (0.665) | 0.63 (0.0003) | 84.2% | 0.59 (0.0197) | 2.48 (0.0011) | 2 | 2.7 (0.0093) | 0.29 (0.0002) | 34.6% | 0.7 (0.0093) | 1.15 (0.0006) |
| D35 | 19645.9 (2.7) | 4.9 (0) | 0.11 | 0.5 | 1.06 (0.109) | 0.68 (0.0003) | 88.6% | 0.56 (0.0201) | 2.67 (0.0012) | 0 | 0.68 (0.0101) | 0.32 (0.0002) | 43.2% | 0.68 (0.0101) | 1.24 (0.0007) |
| D36 | 19243.2 (2.6) | 4.6 (0) | 0.18 | 0.5 | 1.09 (0.184) | 0.63 (0.0003) | 84.2% | 0.59 (0.0197) | 2.48 (0.0011) | 0 | 0.7 (0.0093) | 0.29 (0.0002) | 34.6% | 0.7 (0.0093) | 1.15 (0.0006) |

S3 Table O: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 6 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \psi d_{tk} + v_{oik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19493.5 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.118) | 0.44 (0.0004) | 91.1% | -0.01 (0.0156) | 1.72 (0.0015) | 0 | -0.01 (0.0156) | 0.44 (0.0004) | 91.1% | -0.01 (0.0156) | 1.72 (0.0015) |
| D2 | 19089 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.094) | 0.41 (0.0003) | 96.8% | 0 (0.0121) | 1.6 (0.0012) | 0 | 0 (0.0121) | 0.41 (0.0003) | 96.8% | 0 (0.0121) | 1.6 (0.0012) |
| D3 | 19487.4 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.116) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 0 | -0.01 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D4 | 19083.7 (2.6) | 4.6 (0) | 0.1 | 0 | 0 (0.095) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | 0 | 0 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D5 | 19539.1 (2.7) | 5 (0) | 0.77 | 0 | -0.86 (0.772) | 0.44 (0.0003) | 51.3% | -0.86 (0.0154) | 1.72 (0.0013) | 0 | -0.86 (0.0154) | 0.44 (0.0003) | 51.3% | -0.86 (0.0154) | 1.72 (0.0013) |
| D6 | 19145.4 (2.6) | 4.6 (0) | 0.85 | 0 | -0.88 (0.846) | 0.41 (0.0003) | 43% | -0.88 (0.0119) | 1.61 (0.0011) | 0 | -0.88 (0.0119) | 0.41 (0.0003) | 43% | -0.88 (0.0119) | 1.61 (0.0011) |
| D7 | 19608.8 (2.6) | 5.1 (0) | 0.11 | 0 | -0.01 (0.108) | 0.45 (0.0003) | 92.6% | -0.01 (0.0155) | 1.76 (0.0013) | 0 | -0.01 (0.0155) | 0.45 (0.0003) | 92.6% | -0.01 (0.0155) | 1.76 (0.0013) |
| D8 | 19227.8 (2.5) | 4.7 (0) | 0.07 | 0 | 0 (0.073) | 0.42 (0.0003) | 97.5% | 0 (0.0118) | 1.65 (0.0011) | 0 | 0 (0.0118) | 0.42 (0.0003) | 97.5% | 0 (0.0118) | 1.65 (0.0011) |
| D9 | 19487.4 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 2 | 1.99 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D10 | 19083.7 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | 2 | 2 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D11 | 19487.3 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (0.999) | 0.43 (0.0003) | 91.1% | -0.01 (0.0154) | 1.69 (0.0012) | 2 | 1.99 (0.0154) | 0.43 (0.0003) | 91.1% | -0.01 (0.0154) | 1.69 (0.0012) |
| D12 | 19083.7 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | 2 | 2 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D13 | 19487.4 (2.7) | 4.9 (0) | 1 | 2.9 | 2.89 (1) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 2.9 | 2.89 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D14 | 19083.5 (2.6) | 4.6 (0) | 1 | 2.9 | 2.9 (0.999) | 0.4 (0.0003) | 96.3% | 0 (0.0119) | 1.57 (0.001) | 2.9 | 2.9 (0.0119) | 0.4 (0.0003) | 96.3% | 0 (0.0119) | 1.57 (0.001) |
| D15 | 19487.4 (2.7) | 4.9 (0) | 0.7 | 0.9 | 0.89 (0.696) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 0.9 | 0.89 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D16 | 19083.7 (2.6) | 4.6 (0) | 0.79 | 0.9 | 0.9 (0.786) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | 0.9 | 0.9 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D17 | 19487.4 (2.7) | 4.9 (0) | 1 | 3.5 | 3.49 (1) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 3.5 | 3.49 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D18 | 19083.8 (2.6) | 4.6 (0) | 1 | 3.5 | 3.5 (0.999) | 0.4 (0.0003) | 96.3% | 0 (0.0119) | 1.57 (0.001) | 3.5 | 3.5 (0.0119) | 0.4 (0.0003) | 96.3% | 0 (0.0119) | 1.57 (0.001) |
| D19 | 19487.4 (2.7) | 4.9 (0) | 0.97 | 1.5 | 1.49 (0.973) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | 1.5 | 1.49 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D20 | 19083.7 (2.6) | 4.6 (0) | 1 | 1.5 | 1.5 (0.999) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | 1.5 | 1.5 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D21 | 19487.4 (2.7) | 4.9 (0) | 1 | -5 | -5.01 (1) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | -5 | -5.01 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D22 | 19083.7 (2.6) | 4.6 (0) | 1 | -5 | -5 (1) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | -5 | -5 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D23 | 19487.4 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) | -3 | -3.01 (0.0154) | 0.43 (0.0003) | 91.2% | -0.01 (0.0154) | 1.69 (0.0012) |
| D24 | 19083.7 (2.6) | 4.6 (0) | 1 | -3 | -3 (1) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) | -3 | -3 (0.0119) | 0.4 (0.0003) | 96.4% | 0 (0.0119) | 1.57 (0.001) |
| D25 | 19539.1 (2.7) | 5 (0) | 1 | 2 | 1.14 (1) | 0.44 (0.0003) | 51.3% | -0.86 (0.0154) | 1.72 (0.0013) | 2 | 1.14 (0.0154) | 0.44 (0.0003) | 51.3% | -0.86 (0.0154) | 1.72 (0.0013) |
| D26 | 19145.6 (2.6) | 4.6 (0) | 1 | 2 | 1.13 (0.999) | 0.41 (0.0003) | 43% | -0.87 (0.0119) | 1.61 (0.0011) | 2 | 1.13 (0.0119) | 0.41 (0.0003) | 43% | -0.87 (0.0119) | 1.61 (0.0011) |
| D27 | 19547.9 (2.7) | 5 (0) | 1 | 2.966 | 1.86 (0.999) | 0.44 (0.0003) | 31.3% | -1.1 (0.0155) | 1.73 (0.0013) | 2.58 | 1.86 (0.0155) | 0.44 (0.0003) | 61.8% | -0.72 (0.0155) | 1.73 (0.0013) |
| D28 | 19156 (2.6) | 4.6 (0) | 1 | 2.966 | 1.85 (1) | 0.41 (0.0003) | 21.5% | -1.12 (0.0119) | 1.62 (0.0011) | 2.58 | 1.85 (0.0119) | 0.41 (0.0003) | 57.4% | -0.73 (0.0119) | 1.62 (0.0011) |
| D29 | 19547.9 (2.7) | 5 (0) | 0.38 | 0.966 | -0.14 (0.381) | 0.44 (0.0003) | 31.3% | -1.1 (0.0154) | 1.73 (0.0013) | 0.58 | -0.14 (0.0154) | 0.44 (0.0003) | 61.8% | -0.72 (0.0154) | 1.73 (0.0013) |
| D30 | 19156 (2.6) | 4.6 (0) | 0.39 | 0.966 | -0.15 (0.388) | 0.41 (0.0003) | 21.5% | -1.12 (0.0119) | 1.62 (0.0011) | 0.58 | -0.15 (0.0119) | 0.41 (0.0003) | 57.4% | -0.73 (0.0119) | 1.62 (0.0011) |
| D31 | 19608.8 (2.6) | 5.1 (0) | 1 | 2 | 1.99 (0.999) | 0.45 (0.0003) | 92.5% | -0.01 (0.0155) | 1.76 (0.0013) | 2 | 1.99 (0.0155) | 0.45 (0.0003) | 92.5% | -0.01 (0.0155) | 1.76 (0.0013) |
| D32 | 19227.8 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.42 (0.0003) | 97.6% | 0 (0.0118) | 1.65 (0.0011) | 2 | 2 (0.0118) | 0.42 (0.0003) | 97.6% | 0 (0.0118) | 1.65 (0.0011) |
| D33 | 19618.3 (2.6) | 5.1 (0) | 1 | 2.5 | 2.13 (0.999) | 0.45 (0.0003) | 84.4% | -0.37 (0.0155) | 1.76 (0.0013) | 2 | 2.13 (0.0155) | 0.45 (0.0003) | 92.1% | 0.13 (0.0155) | 1.76 (0.0013) |
| D34 | 19239 (2.6) | 4.7 (0) | 1 | 2.5 | 2.16 (1) | 0.42 (0.0003) | 89.4% | -0.34 (0.0118) | 1.65 (0.0011) | 2 | 2.16 (0.0118) | 0.42 (0.0003) | 96.3% | 0.16 (0.0118) | 1.65 (0.0011) |
| D35 | 19618.3 (2.6) | 5.1 (0) | 0.85 | 0.5 | 0.13 (0.848) | 0.45 (0.0003) | 84.5% | -0.37 (0.0155) | 1.76 (0.0013) | 0 | 0.13 (0.0155) | 0.45 (0.0003) | 92.2% | 0.13 (0.0155) | 1.76 (0.0013) |
| D36 | 19239 (2.6) | 4.7 (0) | 0.87 | 0.5 | 0.16 (0.871) | 0.42 (0.0003) | 89.3% | -0.34 (0.0118) | 1.65 (0.0011) | 0 | 0.16 (0.0118) | 0.42 (0.0003) | 96.2% | 0.16 (0.0118) | 1.65 (0.0011) |

S3 Table P: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 7 ($y_{itk} = \beta_0 + \tau t + \psi d_{tk} + v_{oitk} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19486.4 (2.7) | 4.9 (0) | 0.09 | 0 | -0.01 (0.091) | 0.36 (0.0003) | 90.9% | -0.01 (0.0126) | 1.42 (0.0012) | 0 | -0.01 (0.0126) | 0.36 (0.0003) | 90.9% | -0.01 (0.0126) | 1.42 (0.0012) |
| D2 | 19082 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.041) | 0.33 (0.0002) | 95.9% | 0 (0.0101) | 1.31 (0.0009) | 0 | 0 (0.0101) | 0.33 (0.0002) | 95.9% | 0 (0.0101) | 1.31 (0.0009) |
| D3 | 19480.3 (2.7) | 4.9 (0) | 0.08 | 0 | -0.01 (0.081) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) | 0 | -0.01 (0.0124) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) |
| D4 | 19076.6 (2.6) | 4.6 (0) | 0.04 | 0 | 0 (0.039) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) | 0 | 0 (0.0099) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) |
| D5 | 19532.1 (2.7) | 5 (0) | 0.75 | 0 | -0.97 (0.748) | 0.36 (0.0003) | 25.1% | -0.97 (0.0125) | 1.43 (0.0011) | 0 | -0.97 (0.0125) | 0.36 (0.0003) | 25.1% | -0.97 (0.0125) | 1.43 (0.0011) |
| D6 | 19138.5 (2.6) | 4.6 (0) | 0.84 | 0 | -0.98 (0.841) | 0.34 (0.0002) | 15.7% | -0.98 (0.0099) | 1.33 (0.0009) | 0 | -0.98 (0.0099) | 0.34 (0.0002) | 15.7% | -0.98 (0.0099) | 1.33 (0.0009) |
| D7 | 19601.7 (2.6) | 5.1 (0) | 0.08 | 0 | -0.01 (0.075) | 0.37 (0.0003) | 92.5% | -0.01 (0.0125) | 1.46 (0.0011) | 0 | -0.01 (0.0125) | 0.37 (0.0003) | 92.5% | -0.01 (0.0125) | 1.46 (0.0011) |
| D8 | 19220.7 (2.5) | 4.7 (0) | 0.03 | 0 | 0 (0.025) | 0.35 (0.0002) | 97.4% | 0 (0.0099) | 1.36 (0.0009) | 0 | 0 (0.0099) | 0.35 (0.0002) | 97.4% | 0 (0.0099) | 1.36 (0.0009) |
| D9 | 19522.3 (2.6) | 5 (0) | 0.2 | 2 | 0.4 (0.204) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) | 2 | 0.4 (0.0125) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) |
| D10 | 19126.3 (2.6) | 4.6 (0) | 0.19 | 2 | 0.37 (0.187) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) | 2 | 0.37 (0.01) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) |
| D11 | 19522.3 (2.6) | 5 (0) | 0.2 | 2 | 0.4 (0.204) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) | 2 | 0.4 (0.0125) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) |
| D12 | 19126.3 (2.6) | 4.6 (0) | 0.19 | 2 | 0.37 (0.187) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) | 2 | 0.37 (0.01) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) |
| D13 | 19522.3 (2.6) | 5 (0) | 0.93 | 2.9 | 1.3 (0.928) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) | 2.9 | 1.3 (0.0125) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) |
| D14 | 19126.3 (2.6) | 4.6 (0) | 0.97 | 2.9 | 1.27 (0.971) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) | 2.9 | 1.27 (0.01) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) |
| D15 | 19480.2 (2.7) | 4.9 (0) | 0.7 | 0.9 | 0.89 (0.701) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) | 0.9 | 0.89 (0.0124) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) |
| D16 | 19076.6 (2.6) | 4.6 (0) | 0.79 | 0.9 | 0.9 (0.789) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) | 0.9 | 0.9 (0.0099) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) |
| D17 | 19522.3 (2.6) | 5 (0) | 1 | 3.5 | 1.9 (0.997) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) | 3.5 | 1.9 (0.0125) | 0.36 (0.0003) | 1.2% | -1.6 (0.0125) | 1.42 (0.0011) |
| D18 | 19126.3 (2.6) | 4.6 (0) | 1 | 3.5 | 1.87 (1) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) | 3.5 | 1.87 (0.01) | 0.34 (0.0002) | 0.1% | -1.63 (0.01) | 1.32 (0.0009) |
| D19 | 19480.3 (2.7) | 4.9 (0) | 0.97 | 1.5 | 1.49 (0.973) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) | 1.5 | 1.49 (0.0124) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) |
| D20 | 19076.6 (2.6) | 4.6 (0) | 1 | 1.5 | 1.5 (0.999) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) | 1.5 | 1.5 (0.0099) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) |
| D21 | 19522.8 (2.7) | 5 (0) | 1 | -5 | -3.41 (0.999) | 0.36 (0.0003) | 1.8% | 1.59 (0.0124) | 1.42 (0.0011) | -5 | -3.41 (0.0124) | 0.36 (0.0003) | 1.8% | 1.59 (0.0124) | 1.42 (0.0011) |
| D22 | 19126.1 (2.6) | 4.6 (0) | 1 | -5 | -3.36 (0.999) | 0.34 (0.0002) | 0% | 1.64 (0.01) | 1.32 (0.0009) | -5 | -3.36 (0.01) | 0.34 (0.0002) | 0% | 1.64 (0.01) | 1.32 (0.0009) |
| D23 | 19480.3 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) | -3 | -3.01 (0.0124) | 0.36 (0.0003) | 91.9% | -0.01 (0.0124) | 1.39 (0.001) |
| D24 | 19076.6 (2.6) | 4.6 (0) | 1 | -3 | -3 (1) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) | -3 | -3 (0.0099) | 0.33 (0.0002) | 96.1% | 0 (0.0099) | 1.29 (0.0009) |
| D25 | 19578.2 (2.7) | 5 (0) | 0.35 | 2 | -0.59 (0.354) | 0.37 (0.0003) | 0% | -2.59 (0.0127) | 1.46 (0.0012) | 2 | -0.59 (0.0127) | 0.37 (0.0003) | 0% | -2.59 (0.0127) | 1.46 (0.0012) |
| D26 | 19192.2 (2.6) | 4.7 (0) | 0.45 | 2 | -0.64 (0.452) | 0.35 (0.0003) | 0% | -2.64 (0.0102) | 1.36 (0.001) | 2 | -0.64 (0.0102) | 0.35 (0.0003) | 0% | -2.64 (0.0102) | 1.36 (0.001) |
| D27 | 19594.7 (2.6) | 5.1 (0) | 0.08 | 2.966 | -0.02 (0.075) | 0.38 (0.0003) | 0% | -2.99 (0.0127) | 1.48 (0.0012) | 2.58 | -0.02 (0.0127) | 0.38 (0.0003) | 0% | -2.6 (0.0127) | 1.48 (0.0012) |
| D28 | 19211.8 (2.6) | 4.7 (0) | 0.03 | 2.966 | -0.07 (0.034) | 0.35 (0.0003) | 0% | -3.04 (0.0102) | 1.37 (0.001) | 2.58 | -0.07 (0.0102) | 0.35 (0.0003) | 0% | -2.65 (0.0102) | 1.37 (0.001) |
| D29 | 19542 (2.7) | 5 (0) | 0.21 | 0.966 | -0.4 (0.21) | 0.37 (0.0003) | 5.9% | -1.36 (0.0125) | 1.43 (0.0011) | 0.58 | -0.4 (0.0125) | 0.37 (0.0003) | 24.5% | -0.98 (0.0125) | 1.43 (0.0011) |
| D30 | 19150.1 (2.6) | 4.6 (0) | 0.21 | 0.966 | -0.41 (0.213) | 0.34 (0.0002) | 0.9% | -1.38 (0.0099) | 1.33 (0.0009) | 0.58 | -0.41 (0.0099) | 0.34 (0.0002) | 15.3% | -0.99 (0.0099) | 1.33 (0.0009) |
| D31 | 19640.4 (2.6) | 5.1 (0) | 0.19 | 2 | 0.42 (0.194) | 0.38 (0.0003) | 1.9% | -1.58 (0.0126) | 1.49 (0.0012) | 2 | 0.42 (0.0126) | 0.38 (0.0003) | 1.9% | -1.58 (0.0126) | 1.49 (0.0012) |
| D32 | 19266.1 (2.5) | 4.7 (0) | 0.16 | 2 | 0.38 (0.163) | 0.35 (0.0003) | 0.1% | -1.62 (0.0099) | 1.39 (0.001) | 2 | 0.38 (0.0099) | 0.35 (0.0003) | 0.1% | -1.62 (0.0099) | 1.39 (0.001) |
| D33 | 19686.1 (2.6) | 5.2 (0) | 0.06 | 2.5 | -0.09 (0.064) | 0.39 (0.0003) | 0% | -2.59 (0.0127) | 1.53 (0.0013) | 2 | -0.09 (0.0127) | 0.39 (0.0003) | 0% | -2.09 (0.0127) | 1.53 (0.0013) |
| D34 | 19320.2 (2.5) | 4.8 (0) | 0.04 | 2.5 | -0.14 (0.04) | 0.36 (0.0003) | 0% | -2.64 (0.01) | 1.42 (0.0011) | 2 | -0.14 (0.01) | 0.36 (0.0003) | 0% | -2.14 (0.01) | 1.42 (0.0011) |
| D35 | 19617.6 (2.6) | 5.1 (0) | 0.28 | 0.5 | -0.52 (0.276) | 0.38 (0.0003) | 24.3% | -1.02 (0.0125) | 1.47 (0.0011) | 0 | -0.52 (0.0125) | 0.38 (0.0003) | 72.3% | -0.52 (0.0125) | 1.47 (0.0011) |
| D36 | 19239.7 (2.6) | 4.7 (0) | 0.3 | 0.5 | -0.52 (0.299) | 0.35 (0.0002) | 14.9% | -1.02 (0.0099) | 1.37 (0.0009) | 0 | -0.52 (0.0099) | 0.35 (0.0002) | 70% | -0.52 (0.0099) | 1.37 (0.0009) |

S3 Table Q: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 8 ($y_{itk} = \beta_0 + \kappa_t + \xi_d + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|---------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19642.7 (2.7) | 4.9 (0) | 0.04 | 0 | 0 (0.044) | 0.6 (0.0004) | 93.3% | 0 (0.0205) | 2.33 (0.0014) | 0 | -0.02 (0.0175) | 0.49 (0.0004) | 91.3% | -0.02 (0.0175) | 1.93 (0.0017) |
| D2 | 19236.5 (2.6) | 4.6 (0) | 0.04 | 0 | 0.01 (0.043) | 0.55 (0.0003) | 95.8% | 0.01 (0.0175) | 2.17 (0.0012) | 0 | 0 (0.0135) | 0.46 (0.0003) | 96.6% | 0 (0.0135) | 1.79 (0.0013) |
| D3 | 19636.6 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D4 | 19231.2 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (0.998) | 0.55 (0.0003) | 95.5% | 0.02 (0.0174) | 2.15 (0.0011) | 0 | 0 (0.0131) | 0.45 (0.0003) | 96.5% | 0 (0.0131) | 1.76 (0.0011) |
| D5 | 19636.6 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D6 | 19231.2 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 0 | 0 (0.0131) | 0.45 (0.0003) | 96.7% | 0 (0.0131) | 1.76 (0.0011) |
| D7 | 19636.6 (2.7) | 4.9 (0) | 1 | 0 | 0 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D8 | 19231.2 (2.6) | 4.6 (0) | 1 | 0 | 0.02 (0.999) | 0.55 (0.0003) | 95.6% | 0.02 (0.0174) | 2.15 (0.0011) | 0 | 0 (0.0131) | 0.45 (0.0003) | 96.6% | 0 (0.0131) | 1.76 (0.0011) |
| D9 | 19636.6 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D10 | 19231.2 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 2 | 2 (0.0131) | 0.45 (0.0003) | 96.7% | 0 (0.0131) | 1.76 (0.0011) |
| D11 | 19636.6 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D12 | 19231.3 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (0.999) | 0.55 (0.0003) | 95.6% | 0.02 (0.0174) | 2.15 (0.0011) | 2 | 2 (0.0132) | 0.45 (0.0003) | 96.6% | 0 (0.0132) | 1.76 (0.0011) |
| D13 | 19636.6 (2.7) | 4.9 (0) | 1 | 2.9 | 2.9 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2.9 | 2.96 (0.0171) | 0.48 (0.0003) | 91.5% | 0.06 (0.0171) | 1.89 (0.0013) |
| D14 | 19231.2 (2.6) | 4.6 (0) | 1 | 2.9 | 2.92 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 2.9 | 2.97 (0.0131) | 0.45 (0.0003) | 96.9% | 0.07 (0.0131) | 1.76 (0.0011) |
| D15 | 19636.6 (2.7) | 4.9 (0) | 1 | 0.9 | 0.9 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 0.9 | 0.96 (0.0171) | 0.48 (0.0003) | 91.5% | 0.06 (0.0171) | 1.89 (0.0013) |
| D16 | 19231.3 (2.6) | 4.6 (0) | 1 | 0.9 | 0.92 (0.999) | 0.55 (0.0003) | 95.6% | 0.02 (0.0174) | 2.15 (0.0011) | 0.9 | 0.97 (0.0132) | 0.45 (0.0003) | 96.8% | 0.07 (0.0132) | 1.76 (0.0011) |
| D17 | 19636.8 (2.7) | 4.9 (0) | 1 | 3.5 | 3.5 (0.999) | 0.59 (0.0003) | 93.5% | 0 (0.0203) | 2.31 (0.0012) | 3.5 | 3.61 (0.0171) | 0.48 (0.0003) | 91.2% | 0.11 (0.0171) | 1.89 (0.0013) |
| D18 | 19231.2 (2.6) | 4.6 (0) | 1 | 3.5 | 3.52 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 3.5 | 3.62 (0.0131) | 0.45 (0.0003) | 96.3% | 0.12 (0.0131) | 1.76 (0.0011) |
| D19 | 19636.6 (2.7) | 4.9 (0) | 1 | 1.5 | 1.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 1.5 | 1.61 (0.0171) | 0.48 (0.0003) | 91.3% | 0.11 (0.0171) | 1.89 (0.0013) |
| D20 | 19231.2 (2.6) | 4.6 (0) | 1 | 1.5 | 1.52 (0.999) | 0.55 (0.0003) | 95.6% | 0.02 (0.0174) | 2.15 (0.0011) | 1.5 | 1.62 (0.0132) | 0.45 (0.0003) | 96.2% | 0.12 (0.0132) | 1.76 (0.0011) |
| D21 | 19636.6 (2.7) | 4.9 (0) | 1 | -5 | -5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | -5 | -5.27 (0.0171) | 0.48 (0.0003) | 87.9% | -0.27 (0.0171) | 1.89 (0.0013) |
| D22 | 19231.2 (2.6) | 4.6 (0) | 1 | -5 | -4.98 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | -5 | -5.25 (0.0131) | 0.45 (0.0003) | 92.8% | -0.25 (0.0131) | 1.76 (0.0011) |
| D23 | 19636.6 (2.7) | 4.9 (0) | 0.44 | -3 | -3 (0.439) | 0.59 (0.0003) | 93.5% | 0 (0.0203) | 2.31 (0.0012) | -3 | -3.27 (0.0171) | 0.48 (0.0003) | 87.8% | -0.27 (0.0171) | 1.89 (0.0013) |
| D24 | 19231.2 (2.6) | 4.6 (0) | 0.53 | -3 | -2.98 (0.531) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | -3 | -3.25 (0.0131) | 0.45 (0.0003) | 92.8% | -0.25 (0.0131) | 1.76 (0.0011) |
| D25 | 19636.6 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D26 | 19231.2 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 2 | 2 (0.0131) | 0.45 (0.0003) | 96.7% | 0 (0.0131) | 1.76 (0.0011) |
| D27 | 19636.6 (2.7) | 4.9 (0) | 1 | 2.966 | 2.97 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2.58 | 2.61 (0.0171) | 0.48 (0.0003) | 91.7% | 0.03 (0.0171) | 1.89 (0.0013) |
| D28 | 19231.2 (2.6) | 4.6 (0) | 1 | 2.966 | 2.98 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 2.58 | 2.63 (0.0131) | 0.45 (0.0003) | 96.8% | 0.05 (0.0131) | 1.76 (0.0011) |
| D29 | 19636.6 (2.7) | 4.9 (0) | 1 | 0.966 | 0.97 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 0.58 | 0.61 (0.0171) | 0.48 (0.0003) | 91.7% | 0.03 (0.0171) | 1.89 (0.0013) |
| D30 | 19231.2 (2.6) | 4.6 (0) | 1 | 0.966 | 0.98 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 0.58 | 0.63 (0.0131) | 0.45 (0.0003) | 96.8% | 0.05 (0.0131) | 1.76 (0.0011) |
| D31 | 19636.6 (2.7) | 4.9 (0) | 1 | 2 | 2 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D32 | 19231.2 (2.6) | 4.6 (0) | 1 | 2 | 2.02 (0.999) | 0.55 (0.0003) | 95.6% | 0.02 (0.0174) | 2.15 (0.0011) | 2 | 2 (0.0132) | 0.45 (0.0003) | 96.6% | 0 (0.0132) | 1.76 (0.0011) |
| D33 | 19636.6 (2.7) | 4.9 (0) | 1 | 2.5 | 2.5 (1) | 0.59 (0.0003) | 93.6% | 0 (0.0203) | 2.31 (0.0012) | 2 | 1.98 (0.0171) | 0.48 (0.0003) | 91.6% | -0.02 (0.0171) | 1.89 (0.0013) |
| D34 | 19231.2 (2.6) | 4.6 (0) | 1 | 2.5 | 2.52 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 2 | 2 (0.0131) | 0.45 (0.0003) | 96.7% | 0 (0.0131) | 1.76 (0.0011) |
| D35 | 19636.6 (2.7) | 4.9 (0) | 1 | 0.5 | 0.5 (0.998) | 0.59 (0.0003) | 93.4% | 0 (0.0203) | 2.31 (0.0012) | 0 | -0.02 (0.0171) | 0.48 (0.0003) | 91.5% | -0.02 (0.0171) | 1.89 (0.0013) |
| D36 | 19231.2 (2.6) | 4.6 (0) | 1 | 0.5 | 0.52 (1) | 0.55 (0.0003) | 95.7% | 0.02 (0.0174) | 2.15 (0.0011) | 0 | 0 (0.0131) | 0.45 (0.0003) | 96.7% | 0 (0.0131) | 1.76 (0.0011) |

S3 Table R: The mean treatment effect estimates, their standard errors, and goodness-of-fit statistics, for each of the 36 simulated scenarios assuming the mean structure from Model 9 ($y_{itk} = \beta_0 + \partial x_{tk} + \tau t + \psi d_{tk} + \zeta t^2 + v_{0ik} + \epsilon_{itk}$) with autoregressive (AR(1)) covariance structure between within subject measurement, together with the Monte Carlo standard error of each estimate in brackets. Each scenario was simulated 1000 times.

| Scenario | BIC | MSE | Proportion Significant Intervention Parameter | Treatment Effect at 6 months | | | | | | Time Averaged Treatment Effect | | | | | |
|----------|---------------|---------|---|------------------------------|---------------|---------------|----------------------|----------------|---------------------------|--------------------------------|----------------|---------------|----------------------|----------------|---------------------------|
| | | | | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width | True Value | Estimate | Estimate SE | Coverage of 95% C.I. | Bias | Confidence Interval Width |
| D1 | 19500.4 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.124) | 0.46 (0.0004) | 91.2% | -0.01 (0.0163) | 1.78 (0.0016) | 0 | -0.01 (0.0163) | 0.46 (0.0004) | 91.2% | -0.01 (0.0163) | 1.78 (0.0016) |
| D2 | 19096.2 (2.6) | 4.6 (0) | 0.1 | 0 | 0 (0.099) | 0.42 (0.0003) | 96% | 0 (0.0126) | 1.66 (0.0012) | 0 | 0 (0.0126) | 0.42 (0.0003) | 96% | 0 (0.0126) | 1.66 (0.0012) |
| D3 | 19494.4 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.119) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) | 0 | -0.01 (0.016) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) |
| D4 | 19090.9 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.089) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 0 | 0 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D5 | 19494.6 (2.7) | 4.9 (0) | 0.12 | 0 | -0.01 (0.119) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | 0 | -0.01 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D6 | 19091.1 (2.6) | 4.6 (0) | 0.09 | 0 | 0 (0.088) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 0 | 0 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D7 | 19615.9 (2.6) | 5.1 (0) | 0.1 | 0 | -0.02 (0.104) | 0.46 (0.0003) | 92.8% | -0.02 (0.016) | 1.82 (0.0014) | 0 | -0.02 (0.016) | 0.46 (0.0003) | 92.8% | -0.02 (0.016) | 1.82 (0.0014) |
| D8 | 19235.1 (2.5) | 4.7 (0) | 0.07 | 0 | 0 (0.073) | 0.44 (0.0003) | 97.6% | 0 (0.0122) | 1.71 (0.0011) | 0 | 0 (0.0122) | 0.44 (0.0003) | 97.6% | 0 (0.0122) | 1.71 (0.0011) |
| D9 | 19494.1 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (0.999) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) | 2 | 1.99 (0.016) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) |
| D10 | 19090.9 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 2 | 2 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D11 | 19494.3 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | 2 | 1.99 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D12 | 19090.9 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 2 | 2 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D13 | 19494.3 (2.7) | 4.9 (0) | 1 | 2.9 | 2.89 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | 2.9 | 2.89 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D14 | 19090.9 (2.6) | 4.6 (0) | 1 | 2.9 | 2.9 (1) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 2.9 | 2.9 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D15 | 19494.3 (2.7) | 4.9 (0) | 0.64 | 0.9 | 0.89 (0.644) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) | 0.9 | 0.89 (0.016) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) |
| D16 | 19090.8 (2.6) | 4.6 (0) | 0.73 | 0.9 | 0.9 (0.734) | 0.42 (0.0003) | 96.3% | 0 (0.0123) | 1.63 (0.0011) | 0.9 | 0.9 (0.0123) | 0.42 (0.0003) | 96.3% | 0 (0.0123) | 1.63 (0.0011) |
| D17 | 19494.3 (2.7) | 4.9 (0) | 1 | 3.5 | 3.49 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | 3.5 | 3.49 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D18 | 19090.9 (2.6) | 4.6 (0) | 1 | 3.5 | 3.5 (1) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 3.5 | 3.5 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D19 | 19494.3 (2.7) | 4.9 (0) | 0.96 | 1.5 | 1.49 (0.956) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) | 1.5 | 1.49 (0.016) | 0.45 (0.0003) | 91.3% | -0.01 (0.016) | 1.75 (0.0013) |
| D20 | 19090.9 (2.6) | 4.6 (0) | 0.99 | 1.5 | 1.5 (0.993) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | 1.5 | 1.5 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D21 | 19494.3 (2.7) | 4.9 (0) | 1 | -5 | -5.01 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | -5 | -5.01 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D22 | 19090.9 (2.6) | 4.6 (0) | 1 | -5 | -5 (1) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) | -5 | -5 (0.0123) | 0.42 (0.0003) | 96.5% | 0 (0.0123) | 1.63 (0.0011) |
| D23 | 19494.3 (2.7) | 4.9 (0) | 1 | -3 | -3.01 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | -3 | -3.01 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D24 | 19090.8 (2.6) | 4.6 (0) | 1 | -3 | -3 (0.998) | 0.42 (0.0003) | 96.3% | 0 (0.0123) | 1.63 (0.0011) | -3 | -3 (0.0123) | 0.42 (0.0003) | 96.3% | 0 (0.0123) | 1.63 (0.0011) |
| D25 | 19494.6 (2.7) | 4.9 (0) | 1 | 2 | 1.99 (1) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) | 2 | 1.99 (0.016) | 0.45 (0.0003) | 91.4% | -0.01 (0.016) | 1.75 (0.0013) |
| D26 | 19091.2 (2.6) | 4.6 (0) | 1 | 2 | 2 (1) | 0.42 (0.0003) | 96.6% | 0 (0.0123) | 1.63 (0.0011) | 2 | 2 (0.0123) | 0.42 (0.0003) | 96.6% | 0 (0.0123) | 1.63 (0.0011) |
| D27 | 19498.2 (2.7) | 4.9 (0) | 1 | 2.966 | 2.75 (1) | 0.45 (0.0003) | 88.6% | -0.21 (0.016) | 1.75 (0.0013) | 2.58 | 2.75 (0.016) | 0.45 (0.0003) | 90.2% | 0.17 (0.016) | 1.75 (0.0013) |
| D28 | 19095.4 (2.6) | 4.6 (0) | 1 | 2.966 | 2.78 (1) | 0.42 (0.0003) | 93.1% | -0.19 (0.0123) | 1.63 (0.0011) | 2.58 | 2.78 (0.0123) | 0.42 (0.0003) | 93.6% | 0.2 (0.0123) | 1.63 (0.0011) |
| D29 | 19498.2 (2.7) | 4.9 (0) | 0.4 | 0.966 | 0.75 (0.403) | 0.45 (0.0003) | 88.6% | -0.21 (0.016) | 1.75 (0.0013) | 0.58 | 0.75 (0.016) | 0.45 (0.0003) | 90.2% | 0.17 (0.016) | 1.75 (0.0013) |
| D30 | 19095.4 (2.6) | 4.6 (0) | 0.46 | 0.966 | 0.78 (0.457) | 0.42 (0.0003) | 93.1% | -0.19 (0.0123) | 1.63 (0.0011) | 0.58 | 0.78 (0.0123) | 0.42 (0.0003) | 93.6% | 0.2 (0.0123) | 1.63 (0.0011) |
| D31 | 19615.9 (2.6) | 5.1 (0) | 1 | 2 | 1.98 (1) | 0.46 (0.0003) | 92.8% | -0.02 (0.016) | 1.82 (0.0014) | 2 | 1.98 (0.016) | 0.46 (0.0003) | 92.8% | -0.02 (0.016) | 1.82 (0.0014) |
| D32 | 19235.1 (2.5) | 4.7 (0) | 1 | 2 | 2 (1) | 0.44 (0.0003) | 97.6% | 0 (0.0122) | 1.71 (0.0011) | 2 | 2 (0.0122) | 0.44 (0.0003) | 97.6% | 0 (0.0122) | 1.71 (0.0011) |
| D33 | 19625.1 (2.6) | 5.1 (0) | 1 | 2.5 | 2.19 (1) | 0.47 (0.0004) | 87.4% | -0.31 (0.0161) | 1.82 (0.0014) | 2 | 2.19 (0.0161) | 0.47 (0.0004) | 90.9% | 0.19 (0.0161) | 1.82 (0.0014) |
| D34 | 19246 (2.6) | 4.7 (0) | 1 | 2.5 | 2.23 (0.999) | 0.44 (0.0003) | 92.5% | -0.27 (0.0122) | 1.71 (0.0011) | 2 | 2.23 (0.0122) | 0.44 (0.0003) | 94.3% | 0.23 (0.0122) | 1.71 (0.0011) |
| D35 | 19625.1 (2.6) | 5.1 (0) | 0.82 | 0.5 | 0.19 (0.815) | 0.47 (0.0004) | 87.4% | -0.31 (0.0161) | 1.82 (0.0014) | 0 | 0.19 (0.0161) | 0.47 (0.0004) | 90.9% | 0.19 (0.0161) | 1.82 (0.0014) |
| D36 | 19245.9 (2.6) | 4.7 (0) | 0.84 | 0.5 | 0.22 (0.839) | 0.44 (0.0003) | 92.6% | -0.28 (0.0122) | 1.71 (0.0011) | 0 | 0.22 (0.0122) | 0.44 (0.0003) | 94.4% | 0.22 (0.0122) | 1.71 (0.0011) |