**Appendix**

**Table I**

Percentage of bias (95% confidence interval); follow-up 1 year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n* = 500** | ***n* = 1000** | ***n* = 3000** |
| **Population** | **Model** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** |
|   |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | -1 (-4.1,2.1) | -5.2 (-6.7,-3.6) | -4 (-5.2,-2.9) | -0.2 (-2.3,2) | -5.9 (-6.9,-4.8) | -4.7 (-5.5,-4) | -3.4 (-4.7,-2.2) | -6.4 (-7,-5.8) | -4.3 (-4.8,-3.9) |
| 1 | AG | 17.4 (13.8,20.9) | 12.8 (11.1,14.5) | 14.2 (13,15.4) | 18.7 (16.3,21.1) | 12 (10.9,13.2) | 13.7 (12.9,14.5) | 15 (13.6,16.4) | 11.6 (10.8,12.3) | 14.3 (13.8,14.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | -8.9 (-12.1,-5.8) | -7.3 (-8.8,-5.7) | -7.6 (-8.7,-6.5) | -9.5 (-11.7,-7.3) | -8.9 (-10,-7.7) | -8.3 (-9.1,-7.5) | -7.6 (-8.8,-6.4) | -8.8 (-9.4,-8.1) | -8.1 (-8.5,-7.6) |
| 2 | SFM | 11.4 (7.8,15) | 12.2 (10.4,14) | 13.2 (12,14.4) | 11 (8.4,13.6) | 11.4 (10.2,12.7) | 12.6 (11.7,13.5) | 13.2 (11.8,14.7) | 11.5 (10.8,12.2) | 12.8 (12.3,13.3) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | -6.4 (-9.2,-3.6) | -3.4 (-4.9,-1.9) | -4.6 (-5.7,-3.6) | -7 (-9.1,-5) | -6.1 (-7.1,-5) | -5.4 (-6.1,-4.8) | -8.1 (-9.2,-6.9) | -5.1 (-5.7,-4.5) | -4.5 (-5,-4.1) |
| 3 | AG | 21 (17.5,24.6) | 25.5 (23.6,27.4) | 25 (23.7,26.3) | 19 (16.3,21.6) | 22.7 (21.3,24) | 24.4 (23.6,25.2) | 19.2 (17.8,20.7) | 24.1 (23.3,24.8) | 25.5 (25,26) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | -3.8 (-6.9,-0.6) | -5.9 (-7.5,-4.4) | -7.6 (-8.7,-6.6) | -2.9 (-5.1,-0.8) | -5.9 (-6.9,-4.8) | -8.1 (-8.8,-7.3) | -3.6 (-4.8,-2.5) | -5.6 (-6.2,-5) | -7.9 (-8.3,-7.5) |
| 4 | SFM | 26.1 (22.1,30.1) | 23.9 (21.9,25.8) | 22.5 (21.2,23.8) | 28.1 (25.2,30.9) | 24 (22.6,25.4) | 21.9 (21,22.9) | 26.9 (25.3,28.4) | 24.2 (23.4,25) | 22.1 (21.6,22.6) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | -0.1 (-2.6,2.5) | -2.8 (-4.1,-1.4) | -2.8 (-3.7,-1.9) | -0.1 (-1.9,1.7) | -3.6 (-4.5,-2.7) | -3 (-3.7,-2.4) | 0 (-1,1.1) | -3.7 (-4.2,-3.2) | -3 (-3.4,-2.6) |
| 5 | AG | 51.7 (47.1,56.3) | 44.1 (41.8,46.5) | 46.8 (45.2,48.5) | 53 (49.8,56.2) | 44 (42.3,45.6) | 47.4 (46.3,48.6) | 53.9 (52,55.8) | 44 (43.1,44.9) | 47.7 (47.1,48.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | -3.6 (-6.4,-0.8) | -3.3 (-4.8,-1.7) | -3.1 (-4.1,-2.2) | -2.5 (-4.6,-0.3) | -2.6 (-3.6,-1.6) | -3.9 (-4.6,-3.1) | -6.3 (-7.4,-5.2) | -2.1 (-2.7,-1.6) | -3.5 (-3.8,-3.1) |
| 6 | SFM | 53 (48,58.1) | 52.2 (49.5,54.8) | 54.9 (53.2,56.6) | 53.7 (49.9,57.5) | 54.3 (52.4,56.1) | 52.9 (51.7,54.2) | 49 (47,51) | 54.6 (53.5,55.7) | 53.5 (52.8,54.1) |

**Table II**

Percentage mean squared error (95% confidence interval); follow-up 1 year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n* = 500** | ***n* = 1000** | ***n* = 3000** |
| **Population** | **Model** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 6.2 (2.8, 17.4) | 3.3 (1.4, 9.4) | 2.5 (1.1, 7.4) | 3 (1.4, 8.2) | 1.7 (0.7, 5.3) | 1.3 (0.5, 3.9) | 1 (0.5, 2.9) | 0.7 (0.3, 2.2) | 0.5 (0.2, 1.6) |
| 1 | AG | 8.8 (3.5, 26.1) | 4.7 (1.8, 14.2) | 4.3 (1.3, 13.1) | 4.7 (1.8, 15.7) | 2.6 (0.9, 8.5) | 2.8 (0.7, 8.8) | 1.9 (0.6, 6.1) | 1.3 (0.3, 4.1) | 2 (0.3, 4.7) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 6.3 (2.8, 18.6) | 3.4 (1.5, 11) | 2.7 (1.1, 8.6) | 3.2 (1.4, 10.1) | 2 (0.7, 6.4) | 1.7 (0.6, 5.2) | 1.1 (0.5, 3.4) | 0.9 (0.3, 3.1) | 0.9 (0.2, 2.5) |
| 2 | SFM | 7.4 (2.8, 25.9) | 4.3 (1.4, 15.7) | 3.9 (1, 14.6) | 3.9 (1.4, 13.5) | 2.4 (0.7, 8) | 2.5 (0.5, 8.5) | 1.6 (0.5, 6.3) | 1.2 (0.3, 4.1) | 1.6 (0.2, 4.3) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 5.2 (2.3, 18.1) | 2.8 (1.3, 8.6) | 2.2 (0.9, 7.2) | 2.7 (1.2, 8.6) | 1.6 (0.6, 5) | 1.2 (0.5, 3.4) | 1 (0.4, 3) | 0.6 (0.2, 2) | 0.5 (0.2, 1.6) |
| 3 | AG | 9.4 (3.9, 28.3) | 7.9 (2, 28) | 7.9 (1.5, 24.8) | 5.3 (2, 18.3) | 4.8 (1, 14.4) | 5.9 (0.9, 14.8) | 2.3 (0.7, 7.7) | 3.6 (0.6, 8.6) | 5.4 (1.8, 10.3) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 5.6 (2.3, 19.2) | 3 (1.2, 9.6) | 2.5 (0.9, 8.4) | 2.7 (1.2, 8.6) | 1.6 (0.6, 4.6) | 1.5 (0.5, 5.1) | 0.9 (0.4, 2.6) | 0.6 (0.2, 1.8) | 0.8 (0.2, 2.6) |
| 4 | SFM | 9.5 (2.4, 37.4) | 6.7 (1.3, 23.6) | 6.5 (1, 23) | 5.9 (1.3, 20.6) | 4.8 (0.7, 16.6) | 4.9 (0.5, 13.6) | 3 (0.4, 10.4) | 3.6 (0.4, 8.5) | 4.1 (0.9, 8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 4.2 (1.9, 12.9) | 2.3 (1, 7.2) | 1.7 (0.7, 4.7) | 2.1 (1, 6.1) | 1.1 (0.5, 3.3) | 0.9 (0.4, 2.6) | 0.7 (0.3, 2.4) | 0.4 (0.2, 1.3) | 0.3 (0.1, 1) |
| 5 | AG | 20.6 (6.5, 76) | 16.8 (3.5, 50) | 21.4 (3.2, 56.4) | 13.9 (3.4, 42.6) | 13.1 (2.1, 34.6) | 19.3 (5, 41.8) | 9.6 (1.6, 24.2) | 10.8 (3.6, 21.6) | 17.9 (9, 29.5) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 4.6 (1.9, 15.4) | 2.6 (1, 8.1) | 1.7 (0.7, 5.3) | 2.5 (1, 8.9) | 1.2 (0.5, 3.9) | 1 (0.4, 2.9) | 0.9 (0.3, 2.7) | 0.4 (0.2, 1.3) | 0.4 (0.1, 1.3) |
| 6 | SFM | 17.8 (2.5, 80.7) | 19.6 (1.4, 60.5) | 26.2 (3.2, 64.8) | 13.2 (1.3, 48.2) | 17.6 (1.6, 46.1) | 23.1 (5.7, 51) | 7.8 (0.5, 23.1) | 15.9 (4.8, 29.9) | 22.1 (10.9, 35.1) |

**Table III**

Coverage: percentage of times that the true parameter value is included in the 95%CI (95% confidence interval); follow-up 1 year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n* = 500** | ***n* = 1000** | ***n* = 3000** |
| **Population** | **Model** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 94.6 (92.6,96.4) | 94.8 (92.8,96.6) | 93.2 (91,95.4) | 96.2 (94.4,97.8) | 93.6 (91.4,95.6) | 92 (89.6,94.2) | 93.2 (91,95.4) | 87.2 (84.2,90) | 86.6 (83.6,89.6) |
| 1 | AG | 90.8 (88.2,93.2) | 90.4 (87.8,93) | 80.2 (76.6,83.6) | 90.2 (87.6,92.8) | 87.8 (84.8,90.6) | 74 (70.2,77.8) | 84.2 (81,87.4) | 70.6 (66.6,74.6) | 25.6 (21.8,29.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 94.4 (92.4,96.4) | 92.6 (90.2,94.8) | 91 (88.4,93.4) | 91.8 (89.4,94.2) | 88 (85,90.8) | 82.4 (79,85.6) | 93 (90.6,95.2) | 78.2 (74.6,81.8) | 64.2 (60,68.4) |
| 2 | SFM | 93.8 (91.6,95.8) | 90 (87.2,92.6) | 85.2 (82,88.2) | 93.2 (91,95.4) | 87.4 (84.4,90.2) | 74.8 (71,78.6) | 87.4 (84.4,90.2) | 74.2 (70.4,78) | 39.8 (35.6,44.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 94.8 (92.8,96.6) | 93.8 (91.6,95.8) | 90.8 (88.2,93.2) | 92.6 (90.2,94.8) | 91 (88.4,93.4) | 90.2 (87.6,92.8) | 88.6 (85.8,91.4) | 88.8 (86,91.4) | 83.2 (79.8,86.4) |
| 3 | AG | 92.8 (90.4,95) | 78.4 (74.8,82) | 57.4 (53,61.8) | 88.6 (85.8,91.4) | 66.8 (62.6,70.8) | 30.6 (26.6,34.6) | 81.2 (77.8,84.6) | 19.2 (15.8,22.8) | 0.2 (0,0.6) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 92.4 (90,94.6) | 94 (91.8,96) | 88.6 (85.8,91.4) | 94.4 (92.4,96.4) | 92.4 (90,94.6) | 82.6 (79.2,85.8) | 95 (93,96.8) | 86.2 (83.2,89.2) | 65.8 (61.6,70) |
| 4 | SFM | 89.2 (86.4,91.8) | 81.2 (77.8,84.6) | 69.2 (65.2,73.2) | 84.8 (81.6,87.8) | 66.6 (62.4,70.8) | 44 (39.6,48.4) | 70 (66,74) | 25.2 (21.4,29) | 5.6 (3.6,7.6) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 95 (93,96.8) | 91.8 (89.4,94.2) | 92.6 (90.2,94.8) | 94.2 (92,96.2) | 93.2 (91,95.4) | 92 (89.6,94.2) | 94.8 (92.8,96.6) | 90 (87.2,92.6) | 89.4 (86.6,92) |
| 5 | AG | 82.8 (79.4,86) | 61.6 (57.4,65.8) | 25 (21.2,28.8) | 69.6 (65.6,73.6) | 34.2 (30,38.4) | 4 (2.4,5.8) | 30.2 (26.2,34.2) | 1 (0.2,2) | 0 (0,0) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 94.6 (92.6,96.4) | 93 (90.6,95.2) | 94.6 (92.6,96.4) | 92.8 (90.4,95) | 95 (93,96.8) | 92.6 (90.2,94.8) | 92.6 (90.2,94.8) | 92.4 (90,94.6) | 88.2 (85.4,91) |
| 6 | SFM | 89.6 (86.8,92.2) | 61 (56.8,65.2) | 19.6 (16.2,23.2) | 76.6 (72.8,80.2) | 28.8 (24.8,32.8) | 3.6 (2,5.4) | 49.8 (45.4,54.2) | 0.6 (0,1.4) | 0 (0,0) |

**Table IV**

Confidence intervals mean length (95% confidence interval); follow-up 1 year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **Length *β1*** | **Length *β2*** | **Length *β3*** | **Length *β1*** | **Length *β2*** | **Length *β3*** | **Length *β1*** | **Length *β2*** | **Length *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 0.34 | 0.349 | 0.365 | 0.24 | 0.246 | 0.258 | 0.139 | 0.142 | 0.149 |
| 1 | AG | 0.386 | 0.392 | 0.402 | 0.273 | 0.277 | 0.285 | 0.158 | 0.16 | 0.165 |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 0.346 | 0.355 | 0.372 | 0.244 | 0.251 | 0.262 | 0.14 | 0.144 | 0.15 |
| 2 | SFM | 0.4 | 0.403 | 0.41 | 0.282 | 0.284 | 0.288 | 0.161 | 0.162 | 0.165 |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 0.314 | 0.324 | 0.338 | 0.222 | 0.229 | 0.239 | 0.128 | 0.132 | 0.138 |
| 3 | AG | 0.405 | 0.411 | 0.419 | 0.286 | 0.29 | 0.296 | 0.165 | 0.167 | 0.171 |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 0.328 | 0.336 | 0.348 | 0.233 | 0.238 | 0.247 | 0.135 | 0.138 | 0.143 |
| 4 | SFM | 0.438 | 0.437 | 0.437 | 0.309 | 0.308 | 0.308 | 0.178 | 0.177 | 0.177 |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 0.283 | 0.288 | 0.304 | 0.2 | 0.204 | 0.215 | 0.116 | 0.118 | 0.124 |
| 5 | AG | 0.517 | 0.516 | 0.519 | 0.366 | 0.365 | 0.368 | 0.212 | 0.211 | 0.213 |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 0.316 | 0.321 | 0.331 | 0.225 | 0.228 | 0.234 | 0.13 | 0.132 | 0.135 |
| 6 | SFM | 0.617 | 0.604 | 0.587 | 0.433 | 0.424 | 0.412 | 0.248 | 0.244 | 0.237 |

**Table V**

Percentage of times that the assumption of proportional hazards is not rejected (95% confidence interval); follow-up 1 year.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **PH *β1*** | **PH *β2*** | **PH *β3***  | **PH *β1*** | **PH *β2*** | **PH *β3***  | **PH *β1*** | **PH *β2*** | **PH *β3***  |
|   |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 94.2 (92,96.2) | 94.4 (92.4,96.4) | 93 (90.6,95.2) | 94.6 (92.6,96.4) | 95 (93,96.8) | 93.8 (91.6,95.8) | 94.2 (92,96.2) | 92.4 (90,94.6) | 90.8 (88.2,93.2) |
| 1 | AG | 88.8 (86,91.4) | 90.6 (88,93) | 88.4 (85.6,91.2) | 89 (86.2,91.6) | 90.2 (87.6,92.8) | 90.4 (87.8,93) | 87.8 (84.8,90.6) | 84.4 (81.2,87.6) | 80.8 (77.2,84.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 94 (91.8,96) | 92.2 (89.8,94.4) | 92 (89.6,94.2) | 90.4 (87.8,93) | 93 (90.6,95.2) | 91.8 (89.4,94.2) | 90.6 (88,93) | 88.4 (85.6,91.2) | 84 (80.8,87.2) |
| 2 | SFM | 89.4 (86.6,92) | 89 (86.2,91.6) | 89.2 (86.4,91.8) | 88.6 (85.8,91.4) | 86.8 (83.8,89.6) | 88.8 (86,91.4) | 89.4 (86.6,92) | 84.8 (81.6,87.8) | 82.6 (79.2,85.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 95.2 (93.2,97) | 95.6 (93.8,97.4) | 94.4 (92.4,96.4) | 95.6 (93.8,97.4) | 94.6 (92.6,96.4) | 94.2 (92,96.2) | 94 (91.8,96) | 92.2 (89.8,94.4) | 88 (85,90.8) |
| 3 | AG | 85.4 (82.2,88.4) | 85.4 (82.2,88.4) | 82.6 (79.2,85.8) | 85.6 (82.4,88.6) | 80.8 (77.2,84.2) | 77.8 (74.2,81.4) | 83.8 (80.6,87) | 72 (68,75.8) | 56.4 (52,60.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 91.4 (88.8,93.8) | 93.8 (91.6,95.8) | 91 (88.4,93.4) | 89.6 (86.8,92.2) | 91.8 (89.4,94.2) | 90 (87.2,92.6) | 92 (89.6,94.2) | 87 (84,89.8) | 83.6 (80.2,86.8) |
| 4 | SFM | 86.4 (83.4,89.4) | 84 (80.8,87.2) | 80.2 (76.6,83.6) | 79.2 (75.6,82.6) | 79.6 (76,83) | 77.6 (73.8,81.2) | 82 (78.6,85.4) | 75.6 (71.8,79.4) | 68.2 (64,72.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 94.2 (92,96.2) | 93 (90.6,95.2) | 93.4 (91.2,95.4) | 92.8 (90.4,95) | 92 (89.6,94.2) | 94.6 (92.6,96.4) | 96.2 (94.4,97.8) | 93.2 (91,95.4) | 88 (85,90.8) |
| 5 | AG | 52.4 (48,56.8) | 48.8 (44.4,53.2) | 45.8 (41.4,50.2) | 50.8 (46.4,55.2) | 47 (42.6,51.4) | 33 (29,37.2) | 32.4 (28.4,36.6) | 29 (25,33) | 11 (8.4,13.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 91 (88.4,93.4) | 90.8 (88.2,93.2) | 92.2 (89.8,94.4) | 91.4 (88.8,93.8) | 90.8 (88.2,93.2) | 92.2 (89.8,94.4) | 91.6 (89,94) | 89.4 (86.6,92) | 90.4 (87.8,93) |
| 6 | SFM | 57.8 (53.4,62.2) | 47.8 (43.4,52.2) | 37.2 (33,41.4) | 53.6 (49.2,58) | 40.6 (36.4,45) | 19.2 (15.8,22.8) | 34.2 (30,38.4) | 17.6 (14.4,21) | 1.8 (0.8,3) |

**Table VI**

Percentage of bias (95% confidence interval); follow-up 3 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** | **Bias *β1*** | **Bias *β2*** | **Bias *β3*** |
|   |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | -2 (-5.1,1.1) | -7 (-8.6,-5.4) | -3.5 (-4.6,-2.4) | -2.2 (-4.4,-0.1) | -5.7 (-6.9,-4.6) | -4.6 (-5.3,-3.8) | -2.2 (-3.5,-1) | -6 (-6.7,-5.4) | -4.3 (-4.7,-3.9) |
| 1 | AG | 16.5 (13,19.9) | 10.8 (9,12.5) | 15 (13.8,16.2) | 15.7 (13.3,18.2) | 12.1 (10.8,13.4) | 13.9 (13.1,14.7) | 16.4 (15,17.8) | 11.9 (11.2,12.7) | 14.2 (13.8,14.7) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | -9.8 (-13.2,-6.5) | -8.9 (-10.6,-7.2) | -7.1 (-8.2,-6) | -8 (-10.2,-5.8) | -8.1 (-9.3,-7) | -8.1 (-8.9,-7.4) | -7.5 (-8.7,-6.2) | -8.4 (-9.1,-7.7) | -7.9 (-8.4,-7.5) |
| 2 | SFM | 11 (7.2,14.8) | 10.9 (9,12.8) | 14.2 (13,15.5) | 12.2 (9.7,14.7) | 12.2 (10.9,13.5) | 12.7 (11.8,13.5) | 13.5 (12.1,15) | 11.9 (11.2,12.7) | 13 (12.5,13.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | -9.5 (-12.2,-6.8) | -5.9 (-7.3,-4.5) | -4 (-5,-3) | -7.3 (-9.3,-5.3) | -4.8 (-5.9,-3.7) | -4.8 (-5.5,-4.1) | -8.7 (-9.8,-7.6) | -5.9 (-6.5,-5.3) | -4.8 (-5.2,-4.3) |
| 3 | AG | 17.2 (13.7,20.6) | 22.6 (20.8,24.4) | 26.3 (25.1,27.5) | 19.2 (16.5,21.8) | 24.5 (23.2,25.9) | 25.1 (24.3,26) | 17.7 (16.3,19.1) | 23 (22.2,23.8) | 25.4 (24.9,25.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 0 (-2.8,2.9) | -5.2 (-6.7,-3.7) | -7.8 (-8.9,-6.8) | -2.7 (-4.8,-0.6) | -5.6 (-6.7,-4.6) | -7.5 (-8.2,-6.7) | -4 (-5.2,-2.8) | -6.2 (-6.8,-5.6) | -8.1 (-8.5,-7.6) |
| 4 | SFM | 31.5 (27.7,35.3) | 24.6 (22.7,26.5) | 22.6 (21.3,23.9) | 28.6 (25.9,31.4) | 24.3 (23,25.7) | 23 (22.1,24) | 26.9 (25.4,28.3) | 23.3 (22.5,24) | 22 (21.4,22.5) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 1.6 (-1,4.2) | -4 (-5.3,-2.7) | -2.6 (-3.5,-1.6) | 0.2 (-1.6,2) | -3.2 (-4.1,-2.3) | -2.9 (-3.5,-2.2) | -0.4 (-1.4,0.6) | -3.3 (-3.8,-2.8) | -2.7 (-3.1,-2.3) |
| 5 | AG | 56.7 (51.9,61.5) | 44.3 (41.9,46.6) | 48.4 (46.8,50) | 54.2 (51,57.4) | 45.9 (44.2,47.6) | 47.7 (46.5,48.8) | 52.4 (50.4,54.3) | 44.9 (44,45.9) | 47.9 (47.3,48.6) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | -5.4 (-8.2,-2.6) | -2.9 (-4.4,-1.4) | -2.7 (-3.7,-1.7) | -5.3 (-7.5,-3.2) | -2 (-3,-1) | -4.1 (-4.8,-3.4) | -6.4 (-7.5,-5.3) | -2.4 (-3,-1.9) | -3.8 (-4.3,-3.4) |
| 6 | SFM | 50.5 (45.5,55.6) | 54.3 (51.6,57) | 55.3 (53.5,57) | 50.1 (46.4,53.8) | 55.4 (53.5,57.2) | 52.7 (51.5,53.9) | 47.8 (45.8,49.8) | 54 (53,55) | 52.8 (52,53.5) |

**Table VII**

Percentage mean squared error (95% confidence interval); follow-up 3 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** | **MSE *β1*** | **MSE *β2*** | **MSE *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 6.1 (2.7, 17.8) | 3.5 (1.4, 10.2) | 2.4 (1, 7.3) | 3 (1.4, 9) | 1.8 (0.7, 5.9) | 1.3 (0.5, 3.6) | 1 (0.5, 2.9) | 0.7 (0.3, 2.2) | 0.5 (0.2, 1.6) |
| 1 | AG | 8.4 (3.6, 24.4) | 4.6 (1.8, 14.5) | 4.4 (1.3, 14.9) | 4.5 (1.8, 13.8) | 2.8 (1, 9.5) | 2.8 (0.7, 9) | 1.9 (0.6, 6) | 1.4 (0.3, 4.1) | 2 (0.3, 4.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 6.7 (2.7, 26.3) | 3.7 (1.4, 10.4) | 2.7 (1.1, 8.2) | 3.2 (1.4, 10.3) | 1.9 (0.7, 6.1) | 1.6 (0.6, 5.2) | 1.1 (0.5, 3.7) | 0.9 (0.3, 3) | 0.8 (0.2, 2.5) |
| 2 | SFM | 7.9 (2.8, 28) | 4.5 (1.4, 15.4) | 4.1 (1, 13.6) | 3.8 (1.4, 13.2) | 2.6 (0.7, 9.3) | 2.4 (0.5, 7.5) | 1.6 (0.5, 6.2) | 1.3 (0.2, 4) | 1.7 (0.2, 4.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 5.1 (2.3, 14.4) | 2.8 (1.2, 7.9) | 2.1 (0.9, 6.8) | 2.7 (1.2, 8.7) | 1.5 (0.6, 4.7) | 1.1 (0.5, 3.4) | 1 (0.4, 3.2) | 0.6 (0.2, 2) | 0.5 (0.2, 1.6) |
| 3 | AG | 8.9 (3.8, 28.8) | 6.8 (2.1, 21.7) | 8.2 (1.5, 21.7) | 5.3 (2, 16.8) | 5.3 (1.1, 15.9) | 6.2 (1, 16.3) | 2.2 (0.7, 7) | 3.4 (0.5, 8.7) | 5.3 (1.7, 10.5) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 5 (2.3, 16) | 2.8 (1.2, 8.8) | 2.5 (0.9, 8.8) | 2.7 (1.2, 9) | 1.5 (0.6, 5.5) | 1.4 (0.5, 4.5) | 0.9 (0.4, 2.9) | 0.6 (0.2, 2.4) | 0.8 (0.2, 2.4) |
| 4 | SFM | 9.7 (2.5, 40.5) | 6.8 (1.3, 23.3) | 6.4 (0.9, 21.5) | 5.8 (1.3, 21.4) | 4.8 (0.7, 14.7) | 5.3 (0.6, 13.4) | 2.9 (0.4, 9.5) | 3.3 (0.4, 8) | 4 (0.9, 8.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 4.3 (1.9, 12.7) | 2.3 (0.9, 6.7) | 1.7 (0.7, 5.3) | 2.1 (1, 6.3) | 1.1 (0.5, 3.5) | 0.9 (0.4, 2.5) | 0.7 (0.3, 2.1) | 0.4 (0.2, 1.3) | 0.3 (0.1, 1.1) |
| 5 | AG | 22.5 (6.5, 74.2) | 16.9 (3.6, 48.4) | 22.5 (3.7, 56.9) | 14.2 (3.5, 44.2) | 14.2 (2, 36.3) | 19.4 (5, 42) | 9.2 (1.4, 21.9) | 11.3 (3.3, 23.2) | 18 (9.3, 29.5) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 4.6 (1.9, 14.7) | 2.6 (1, 9.6) | 1.9 (0.7, 6.1) | 2.6 (0.9, 8.7) | 1.2 (0.5, 3.4) | 1 (0.4, 3.1) | 0.8 (0.3, 2.7) | 0.4 (0.2, 1.2) | 0.4 (0.1, 1.5) |
| 6 | SFM | 17.2 (2.5, 65.5) | 20.8 (1.5, 64.3) | 26.9 (3.1, 66) | 12 (1.4, 45.6) | 18.3 (1.5, 47.7) | 22.7 (5.4, 47) | 7.4 (0.5, 20.5) | 15.5 (5.1, 31) | 21.6 (10.3, 35.9) |

**Table VIII**

Coverage: percentage of times that the true parameter value is included in the 95%CI (95% confidence interval); follow-up 3 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** | **Coverage *β1*** | **Coverage *β2*** | **Coverage *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 95.4 (93.4,97.2) | 92.8 (90.4,95) | 94.4 (92.4,96.4) | 94.4 (92.4,96.4) | 92.2 (89.8,94.4) | 92.2 (89.8,94.4) | 95.4 (93.4,97.2) | 85.4 (82.2,88.4) | 88.8 (86,91.4) |
| 1 | AG | 93.8 (91.6,95.8) | 92.4 (90,94.6) | 80.4 (76.8,83.8) | 92 (89.6,94.2) | 85 (81.8,88) | 69.2 (65.2,73.2) | 81.6 (78.2,85) | 67.2 (63,71.2) | 27 (23.2,31) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 93.2 (91,95.4) | 90.6 (88,93) | 91.4 (88.8,93.8) | 93.8 (91.6,95.8) | 88.8 (86,91.4) | 83.8 (80.6,87) | 91.6 (89,94) | 78 (74.4,81.6) | 66.4 (62.2,70.6) |
| 2 | SFM | 92 (89.6,94.2) | 91 (88.4,93.4) | 82 (78.6,85.4) | 93.4 (91.2,95.4) | 84.6 (81.4,87.6) | 74.6 (70.8,78.4) | 88.2 (85.4,91) | 66.6 (62.4,70.8) | 36 (31.8,40.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 95.8 (94,97.4) | 94.8 (92.8,96.6) | 94.8 (92.8,96.6) | 94.2 (92,96.2) | 90.8 (88.2,93.2) | 92 (89.6,94.2) | 91.4 (88.8,93.8) | 86.6 (83.6,89.6) | 82.8 (79.4,86) |
| 3 | AG | 92.8 (90.4,95) | 81.4 (78,84.8) | 54.4 (50,58.8) | 88.6 (85.8,91.4) | 61.6 (57.4,65.8) | 29.6 (25.6,33.6) | 84 (80.8,87.2) | 24.8 (21,28.6) | 1.2 (0.4,2.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 95 (93,96.8) | 94 (91.8,96) | 89.4 (86.6,92) | 94 (91.8,96) | 92.4 (90,94.6) | 85.2 (82,88.2) | 95.4 (93.4,97.2) | 86.4 (83.4,89.4) | 60.6 (56.2,64.8) |
| 4 | SFM | 90 (87.2,92.6) | 78.6 (75,82.2) | 69 (65,73) | 86.8 (83.8,89.6) | 66 (61.8,70.2) | 41.4 (37.2,45.8) | 67.4 (63.2,71.4) | 25.2 (21.4,29) | 4 (2.4,5.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 94.8 (92.8,96.6) | 93.2 (91,95.4) | 92.6 (90.2,94.8) | 94.6 (92.6,96.4) | 93.6 (91.4,95.6) | 94.2 (92,96.2) | 95.2 (93.2,97) | 91 (88.4,93.4) | 90.2 (87.6,92.8) |
| 5 | AG | 79 (75.4,82.6) | 62.6 (58.4,66.8) | 22.6 (19,26.4) | 70.2 (66.2,74.2) | 32 (28,36.2) | 3.2 (1.8,4.8) | 31.6 (27.6,35.8) | 1.8 (0.8,3) | 0 (0,0) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 95 (93,96.8) | 92.2 (89.8,94.4) | 91.4 (88.8,93.8) | 92.6 (90.2,94.8) | 96 (94.2,97.6) | 92.2 (89.8,94.4) | 93.6 (91.4,95.6) | 96 (94.2,97.6) | 85 (81.8,88) |
| 6 | SFM | 88.4 (85.6,91.2) | 57 (52.6,61.4) | 21.4 (17.8,25) | 82 (78.6,85.4) | 26.2 (22.4,30) | 3.2 (1.8,4.8) | 53.4 (49,57.8) | 0.4 (0,1) | 0 (0,0) |

**Table IX**

Confidence intervals mean length (95% confidence interval); follow-up 3 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **Length *β1*** | **Length *β2*** | **Length *β3*** | **Length *β1*** | **Length *β2*** | **Length *β3*** | **Length *β1*** | **Length *β2*** | **Length *β3*** |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 0.339 | 0.347 | 0.365 | 0.24 | 0.246 | 0.258 | 0.138 | 0.142 | 0.149 |
| 1 | AG | 0.385 | 0.392 | 0.403 | 0.272 | 0.276 | 0.284 | 0.157 | 0.16 | 0.164 |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 0.345 | 0.354 | 0.371 | 0.244 | 0.25 | 0.261 | 0.141 | 0.144 | 0.151 |
| 2 | SFM | 0.4 | 0.403 | 0.409 | 0.282 | 0.284 | 0.288 | 0.161 | 0.162 | 0.165 |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 0.314 | 0.324 | 0.34 | 0.221 | 0.228 | 0.238 | 0.128 | 0.132 | 0.138 |
| 3 | AG | 0.403 | 0.409 | 0.419 | 0.285 | 0.29 | 0.295 | 0.165 | 0.167 | 0.171 |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 0.327 | 0.334 | 0.348 | 0.233 | 0.238 | 0.247 | 0.135 | 0.138 | 0.143 |
| 4 | SFM | 0.436 | 0.435 | 0.435 | 0.309 | 0.309 | 0.308 | 0.178 | 0.177 | 0.177 |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 0.283 | 0.288 | 0.303 | 0.2 | 0.204 | 0.215 | 0.116 | 0.118 | 0.124 |
| 5 | AG | 0.518 | 0.517 | 0.52 | 0.366 | 0.366 | 0.368 | 0.212 | 0.211 | 0.212 |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 0.315 | 0.32 | 0.33 | 0.224 | 0.228 | 0.234 | 0.13 | 0.132 | 0.135 |
| 6 | SFM | 0.616 | 0.604 | 0.585 | 0.432 | 0.423 | 0.412 | 0.248 | 0.243 | 0.237 |

**Table X**

Percentage of times that the assumption of proportional hazards is not rejected (95% confidence interval); follow-up 3 years.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | ***n =* 500** | ***n =* 1000** | ***n =* 3000** |
| **Population** | **Model** | **PH *β1*** | **PH *β2*** | **PH *β3***  | **PH *β1*** | **PH *β2*** | **PH *β3***  | **PH *β1*** | **PH *β2*** | **PH *β3***  |
|   |  |  |  |  |  |  |  |  |  |  |
| 1 | PWP | 91.8 (89.4,94.2) | 93.6 (91.4,95.6) | 92.4 (90,94.6) | 95 (93,96.8) | 94.6 (92.6,96.4) | 93.2 (91,95.4) | 95.4 (93.4,97.2) | 90.8 (88.2,93.2) | 89 (86.2,91.6) |
| 1 | AG | 88.2 (85.4,91) | 88.4 (85.6,91.2) | 88.2 (85.4,91) | 90.2 (87.6,92.8) | 89.6 (86.8,92.2) | 86.4 (83.4,89.4) | 90.4 (87.8,93) | 86.6 (83.6,89.6) | 79.2 (75.6,82.6) |
|  |  |  |  |  |  |  |  |  |  |  |
| 2 | CFM | 91.8 (89.4,94.2) | 91.6 (89,94) | 91.8 (89.4,94.2) | 92.2 (89.8,94.4) | 92 (89.6,94.2) | 92.8 (90.4,95) | 90.2 (87.6,92.8) | 90.2 (87.6,92.8) | 87.4 (84.4,90.2) |
| 2 | SFM | 85.8 (82.6,88.8) | 87.2 (84.2,90) | 89.2 (86.4,91.8) | 89.4 (86.6,92) | 87.6 (84.6,90.4) | 85.6 (82.4,88.6) | 90.8 (88.2,93.2) | 82.2 (78.8,85.4) | 80 (76.4,83.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 3 | PWP | 95.2 (93.2,97) | 94.4 (92.4,96.4) | 95.8 (94,97.4) | 96 (94.2,97.6) | 92 (89.6,94.2) | 92 (89.6,94.2) | 95.4 (93.4,97.2) | 92.4 (90,94.6) | 88.8 (86,91.4) |
| 3 | AG | 83.6 (80.2,86.8) | 83.8 (80.6,87) | 80.8 (77.2,84.2) | 84 (80.8,87.2) | 77.4 (73.6,81) | 76.4 (72.6,80) | 82.4 (79,85.6) | 68 (63.8,72) | 56 (51.6,60.4) |
|  |  |  |  |  |  |  |  |  |  |  |
| 4 | CFM | 90.4 (87.8,93) | 90.6 (88,93) | 91.8 (89.4,94.2) | 90 (87.2,92.6) | 91.2 (88.6,93.6) | 89.2 (86.4,91.8) | 91.6 (89,94) | 91 (88.4,93.4) | 86.2 (83.2,89.2) |
| 4 | SFM | 80.6 (77,84) | 82.8 (79.4,86) | 82.8 (79.4,86) | 78.8 (75.2,82.4) | 80 (76.4,83.4) | 78.2 (74.6,81.8) | 81.4 (78,84.8) | 74 (70.2,77.8) | 63.6 (59.4,67.8) |
|  |  |  |  |  |  |  |  |  |  |  |
| 5 | PWP | 93.8 (91.6,95.8) | 95.4 (93.4,97.2) | 94.8 (92.8,96.6) | 95.4 (93.4,97.2) | 93.6 (91.4,95.6) | 94 (91.8,96) | 94.4 (92.4,96.4) | 93.2 (91,95.4) | 88.4 (85.6,91.2) |
| 5 | AG | 46.6 (42.2,51) | 56 (51.6,60.4) | 46.6 (42.2,51) | 44.8 (40.4,49.2) | 44.2 (39.8,48.6) | 33.2 (29.2,37.4) | 32 (28,36.2) | 27.8 (24,31.8) | 10.4 (7.8,13.2) |
|  |  |  |  |  |  |  |  |  |  |  |
| 6 | CFM | 92.4 (90,94.6) | 91.6 (89,94) | 90 (87.2,92.6) | 91.8 (89.4,94.2) | 90.6 (88,93) | 90.4 (87.8,93) | 89 (86.2,91.6) | 90.2 (87.6,92.8) | 92.6 (90.2,94.8) |
| 6 | SFM | 52.2 (47.8,56.6) | 52 (47.6,56.4) | 36.8 (32.6,41) | 50.4 (46,54.8) | 42 (37.6,46.4) | 21 (17.4,24.6) | 34.4 (30.2,38.6) | 15.6 (12.4,18.8) | 1.6 (0.6,2.8) |