

**S2 Table. For incident mortality, 95% interval MIS and MWIS for each prediction horizon.**

| Method               | 95% interval MIS  |                    |                   |                    |                   | MWIS               |                     |                    |                    |                   |
|----------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|---------------------|--------------------|--------------------|-------------------|
|                      | All               | U.S.               | High              | Med                | Low               | All                | U.S.                | High               | Med                | Low               |
| <i>1 week ahead</i>  |                   |                    |                   |                    |                   |                    |                     |                    |                    |                   |
| Mean                 | 650               | 7216               | 1032              | 434                | 98                | 42.3               | 677.4               | 58.9               | 23.6               | 7.2               |
| Median               | 633               | 8477               | 908               | 429                | 99                | 40.9               | 684.3               | 55.0               | 22.7 <sup>b</sup>  | 7.2               |
| Ensemble             | 633               | 8931               | 891               | 424                | 97                | 41.1               | 704.0               | 54.5               | 22.6 <sup>ab</sup> | 7.1 <sup>a</sup>  |
| Sym trim             | 628               | 7572               | 951               | 427                | 97                | 41.6 <sup>b</sup>  | 676.1               | 57.5               | 22.7 <sup>b</sup>  | 7.1 <sup>a</sup>  |
| Exterior trim        | 663               | 7756               | 1030              | 441                | 101               | 43.3               | 693.8               | 60.9               | 23.6               | 7.3               |
| Interior trim        | 614               | 7286               | 952               | 405 <sup>ab</sup>  | 91 <sup>ab</sup>  | 42.5               | 684.3               | 59.3               | 23.2 <sup>b</sup>  | 7.2               |
| Envelope             | 2249              | 20811              | 4746              | 654                | 254               | 140.0              | 2057.9              | 228.2              | 60.2               | 18.8              |
| Inv score            | 595 <sup>b</sup>  | 7169 <sup>a</sup>  | 891 <sup>b</sup>  | 414 <sup>b</sup>   | 92 <sup>bc</sup>  | 40.7 <sup>b</sup>  | 656.1 <sup>b</sup>  | 55.9 <sup>b</sup>  | 23.1 <sup>b</sup>  | 7.1 <sup>ab</sup> |
| Inv score tuning     | 577 <sup>a</sup>  | 7285               | 822 <sup>a</sup>  | 419                | 94                | 39.5 <sup>ab</sup> | 625.0 <sup>a</sup>  | 53.5 <sup>ab</sup> | 23.5               | 7.1 <sup>a</sup>  |
| Previous best        | 719               | 10217              | 996               | 481                | 121               | 46.4               | 715.8               | 63.9               | 27.8               | 8.2               |
| <i>2 weeks ahead</i> |                   |                    |                   |                    |                   |                    |                     |                    |                    |                   |
| Mean                 | 744               | 8237               | 1217              | 469                | 106               | 54.6               | 813.5               | 84.0               | 27.3               | 8.0               |
| Median               | 656               | 8355               | 946               | 467                | 102               | 47.1               | 814.4               | 62.3               | 25.9 <sup>b</sup>  | 7.8 <sup>ab</sup> |
| Ensemble             | 684               | 10151              | 936               | 457                | 102               | 47.7               | 854.3               | 62.1               | 25.8 <sup>ab</sup> | 7.8 <sup>ab</sup> |
| Sym trim             | 716               | 8383               | 1132              | 463                | 102               | 53.6               | 809.8               | 82.3               | 26.2 <sup>b</sup>  | 7.9 <sup>b</sup>  |
| Exterior trim        | 768               | 8945               | 1237              | 477                | 108               | 77.9               | 830.9               | 154.0              | 27.3               | 8.1               |
| Interior trim        | 750               | 8209               | 1267              | 443                | 102               | 58.6               | 816.8               | 96.5               | 26.8 <sup>b</sup>  | 8.0               |
| Envelope             | 3220              | 27179              | 7049              | 828                | 372               | 249.4              | 2656.4              | 508.1              | 75.5               | 23.0              |
| Inv score            | 649 <sup>b</sup>  | 7586               | 989 <sup>b</sup>  | 452 <sup>a</sup>   | 97 <sup>ab</sup>  | 53.0               | 763.2 <sup>b</sup>  | 82.5               | 26.7 <sup>b</sup>  | 7.9 <sup>b</sup>  |
| Inv score tuning     | 606 <sup>ab</sup> | 7479 <sup>a</sup>  | 845 <sup>a</sup>  | 465                | 102               | 45.7 <sup>a</sup>  | 727.8 <sup>a</sup>  | 61.6 <sup>a</sup>  | 27.4               | 8.0               |
| Previous best        | 794               | 10706              | 1092              | 570                | 138               | 55.6               | 906.9               | 74.3               | 33.1               | 9.5               |
| <i>3 weeks ahead</i> |                   |                    |                   |                    |                   |                    |                     |                    |                    |                   |
| Mean                 | 801               | 8813 <sup>a</sup>  | 1344              | 477                | 109               | 58.5               | 941.5               | 85.2               | 29.7               | 8.6               |
| Median               | 731               | 9992               | 1046              | 498                | 103               | 54.1               | 965.5               | 71.3               | 29.2               | 8.3 <sup>a</sup>  |
| Ensemble             | 727               | 10531              | 1016              | 487                | 102               | 53.4               | 947.9               | 70.3               | 29.1 <sup>a</sup>  | 8.3 <sup>a</sup>  |
| Sym trim             | 795               | 9603               | 1270              | 487                | 110               | 58.4               | 966.0               | 84.0               | 29.4               | 8.4               |
| Exterior trim        | 857               | 10455              | 1401              | 497                | 107               | 73.1               | 969.2               | 128.2              | 30.0               | 8.5               |
| Interior trim        | 780               | 8910               | 1285              | 469                | 107               | 61.0               | 957.2               | 92.4               | 29.4               | 8.6               |
| Envelope             | 3749              | 46863              | 6995              | 1062               | 655               | 251.0              | 3460.1              | 446.6              | 87.8               | 29.8              |
| Inv score            | 707 <sup>b</sup>  | 8974               | 1079 <sup>b</sup> | 460 <sup>a</sup>   | 96 <sup>a</sup>   | 56.2 <sup>b</sup>  | 881.2 <sup>b</sup>  | 82.3               | 29.3               | 8.3 <sup>ab</sup> |
| Inv score tuning     | 664 <sup>a</sup>  | 9009               | 912 <sup>a</sup>  | 480                | 107               | 52.4 <sup>a</sup>  | 880.4 <sup>a</sup>  | 69.6 <sup>a</sup>  | 30.3               | 8.7               |
| Previous best        | 885               | 11273              | 1242              | 658                | 145               | 65.7               | 1121.8              | 86.0               | 38.1               | 10.9              |
| <i>4 weeks ahead</i> |                   |                    |                   |                    |                   |                    |                     |                    |                    |                   |
| Mean                 | 924               | 12738              | 1403              | 510                | 163               | 66.6               | 1156.6              | 92.2               | 33.6               | 10.0              |
| Median               | 873               | 11671              | 1302              | 560                | 122               | 64.1               | 1193.6              | 83.9               | 32.7 <sup>a</sup>  | 9.2 <sup>a</sup>  |
| Ensemble             | 864               | 11602              | 1283              | 558                | 120 <sup>ac</sup> | 63.9               | 1192.9              | 83.3               | 32.8               | 9.2 <sup>a</sup>  |
| Sym trim             | 917               | 12301              | 1396              | 550                | 134               | 66.9               | 1199.0              | 91.5               | 33.1               | 9.3               |
| Exterior trim        | 1009              | 14588              | 1539              | 546                | 145               | 74.4               | 1204.8              | 112.9              | 34.2               | 9.7               |
| Interior trim        | 925               | 12765              | 1411              | 508                | 158               | 68.3               | 1173.2              | 96.5               | 33.4               | 10.0              |
| Envelope             | 6135              | 128559             | 8219              | 1643               | 1342              | 295.7              | 4984.5              | 452.3              | 115.6              | 43.5              |
| Inv score            | 809 <sup>b</sup>  | 12128              | 1161 <sup>b</sup> | 481 <sup>abc</sup> | 121               | 63.2 <sup>b</sup>  | 1073.1 <sup>a</sup> | 87.8 <sup>b</sup>  | 32.7 <sup>ab</sup> | 9.5               |
| Inv score tuning     | 781 <sup>a</sup>  | 10751 <sup>a</sup> | 1115 <sup>a</sup> | 516                | 125               | 62.5 <sup>a</sup>  | 1099.7              | 82.4 <sup>a</sup>  | 34.3               | 9.8               |
| Previous best        | 1093              | 13519              | 1594              | 778                | 177               | 80.2               | 1500.4              | 100.6              | 43.2               | 13.4              |

Lower values are better. <sup>a</sup> best method for each horizon in each column; <sup>b</sup> score is significantly lower than the mean combination; <sup>c</sup> score is significantly lower than the median combination.