**Title**

Bayesian meta-analysis of studies with rare events: Do the choice of prior distributions and the exclusion of studies without events in both arms matter?

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| **Table S1.** Rosiglitazone MA data set | | | | | | | |
| **GSKTrialNo** | **Duration**  **(weeks)** | **Rosiglitazone** | | | **Control** | | |
| **Total # patients** | **MI** | **CVD** | **Total # patients** | **MI** | **CVD** |
| **49653/011** | 24 | 357 | 2 | 1 | 176 | 0 | 0 |
| **49653/020** | 52 | 391 | 2 | 0 | 207 | 1 | 0 |
| **49653/024** | 26 | 774 | 1 | 0 | 185 | 1 | 0 |
| **49653/093** | 26 | 213 | 0 | 0 | 109 | 1 | 0 |
| **49653/094** | 26 | 232 | 1 | 1 | 116 | 0 | 0 |
| **100684** | 52 | 43 | 0 | 0 | 47 | 1 | 0 |
| **49653/143** | 24 | 121 | 1 | 0 | 124 | 0 | 0 |
| **49653/211** | 52 | 110 | 5 | 3 | 114 | 2 | 2 |
| **49653/284** | 24 | 382 | 1 | 0 | 384 | 0 | 0 |
| **712753/008** | 48 | 284 | 1 | 0 | 135 | 0 | 0 |
| **AVM100264** | 52 | 294 | 0 | 2 | 302 | 1 | 1 |
| **BRL49653C/185** | 32 | 563 | 2 | 0 | 142 | 0 | 0 |
| **BRL49653/334** | 52 | 278 | 2 | 0 | 279 | 1 | 1 |
| **BRL49653/347** | 24 | 418 | 2 | 0 | 212 | 0 | 0 |
| **49653/015** | 24 | 395 | 2 | 2 | 198 | 1 | 0 |
| **49653/079** | 26 | 203 | 1 | 1 | 106 | 1 | 1 |
| **49653/080** | 156 | 104 | 1 | 0 | 99 | 2 | 0 |
| **49653/082** | 26 | 212 | 2 | 1 | 107 | 0 | 0 |
| **49653/085** | 26 | 138 | 3 | 1 | 139 | 1 | 0 |
| **49653/095** | 26 | 196 | 0 | 1 | 96 | 0 | 0 |
| **49653/097** | 156 | 122 | 0 | 0 | 120 | 1 | 0 |
| **49653/125** | 26 | 175 | 0 | 0 | 173 | 1 | 0 |
| **49653/127** | 26 | 56 | 1 | 0 | 58 | 0 | 0 |
| **49653/128** | 28 | 39 | 1 | 0 | 38 | 0 | 0 |
| **49653/134** | 28 | 561 | 0 | 1 | 276 | 2 | 0 |
| **49653/135** | 104 | 116 | 2 | 2 | 111 | 3 | 1 |
| **49653/136** | 26 | 148 | 1 | 2 | 143 | 0 | 0 |
| **49653/145** | 26 | 231 | 1 | 1 | 242 | 0 | 0 |
| **49653/147** | 26 | 89 | 1 | 0 | 88 | 0 | 0 |
| **49653/162** | 26 | 168 | 1 | 1 | 172 | 0 | 0 |
| **49653/234** | 26 | 116 | 0 | 0 | 61 | 0 | 0 |
| **49653/330** | 52 | 1172 | 1 | 1 | 377 | 0 | 0 |
| **49653/331** | 52 | 706 | 0 | 1 | 325 | 0 | 0 |
| **49653/137** | 32 | 204 | 1 | 0 | 185 | 2 | 1 |
| **SB-712753/002** | 24 | 288 | 1 | 1 | 280 | 0 | 0 |
| **SB-712753/003** | 32 | 254 | 1 | 0 | 272 | 0 | 0 |
| **SB-712753/007** | 32 | 314 | 1 | 0 | 154 | 0 | 0 |
| **SB-712753/009** | 24 | 162 | 0 | 0 | 160 | 0 | 0 |
| **49653/132** | 24 | 442 | 1 | 1 | 112 | 0 | 0 |
| **AVA100193** | 24 | 394 | 1 | 1 | 124 | 0 | 0 |
| **49653/044** | 26 | 101 | 0 | 0 | 51 | 0 | 0 |
| **49653/096** | 26 | 232 | 0 | 0 | 115 | 0 | 0 |
| **49653/325** | 24 | 196 | 0 | 0 | 195 | 0 | 0 |
| **49653/282** | 24 | 70 | 0 | 0 | 75 | 0 | 0 |
| **49653/369** | 26 | 25 | 0 | 0 | 24 | 0 | 0 |
| **DREAM-trial18** | 156 | 2635 | 15 | 12 | 2634 | 9 | 10 |
| **ADOPT19** | 208 | 1456 | 27 | 2 | 2895 | 41 | 5 |
| **797620/004** | 24 | 676 | 0 | 0 | 225 | 0 | 0 |

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| **Table S2.** Characteristics of simulated FE MA data sets for = 0 | | | | | | | | |
| **id** | **Ratio a** | **# trials** |  | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean**  **# zeros** | **Mean**  **# trials** |
| **1** | 1:1 | 10 | [0.01, 0.04] | [40, 60] | 12% | 0 | 22% | 23 |
| **2** | 1:1 | 10 | [0.01, 0.03] | [30, 50] | 23% | 1 |
| **3** | 1:1 | 50 | [0.01, 0.04] | [20, 40] | 26% | 0 |
| **4** | 1:1 | 20 | [0.01, 0.038] | [20, 40] | 27% | 0 |
| **5** | 1:1 | 10 | [0.01, 0.02] | [20, 40] | 42% | 27 | 55% | 25 |
| **6** | 1:1 | 20 | [0.005, 0.01] | [30, 50] | 55% | 4 |
| **7** | 1:1 | 20 | [0.005, 0.01] | [20, 50] | 64% | 16 |
| **8** | 1:1 | 50 | [0.005, 0.01] | [20, 40] | 60% | 0 |
|  | | | | | | | | |
| **1** | 1:2 | 10 | [0.01, 0.03] | [25, 45] | 15% | 2 | 21% | 23 |
| **2** | 1:2 | 20 | [0.01, 0.03] | [20, 40] | 20% | 0 |
| **3** | 1:2 | 50 | [0.01, 0.03] | [20, 60] | 20% | 0 |
| **4** | 1:2 | 10 | [0.01, 0.02] | [20, 40] | 28% | 13 |
| **5** | 1:2 | 20 | [0.005, 0.015] | [20, 40] | 40% | 1 | 45% | 28 |
| **6** | 1:2 | 50 | [0.005, 0.015] | [20, 40] | 43% | 0 |
| **7** | 1:2 | 20 | [0.005, 0.01] | [20, 40] | 45% | 4 |
| **8** | 1:2 | 20 | [0.005, 0.01] | [30, 40] | 50% | 4 |
|  | | | | | | | | |
| **1** | 1:4 | 10 | [0.01, 0.04] | [10, 30] | 14% | 7 | 22% | 18 |
| **2** | 1:4 | 20 | [0.01, 0.015] | [15, 35] | 20% | 1 |
| **3** | 1:4 | 20 | [0.005, 0.015] | [20, 40] | 25% | 1 |
| **4** | 1:4 | 20 | [0.005, 0.01] | [20, 50] | 30% | 3 |
| **5** | 1:4 | 10 | [0.005, 0.02] | [10, 40] | 34% | 43 | 39% | 25 |
| **6** | 1:4 | 20 | [0.01, 0.02] | [10, 20] | 35% | 5 |
| **7** | 1:4 | 50 | [0.005, 0.02] | [10, 25] | 38% | 0 |
| **8** | 1:4 | 20 | [0.005, 0.012] | [12, 22] | 50% | 53 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | |

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| **Table S3.** Characteristics of simulated FE MA data sets for = 0.69 | | | | | | | | | |
| **id** | **Ratio a** | **# trials** | |  | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean # zeros** | **Mean # trials** |
| **1** | 1:1 | 10 | | [0.01, 0.03] | [30, 50] | 13% | 0 | 21% | 23 |
| **2** | 1:1 | 20 | | [0.01, 0.04] | [20, 60] | 20% | 0 |
| **3** | 1:1 | 50 | | [0.01, 0.03] | [20, 40] | 20% | 0 |
| **4** | 1:1 | 10 | | [0.01, 0.02] | [20, 40] | 29% | 19 |
| **5** | 1:1 | 50 | | [0.005, 0.017] | [20, 40] | 40% | 0 | 47% | 33 |
| **6** | 1:1 | 10 | | [0.005, 0.01] | [20, 60] | 43% | 53 |
| **7** | 1:1 | 20 | | [0.005, 0.01] | [20, 40] | 51% | 14 |
| **8** | 1:1 | 50 | | [0.005, 0.01] | [20, 40] | 52% | 0 |
|  | | |  | | | | | | |
| **1** | 1:2 | 10 | | [0.01, 0.03] | [25, 45] | 9% | 0 | 19% | 23 |
| **2** | 1:2 | 50 | | [0.005, 0.03] | [20, 40] | 18% | 0 |
| **3** | 1:2 | 10 | | [0.01, 0.02] | [20, 40] | 20% | 1 |
| **4** | 1:2 | 20 | | [0.005, 0.015] | [20, 40] | 30% | 0 |
| **5** | 1:2 | 50 | | [0.005, 0.015] | [20, 40] | 32% | 0 | 44% | 33 |
| **6** | 1:2 | 10 | | [0.005, 0.01] | [20, 40] | 42% | 27 |
| **7** | 1:2 | 20 | | [0.005, 0.01] | [20, 30] | 50% | 1 |
| **8** | 1:2 | 50 | | [0.004, 0.01] | [20, 30] | 50% | 0 |
|  | | |  | | | | | | |
| **1** | 1:4 | 10 | | [0.01, 0.03] | [10, 30] | 14% | 2 | 22% | 18 |
| **2** | 1:4 | 20 | | [0.01, 0.015] | [15, 35] | 20% | 0 |
| **3** | 1:4 | 20 | | [0.005, 0.015] | [20, 40] | 25% | 0 |
| **4** | 1:4 | 20 | | [0.005, 0.01] | [20, 50] | 30% | 0 |
| **5** | 1:4 | 10 | | [0.005, 0.02] | [10, 40] | 34% | 16 | 39% | 25 |
| **6** | 1:4 | 20 | | [0.01, 0.02] | [10, 20] | 35% | 0 |
| **7** | 1:4 | 50 | | [0.005, 0.02] | [10, 30] | 38% | 0 |
| **8** | 1:4 | 20 | | [0.005, 0.015] | [10, 20] | 50% | 1 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | | |

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| **Table S4.** Characteristics of simulated REs MA data sets for log(ORi) ~ N (0, 0.2) | | | | | | | | | |
| **id** | **Ratio a** | **# trials** |  | | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean # zeros** | **Mean**  **# trials** |
| **1** | 1:1 | 20 | [0.01, 0.04] | | [40, 60] | 12% | 0 | 20% | 28 |
| **2** | 1:1 | 50 | [0.005, 0.035] | | [40, 60] | 18% | 0 |
| **3** | 1:1 | 20 | [0.005, 0.03] | | [40, 60] | 20% | 0 |
| **4** | 1:1 | 20 | [0.005, 0.025] | | [40, 50] | 30% | 0 |
| **5** | 1:1 | 20 | [0.01, 0.02] | | [30, 50] | 31% | 0 | 46% | 35 |
| **6** | 1:1 | 50 | [0.005, 0.025] | | [30, 50] | 34% | 0 |
| **7** | 1:1 | 50 | [0.005, 0.015] | | [20, 40] | 56% | 0 |
| **8** | 1:1 | 20 | [0.005, 0.01] | | [20, 40] | 64% | 30 |
|  | | | |  | | | | | |
| **1** | 1:2 | 20 | [0.01, 0.04] | | [40, 60] | 7% | 0 | 18% | 35 |
| **2** | 1:2 | 50 | [0.005, 0.03] | | [30, 50] | 18% | 0 |
| **3** | 1:2 | 20 | [0.01, 0.02] | | [30, 50] | 20% | 0 |
| **4** | 1:2 | 50 | [0.005, 0.02] | | [30, 50] | 26% | 0 |
| **5** | 1:2 | 50 | [0.005, 0.01] | | [20, 40] | 50% | 0 | 51% | 35 |
| **6** | 1:2 | 20 | [0.005, 0.01] | | [20, 40] | 50% | 17 |
| **7** | 1:2 | 20 | [0.005, 0.01] | | [20, 40] | 52% | 17 |
| **8** | 1:2 | 50 | [0.005, 0.01] | | [20, 40] | 52% | 0 |
|  | | | |  | | | | | |
| **1** | 1:4 | 20 | [0.01, 0.03] | | [10, 30] | 7% | 0 | 16% | 28 |
| **2** | 1:4 | 20 | [0.005, 0.018] | | [15, 30] | 12% | 6 |
| **3** | 1:4 | 20 | [0.005, 0.012] | | [10, 28] | 19% | 38 |
| **4** | 1:4 | 50 | [0.01, 0.02] | | [10, 30] | 25% | 0 |
| **5** | 1:4 | 20 | [0.01, 0.02] | | [10, 25] | 31% | 6 | 49% | 28 |
| **6** | 1:4 | 50 | [0.005, 0.01] | | [10, 30] | 48% | 0 |
| **7** | 1:4 | 20 | [0.005, 0.01] | | [10, 28] | 52% | 62 |
| **8** | 1:4 | 20 | [0.005, 0.075] | | [10, 21] | 64% | 131 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | | |

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| **Table S5.** Characteristics of simulated REs MA data sets for log(ORi) ~ N (0.69, 0.2) | | | | | | | | | |
| **id** | **Ratio a** | **Number of trials** | |  | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean # zeros** | **Mean # trials** |
| **1** | 1:1 | 20 | | [0.01, 0.04] | [40, 60] | 5% | 0 | 16% | 35 |
| **2** | 1:1 | 50 | | [0.005, 0.03] | [30, 50] | 18% | 0 |
| **3** | 1:1 | 20 | | [0.01, 0.02] | [30, 50] | 19% | 0 |
| **4** | 1:1 | 50 | | [0.01, 0.03] | [25, 60] | 22% | 0 |
| **5** | 1:1 | 50 | | [0.005, 0.02] | [20, 40] | 36% | 0 | 48% | 35 |
| **6** | 1:1 | 20 | | [0.005, 0.01] | [20, 40] | 51% | 14 |
| **7** | 1:1 | 20 | | [0.005, 0.01] | [20, 40] | 52% | 14 |
| **8** | 1:1 | 50 | | [0.005, 0.01] | [20, 40] | 52% | 0 |
|  | | |  | | | | | | |
| **1** | 1:2 | 20 | | [0.01, 0.04] | [40, 60] | 4% | 0 | 11% | 28 |
| **2** | 1:2 | 20 | | [0.01, 0.02] | [30, 50] | 10% | 0 |
| **3** | 1:2 | 20 | | [0.01, 0.02] | [30, 50] | 11% | 0 |
| **4** | 1:2 | 50 | | [0.005, 0.02] | [25, 50] | 18% | 0 |
| **5** | 1:2 | 20 | | [0.005, 0.01] | [20, 40] | 40% | 1 | 47% | 35 |
| **6** | 1:2 | 50 | | [0.005, 0.01] | [20, 40] | 42% | 0 |
| **7** | 1:2 | 20 | | [0.002, 0.01] | [20, 40] | 50% | 0 |
| **8** | 1:2 | 50 | | [0.001, 0.01] | [20, 40] | 54% | 0 |
|  | | |  | | | | | | |
| **1** | 1:4 | 20 | | [0.01, 0.03] | [10, 30] | 13% | 0 | 19% | 28 |
| **2** | 1:4 | 50 | | [0.005, 0.035] | [10, 30] | 16% | 0 |
| **3** | 1:4 | 20 | | [0.005, 0.02] | [10, 30] | 20% | 0 |
| **4** | 1:4 | 20 | | [0.005, 0.02] | [10, 30] | 25% | 0 |
| **5** | 1:4 | 20 | | [0.01, 0.017] | [10, 22] | 31% | 0 | 45% | 28 |
| **6** | 1:4 | 50 | | [0.005, 0.01] | [10, 30] | 42% | 0 |
| **7** | 1:4 | 20 | | [0.005, 0.01] | [10, 25] | 47% | 6 |
| **8** | 1:4 | 20 | | [0.005, 0.007] | [10, 20] | 60% | 33 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | | |

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| **Table S6.** Characteristics of simulated REs MA data sets for log (ORi) ~ N (0, 0.5) | | | | | | | | | |
| **id** | **Ratio a** | | **Number of trials** |  | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean # zeros** | **Mean # trials** |
| **1** | 1:1 | | 20 | [0.02, 0.035] | [25, 55] | 12% | 0 | 18% | 28 |
| **2** | 1:1 | | 20 | [0.015, 0.035] | [25, 55] | 16% | 0 |
| **3** | 1:1 | | 50 | [0.02, 0.03] | [20, 50] | 18% | 0 |
| **4** | 1:1 | | 20 | [0.01, 0.03] | [20, 50] | 27% | 0 |
| **5** | 1:1 | | 50 | [0.02, 0.03] | [20, 55] | 34% | 0 | 49% | 35 |
| **6** | 1:1 | | 20 | [0.01, 0.03] | [20, 50] | 40% | 0 |
| **7** | 1:1 | | 50 | [0.01, 0.025] | [20, 50] | 56% | 0 |
| **8** | 1:1 | | 20 | [0.01, 0.025] | [20, 50] | 65% | 25 |
|  | |  | | | | | | | |
| **1** | 1:2 | | 20 | [0.01, 0.03] | [20, 40] | 7% | 0 | 15% | 28 |
| **2** | 1:2 | | 20 | [0.01, 0.02] | [20, 50] | 15% | 0 |
| **3** | 1:2 | | 50 | [0.005, 0.02] | [15, 45] | 18% | 0 |
| **4** | 1:2 | | 20 | [0.005, 0.02] | [15, 45] | 20% | 0 |
| **5** | 1:2 | | 20 | [0.005, 0.01] | [20, 40] | 50% | 12 | 54% | 35 |
| **6** | 1:2 | | 20 | [0.005, 0.0095] | [20, 40] | 52% | 12 |
| **7** | 1:2 | | 50 | [0.005, 0.01] | [20, 40] | 52% | 0 |
| **8** | 1:2 | | 50 | [0.005, 0.008] | [20, 30] | 60% | 0 |
|  | |  | | | | | | | |
| **1** | 1:4 | | 20 | [0.01, 0.03] | [20, 40] | 7% | 0 | 14% | 28 |
| **2** | 1:4 | | 20 | [0.01, 0.02] | [20, 50] | 10% | 0 |
| **3** | 1:4 | | 50 | [0.005, 0.02] | [15, 45] | 20% | 0 |
| **4** | 1:4 | | 20 | [0.005, 0.02] | [15, 45] | 20% | 0 |
| **5** | 1:4 | | 20 | [0.01, 0.02] | [10, 25] | 31% | 7 | 49% | 28 |
| **6** | 1:4 | | 50 | [0.005, 0.01] | [10, 30] | 48% | 0 |
| **7** | 1:4 | | 20 | [0.005, 0.01] | [10, 26] | 52% | 59 |
| **8** | 1:4 | | 20 | [0.005, 0.0075] | [10, 20] | 64% | 121 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | | |

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| **Table S7.** Characteristics of simulated REs MA data sets for log (ORi) ~ N (0.69, 0.5) | | | | | | | | | |
| **id** | **Ratio a** | | **Number of trials** |  | **Total # patients b** | **No events in both arms** | **No events to analyze** | **Mean # zeros** | **Mean # trials** |
| **1** | 1:1 | | 20 | [0.018, 0.032] | [20, 50] | 10% | 0 | 17% | 28 |
| **2** | 1:1 | | 20 | [0.012, 0.031] | [20, 50] | 15% | 0 |
| **3** | 1:1 | | 50 | [0.01, 0.03] | [18, 50] | 18% | 0 |
| **4** | 1:1 | | 20 | [0.008, 0.025] | [18, 50] | 24% | 0 |
| **5** | 1:1 | | 50 | [0.005, 0.02] | [20, 40] | 36% | 0 | 49% | 43 |
| **6** | 1:1 | | 20 | [0.005, 0.01] | [20, 40] | 52% | 14 |
| **7** | 1:1 | | 50 | [0.005, 0.01] | [20, 40] | 52% | 0 |
| **8** | 1:1 | | 50 | [0.005, 0.01] | [20, 30] | 54% | 0 |
|  | |  | | | | | | | |
| **1** | 1:2 | | 20 | [0.017, 0.028] | [18, 50] | 7% | 0 | 17% | 28 |
| **2** | 1:2 | | 20 | [0.008, 0.025] | [15, 50] | 17% | 0 |
| **3** | 1:2 | | 50 | [0.007, 0.02] | [18, 50] | 20% | 0 |
| **4** | 1:2 | | 20 | [0.005, 0.02] | [20, 50] | 22% | 0 |
| **5** | 1:2 | | 20 | [0.005, 0.01] | [20, 40] | 40% | 1 | 47% | 35 |
| **6** | 1:2 | | 50 | [0.005, 0.01] | [20, 40] | 42% | 0 |
| **7** | 1:2 | | 20 | [0.005, 0.01] | [20, 40] | 50% | 2 |
| **8** | 1:2 | | 50 | [0.001, 0.01] | [20, 40] | 54% | 0 |
|  | |  | | | | | | | |
| **1** | 1:4 | | 20 | [0.008, 0.025] | [18, 40] | 9% | 0 | 15% | 28 |
| **2** | 1:4 | | 20 | [0.005, 0.02] | [18, 45] | 12% | 0 |
| **3** | 1:4 | | 50 | [0.005, 0.017] | [15, 40] | 20% | 0 |
| **4** | 1:4 | | 20 | [0.005, 0.016] | [15, 40] | 20% | 1 |
| **5** | 1:4 | | 20 | [0.01, 0.017] | [10, 22] | 31% | 0 | 45% | 28 |
| **6** | 1:4 | | 50 | [0.005, 0.01] | [10, 30] | 42% | 0 |
| **7** | 1:4 | | 20 | [0.005, 0.01] | [10, 25] | 47% | 7 |
| **8** | 1:4 | | 20 | [0.005, 0.007] | [10, 20] | 60% | 24 |
| a We assigned treatment vs. control group for the ratio of group sizes  b Total number of patients in treatment group | | | | | | | | | |

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| Table S8. 95% coverage and bias for different scenarios of FE MA for = 0 and = 0.69 | | | | | | | | | | | |
| Prior for | **Ratio a** | **Deletion b** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statistic c** |
|  |  |  | **= 0** | | | | **= 0.69** | | | |  |
| *Beta(0.5, 0.5)* | | | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |
|  | 1:1 | 0 | 0.783 | -0.374 | 0.796 | -0.578 | 0.688 | -0.438 | 0.554 | -0.665 | 1.0012 |
|  | 1:2 | 0 | 0.849 | -0.311 | 0.822 | -0.445 | 0.797 | -0.339 | 0.723 | -0.485 | 1.0012 |
|  | 1:4 | 0 | 0.898 | -0.330 | 0.887 | -0.373 | 0.884 | -0.290 | 0.837 | -0.395 | 1.0011 |
|  | 1:1 | 1 | 0.782 | -0.375 | 0.794 | -0.577 | 0.686 | -0.439 | 0.558 | -0.665 | 1.0013 |
|  | 1:2 | 1 | 0.848 | -0.310 | 0.823 | -0.445 | 0.798 | -0.339 | 0.724 | -0.485 | 1.0012 |
|  | 1:4 | 1 | 0.897 | -0.331 | 0.888 | -0.372 | 0.884 | -0.288 | 0.837 | -0.394 | 1.0011 |
| *Beta(1, 1)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.473 | -0.646 | 0.479 | -0.933 | 0.305 | -0.760 | 0.173 | -1.078 | 1.0014 |
|  | 1:2 | 0 | 0.625 | -0.533 | 0.564 | -0.732 | 0.484 | -0.602 | 0.334 | -0.822 | 1.0012 |
|  | 1:4 | 0 | 0.785 | -0.531 | 0.746 | -0.598 | 0.694 | -0.516 | 0.571 | -0.676 | 1.0012 |
|  | 1:1 | 1 | 0.474 | -0.646 | 0.479 | -0.933 | 0.303 | -0.760 | 0.171 | -1.079 | 1.0014 |
|  | 1:2 | 1 | 0.625 | -0.534 | 0.566 | -0.732 | 0.484 | -0.601 | 0.335 | -0.821 | 1.0012 |
|  | 1:4 | 1 | 0.785 | -0.530 | 0.746 | -0.598 | 0.692 | -0.517 | 0.572 | -0.675 | 1.0012 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | - | 0.957 | 0.008 | 0.974 | 0.005 | 0.962 | 0.034 | 0.963 | 0.028 | NA |
|  | 1:2 | - | 0.962 | -0.003 | 0.970 | -0.037 | 0.959 | 0.005 | 0.962 | 0.008 | NA |
|  | 1:4 | - | 0.970 | -0.063 | 0.963 | -0.046 | 0.964 | -0.017 | 0.961 | -0.012 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b Deletion is a logical argument; one means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S9. 95% coverage and bias for different scenarios of REs MA = 0 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.963 | -0.018 | 0.961 | -0.050 | 0.949 | 0.076 | 0.957 | 0.058 | 1.0039 |
|  | 1:2 | 0 | 0.947 | -0.090 | 0.940 | -0.202 | 0.947 | -0.015 | 0.941 | -0.132 | 1.0048 |
|  | 1:4 | 0 | 0.931 | -0.274 | 0.947 | -0.331 | 0.939 | -0.116 | 0.959 | -0.220 | 1.0048 |
|  | 1:1 | 1 | 0.962 | -0.018 | 0.960 | -0.051 | 0.950 | 0.077 | 0.957 | 0.059 | 1.0038 |
|  | 1:2 | 1 | 0.947 | -0.090 | 0.943 | -0.201 | 0.948 | -0.014 | 0.941 | -0.131 | 1.0048 |
|  | 1:4 | 1 | 0.933 | -0.276 | 0.948 | -0.327 | 0.937 | -0.118 | 0.960 | -0.221 | 1.0047 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.960 | 0.029 | 0.955 | 0.024 | 0.938 | 0.120 | 0.944 | 0.134 | 1.0039 |
|  | 1:2 | 0 | 0.955 | -0.064 | 0.946 | -0.138 | 0.948 | 0.013 | 0.941 | -0.065 | 1.0051 |
|  | 1:4 | 0 | 0.935 | -0.246 | 0.955 | -0.283 | 0.941 | -0.093 | 0.961 | -0.179 | 1.0046 |
|  | 1:1 | 1 | 0.960 | 0.028 | 0.957 | 0.027 | 0.939 | 0.125 | 0.946 | 0.136 | 1.0039 |
|  | 1:2 | 1 | 0.954 | -0.059 | 0.948 | -0.140 | 0.948 | 0.014 | 0.943 | -0.066 | 1.0050 |
|  | 1:4 | 1 | 0.938 | -0.246 | 0.951 | -0.285 | 0.941 | -0.094 | 0.960 | -0.172 | 1.0046 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.946 | -0.046 | 0.947 | -0.068 | 0.936 | 0.040 | 0.946 | 0.034 | 1.0154 |
|  | 1:2 | 0 | 0.938 | -0.088 | 0.936 | -0.186 | 0.933 | -0.037 | 0.934 | -0.125 | 1.0199 |
|  | 1:4 | 0 | 0.926 | -0.267 | 0.943 | -0.332 | 0.930 | -0.125 | 0.954 | -0.227 | 1.0075 |
|  | 1:1 | 1 | 0.946 | -0.048 | 0.947 | -0.063 | 0.937 | 0.037 | 0.944 | 0.027 | 1.0154 |
|  | 1:2 | 1 | 0.941 | -0.087 | 0.934 | -0.180 | 0.935 | -0.035 | 0.936 | -0.125 | 1.0118 |
|  | 1:4 | 1 | 0.929 | -0.269 | 0.945 | -0.330 | 0.930 | -0.128 | 0.954 | -0.222 | 1.0075 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.946 | 0.027 | 0.959 | 0.031 | 0.902 | 0.125 | 0.947 | 0.129 | NA |
|  | 1:2 | 0 | 0.944 | 0.007 | 0.957 | 0 | 0.894 | 0.107 | 0.948 | 0.068 | NA |
|  | 1:4 | 0 | 0.955 | -0.020 | 0.959 | 0.011 | 0.900 | 0.086 | 0.938 | 0.116 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S10. 95% coverage and bias for different scenarios of REs MA = 0.69 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.964 | 0.047 | 0.965 | 0.064 | 0.932 | 0.153 | 0.952 | 0.145 | 1.0061 |
|  | 1:2 | 0 | 0.960 | -0.001 | 0.957 | -0.045 | 0.948 | 0.075 | 0.949 | 0.062 | 1.0046 |
|  | 1:4 | 0 | 0.948 | -0.074 | 0.949 | -0.173 | 0.946 | -0.015 | 0.951 | -0.052 | 1.0054 |
|  | 1:1 | 1 | 0.965 | 0.046 | 0.965 | 0.066 | 0.931 | 0.157 | 0.953 | 0.146 | 1.0054 |
|  | 1:2 | 1 | 0.962 | -0.002 | 0.955 | -0.047 | 0.948 | 0.079 | 0.949 | 0.062 | 1.0042 |
|  | 1:4 | 1 | 0.948 | -0.077 | 0.948 | -0.170 | 0.947 | -0.016 | 0.952 | -0.053 | 1.0040 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.944 | 0.118 | 0.942 | 0.210 | 0.906 | 0.231 | 0.908 | 0.297 | 1.0059 |
|  | 1:2 | 0 | 0.958 | 0.038 | 0.950 | 0.040 | 0.935 | 0.123 | 0.937 | 0.150 | 1.0038 |
|  | 1:4 | 0 | 0.949 | -0.047 | 0.953 | -0.118 | 0.949 | 0.017 | 0.949 | 0.005 | 1.0039 |
|  | 1:1 | 1 | 0.944 | 0.118 | 0.945 | 0.209 | 0.907 | 0.231 | 0.909 | 0.296 | 1.0054 |
|  | 1:2 | 1 | 0.957 | 0.037 | 0.950 | 0.043 | 0.937 | 0.122 | 0.934 | 0.150 | 1.0040 |
|  | 1:4 | 1 | 0.950 | -0.051 | 0.951 | -0.115 | 0.949 | 0.017 | 0.949 | 0.009 | 1.0041 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.947 | -0.003 | 0.950 | 0.010 | 0.930 | 0.067 | 0.936 | 0.094 | 1.0266 |
|  | 1:2 | 0 | 0.941 | -0.036 | 0.939 | -0.067 | 0.937 | 0.025 | 0.939 | 0.038 | 1.0152 |
|  | 1:4 | 0 | 0.935 | -0.106 | 0.939 | -0.182 | 0.940 | -0.045 | 0.943 | -0.073 | 1.0079 |
|  | 1:1 | 1 | 0.950 | -0.009 | 0.951 | 0.007 | 0.932 | 0.068 | 0.938 | 0.096 | 1.0280 |
|  | 1:2 | 1 | 0.943 | -0.034 | 0.941 | -0.067 | 0.938 | 0.026 | 0.937 | 0.034 | 1.0153 |
|  | 1:4 | 1 | 0.933 | -0.107 | 0.937 | -0.183 | 0.939 | -0.044 | 0.941 | -0.078 | 1.0083 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.951 | 0.037 | 0.966 | 0.060 | 0.909 | 0.136 | 0.954 | 0.153 | NA |
|  | 1:2 | 0 | 0.934 | 0.024 | 0.959 | 0.027 | 0.895 | 0.121 | 0.937 | 0.131 | NA |
|  | 1:4 | 0 | 0.944 | 0.008 | 0.963 | 0.007 | 0.895 | 0.104 | 0.934 | 0.106 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S11. 95% coverage and bias for different scenarios of REs MA = 0 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.950 | -0.014 | 0.954 | -0.045 | 0.927 | 0.085 | 0.944 | 0.073 | 1.0093 |
|  | 1:2 | 0 | 0.945 | -0.050 | 0.944 | -0.116 | 0.933 | 0.040 | 0.936 | -0.042 | 1.0110 |
|  | 1:4 | 0 | 0.941 | -0.143 | 0.952 | -0.174 | 0.939 | -0.005 | 0.957 | -0.066 | 1.0139 |
|  | 1:1 | 1 | 0.950 | -0.013 | 0.950 | -0.045 | 0.928 | 0.083 | 0.942 | 0.073 | 1.0095 |
|  | 1:2 | 1 | 0.947 | -0.047 | 0.945 | -0.117 | 0.933 | 0.040 | 0.941 | -0.042 | 1.0107 |
|  | 1:4 | 1 | 0.941 | -0.137 | 0.956 | -0.174 | 0.938 | -0.007 | 0.957 | -0.071 | 1.0139 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.948 | 0.028 | 0.948 | 0.022 | 0.915 | 0.124 | 0.934 | 0.134 | 1.0094 |
|  | 1:2 | 0 | 0.951 | -0.023 | 0.943 | -0.059 | 0.933 | 0.069 | 0.934 | 0.018 | 1.0107 |
|  | 1:4 | 0 | 0.945 | -0.109 | 0.954 | -0.126 | 0.937 | 0.018 | 0.955 | -0.021 | 1.0134 |
|  | 1:1 | 1 | 0.949 | 0.029 | 0.947 | 0.022 | 0.916 | 0.127 | 0.932 | 0.139 | 1.0094 |
|  | 1:2 | 1 | 0.948 | -0.022 | 0.944 | -0.057 | 0.929 | 0.066 | 0.937 | 0.017 | 1.0106 |
|  | 1:4 | 1 | 0.941 | -0.108 | 0.956 | -0.134 | 0.937 | 0.014 | 0.955 | -0.022 | 1.0136 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.943 | -0.013 | 0.945 | -0.020 | 0.922 | 0.080 | 0.936 | 0.086 | 1.0249 |
|  | 1:2 | 0 | 0.943 | -0.045 | 0.943 | -0.078 | 0.930 | 0.029 | 0.934 | -0.006 | 1.0190 |
|  | 1:4 | 0 | 0.938 | -0.121 | 0.953 | -0.143 | 0.933 | -0.007 | 0.955 | -0.044 | 1.0171 |
|  | 1:1 | 1 | 0.942 | -0.011 | 0.945 | -0.022 | 0.923 | 0.078 | 0.934 | 0.086 | 1.0246 |
|  | 1:2 | 1 | 0.942 | -0.043 | 0.942 | -0.082 | 0.928 | 0.034 | 0.932 | -0.008 | 1.0190 |
|  | 1:4 | 1 | 0.939 | -0.120 | 0.954 | -0.147 | 0.935 | -0.007 | 0.953 | -0.036 | 1.0173 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.946 | 0.027 | 0.959 | 0.031 | 0.902 | 0.125 | 0.946 | 0.129 | NA |
|  | 1:2 | 0 | 0.944 | 0.007 | 0.957 | 0 | 0.894 | 0.107 | 0.948 | 0.068 | NA |
|  | 1:4 | 0 | 0.955 | -0.020 | 0.959 | 0.011 | 0.898 | 0.087 | 0.938 | 0.116 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S12. 95% coverage and bias for different scenarios of REs MA = 0.69 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.955 | 0.023 | 0.959 | 0.016 | 0.920 | 0.128 | 0.947 | 0.100 | 1.0117 |
|  | 1:2 | 0 | 0.942 | 0.005 | 0.949 | -0.034 | 0.923 | 0.094 | 0.941 | 0.072 | 1.0098 |
|  | 1:4 | 0 | 0.944 | -0.033 | 0.944 | -0.090 | 0.930 | 0.045 | 0.938 | 0.020 | 1.0104 |
|  | 1:1 | 1 | 0.955 | 0.022 | 0.959 | 0.016 | 0.918 | 0.126 | 0.950 | 0.102 | 1.0122 |
|  | 1:2 | 1 | 0.946 | 0.004 | 0.948 | -0.037 | 0.923 | 0.091 | 0.936 | 0.073 | 1.0093 |
|  | 1:4 | 1 | 0.943 | -0.031 | 0.946 | -0.088 | 0.931 | 0.044 | 0.939 | 0.023 | 1.0097 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.942 | 0.083 | 0.943 | 0.132 | 0.898 | 0.191 | 0.916 | 0.219 | 1.0124 |
|  | 1:2 | 0 | 0.940 | 0.039 | 0.941 | 0.040 | 0.913 | 0.131 | 0.920 | 0.151 | 1.0093 |
|  | 1:4 | 0 | 0.944 | -0.005 | 0.942 | -0.035 | 0.927 | 0.076 | 0.931 | 0.077 | 1.0098 |
|  | 1:1 | 1 | 0.938 | 0.082 | 0.943 | 0.139 | 0.898 | 0.192 | 0.913 | 0.218 | 1.0131 |
|  | 1:2 | 1 | 0.940 | 0.040 | 0.942 | 0.041 | 0.913 | 0.133 | 0.923 | 0.152 | 1.0092 |
|  | 1:4 | 1 | 0.943 | -0.004 | 0.947 | -0.042 | 0.927 | 0.073 | 0.932 | 0.077 | 1.0095 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.945 | 0.013 | 0.947 | 0.034 | 0.920 | 0.092 | 0.928 | 0.119 | 1.0469 |
|  | 1:2 | 0 | 0.940 | -0.004 | 0.938 | -0.013 | 0.924 | 0.069 | 0.928 | 0.085 | 1.0245 |
|  | 1:4 | 0 | 0.938 | -0.043 | 0.942 | -0.076 | 0.930 | 0.031 | 0.931 | 0.034 | 1.0162 |
|  | 1:1 | 1 | 0.945 | 0.007 | 0.947 | 0.038 | 0.922 | 0.095 | 0.931 | 0.120 | 1.0462 |
|  | 1:2 | 1 | 0.937 | -0.008 | 0.939 | -0.013 | 0.924 | 0.069 | 0.927 | 0.091 | 1.0247 |
|  | 1:4 | 1 | 0.937 | -0.044 | 0.940 | -0.076 | 0.930 | 0.029 | 0.931 | 0.035 | 1.0163 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.951 | 0.037 | 0.966 | 0.060 | 0.909 | 0.136 | 0.954 | 0.153 | NA |
|  | 1:2 | 0 | 0.934 | 0.024 | 0.959 | 0.027 | 0.895 | 0.121 | 0.937 | 0.131 | NA |
|  | 1:4 | 0 | 0.944 | 0.008 | 0.963 | 0.007 | 0.895 | 0.104 | 0.934 | 0.106 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S13. 95% coverage and bias for different scenarios of REs MA = 0 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.938 | -0.008 | 0.942 | -0.027 | 0.767 | 0.166 | 0.928 | 0.074 | 1.0186 |
|  | 1:2 | 0 | 0.935 | -0.021 | 0.937 | -0.067 | 0.900 | 0.079 | 0.927 | 0.009 | 1.0213 |
|  | 1:4 | 0 | 0.937 | -0.062 | 0.943 | -0.088 | 0.907 | 0.066 | 0.940 | 0.021 | 1.0431 |
|  | 1:1 | 1 | 0.938 | -0.004 | 0.942 | -0.026 | 0.767 | 0.165 | 0.928 | 0.074 | 1.0200 |
|  | 1:2 | 1 | 0.935 | -0.021 | 0.937 | -0.067 | 0.900 | 0.078 | 0.927 | 0.009 | 1.0211 |
|  | 1:4 | 1 | 0.937 | -0.062 | 0.942 | -0.088 | 0.907 | 0.066 | 0.940 | 0.021 | 1.0422 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.934 | 0.028 | 0.938 | 0.024 | 0.753 | 0.216 | 0.916 | 0.132 | 1.0197 |
|  | 1:2 | 0 | 0.938 | 0.003 | 0.932 | -0.011 | 0.897 | 0.104 | 0.920 | 0.066 | 1.0208 |
|  | 1:4 | 0 | 0.932 | -0.034 | 0.943 | -0.045 | 0.903 | 0.088 | 0.933 | 0.067 | 1.0418 |
|  | 1:1 | 1 | 0.929 | 0.030 | 0.938 | 0.023 | 0.753 | 0.216 | 0.916 | 0.132 | 1.0190 |
|  | 1:2 | 1 | 0.938 | 0.003 | 0.932 | -0.010 | 0.897 | 0.104 | 0.920 | 0.066 | 1.0210 |
|  | 1:4 | 1 | 0.932 | -0.033 | 0.943 | -0.045 | 0.903 | 0.088 | 0.933 | 0.067 | 1.0419 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.937 | 0.014 | 0.947 | 0.015 | 0.759 | 0.161 | 0.922 | 0.122 | 1.0272 |
|  | 1:2 | 0 | 0.938 | -0.006 | 0.935 | -0.022 | 0.904 | 0.092 | 0.924 | 0.052 | 1.0256 |
|  | 1:4 | 0 | 0.935 | -0.038 | 0.946 | -0.050 | 0.904 | 0.077 | 0.937 | 0.058 | 1.0448 |
|  | 1:1 | 1 | 0.935 | 0.016 | 0.947 | 0.015 | 0.759 | 0.161 | 0.922 | 0.122 | 1.0280 |
|  | 1:2 | 1 | 0.938 | -0.006 | 0.935 | -0.022 | 0.904 | 0.092 | 0.924 | 0.052 | 1.0258 |
|  | 1:4 | 1 | 0.935 | -0.038 | 0.946 | -0.050 | 0.904 | 0.077 | 0.937 | 0.058 | 1.0449 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.946 | 0.027 | 0.959 | 0.031 | 0.902 | 0.125 | 0.946 | 0.129 | NA |
|  | 1:2 | 0 | 0.944 | 0.007 | 0.957 | 0 | 0.894 | 0.107 | 0.948 | 0.068 | NA |
|  | 1:4 | 0 | 0.955 | -0.020 | 0.959 | 0.011 | 0.898 | 0.087 | 0.938 | 0.116 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S14. 95% coverage and bias for different scenarios of REs MA = 0.69 for | | | | | | | | | | | |
| Prior for | **Ratioa** | **Deletionb** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Coverage** | **Bias** | **Gel. & Rub. Statisticc** |
|  |  |  | **= 0.2** | | | | **= 0.5** | | | |  |
|  |  |  | **≤ 30%** d | | **>30%** | | **≤ 30%** | | **>30%** | |  |
| *normal(0, 10)* | | |  | |  | |  | |  | |
|  | 1:1 | 0 | 0.947 | 0.004 | 0.947 | -0.009 | 0.903 | 0.113 | 0.940 | 0.074 | 1.0205 |
|  | 1:2 | 0 | 0.931 | 0.012 | 0.936 | -0.025 | 0.896 | 0.104 | 0.928 | 0.084 | 1.0163 |
|  | 1:4 | 0 | 0.928 | -0.004 | 0.937 | -0.037 | 0.901 | 0.087 | 0.915 | 0.085 | 1.0211 |
|  | 1:1 | 1 | 0.947 | 0.004 | 0.947 | -0.009 | 0.903 | 0.113 | 0.940 | 0.074 | 1.0333 |
|  | 1:2 | 1 | 0.931 | 0.012 | 0.936 | -0.024 | 0.896 | 0.104 | 0.928 | 0.084 | 1.0290 |
|  | 1:4 | 1 | 0.928 | -0.004 | 0.937 | -0.038 | 0.901 | 0.087 | 0.915 | 0.085 | 1.0349 |
| *normal(0, 100)* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.936 | 0.053 | 0.940 | 0.089 | 0.881 | 0.165 | 0.917 | 0.172 | 1.0213 |
|  | 1:2 | 0 | 0.928 | 0.047 | 0.932 | 0.041 | 0.882 | 0.141 | 0.904 | 0.151 | 1.0167 |
|  | 1:4 | 0 | 0.929 | 0.022 | 0.934 | 0.007 | 0.888 | 0.114 | 0.911 | 0.139 | 1.0210 |
|  | 1:1 | 1 | 0.936 | 0.053 | 0.940 | 0.089 | 0.881 | 0.165 | 0.917 | 0.172 | 1.0374 |
|  | 1:2 | 1 | 0.928 | 0.047 | 0.931 | 0.041 | 0.882 | 0.141 | 0.904 | 0.151 | 1.0297 |
|  | 1:4 | 1 | 0.929 | 0.022 | 0.934 | 0.008 | 0.888 | 0.114 | 0.911 | 0.139 | 1.0354 |
| *Hierarchical* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.941 | 0.022 | 0.942 | 0.054 | 0.900 | 0.127 | 0.923 | 0.138 | 1.0303 |
|  | 1:2 | 0 | 0.928 | 0.018 | 0.933 | 0.018 | 0.895 | 0.109 | 0.911 | 0.119 | 1.0240 |
|  | 1:4 | 0 | 0.933 | 0 | 0.937 | -0.016 | 0.903 | 0.092 | 0.917 | 0.108 | 1.0223 |
|  | 1:1 | 1 | 0.941 | 0.022 | 0.942 | 0.054 | 0.900 | 0.127 | 0.923 | 0.137 | 1.0626 |
|  | 1:2 | 1 | 0.928 | 0.018 | 0.933 | 0.017 | 0.895 | 0.109 | 0.911 | 0.118 | 1.0407 |
|  | 1:4 | 1 | 0.932 | 0 | 0.937 | -0.018 | 0.903 | 0.092 | 0.917 | 0.109 | 1.0386 |
| *Mantel-Haenszel* | | | | | | | | | | | |
|  | 1:1 | 0 | 0.951 | 0.037 | 0.966 | 0.060 | 0.909 | 0.136 | 0.954 | 0.153 | NA |
|  | 1:2 | 0 | 0.934 | 0.024 | 0.959 | 0.027 | 0.895 | 0.121 | 0.937 | 0.131 | NA |
|  | 1:4 | 0 | 0.944 | 0.008 | 0.963 | 0.007 | 0.895 | 0.104 | 0.934 | 0.106 | NA |
| a We assigned treatment vs. control group for the ratio of group sizes  b deletion is a logical argument; zero means trials with zero in both arms are excluded from the analyses.  c The Gelman and Rubin diagnostic is used to check the convergence of multiple mcmc chains run in parallel.  d Percentage of trials with no events in both arms. | | | | | | | | | | | |

**Figures**

**Figure S1.** Coverage probability of 95% CIs and bias of estimate for RE method with for different scenarios of &(trials with no events in both arms are included)

**Figure S2.** Coverage probability of 95% CIs and bias ofestimate for RE method with for different scenarios of &(trials with no events in both arms are included)

**Figure S3.** Coverage probability of 95% CIs and bias ofestimate for RE method with for different scenarios of &(trials with no events in both arms are included)

**Figure S4.** Coverage probability of 95% CIs and bias ofestimate for RE method with for different scenarios of &(trials with no events in both arms are included)

**Figure S5.** Coverage probability of 95% CIs and bias ofestimate for RE method with for different scenarios of &(trials with no events in both arms are included)

**Figure S6.** Coverage probability of 95% CIs and bias ofestimate for RE method with for different scenarios of &(trials with no events in both arms are included)

References

LANE, P. W. 2013. Meta-analysis of incidence of rare events. *Stat Methods Med Res,* 22**,** 117-32.