

|               | Model                         | WIS          | WIS - sd     | dispersion  | Underpred.  | Overpred.   | Bias  | Abs. error   | 50%-Cov. | 90%-Cov. |
|---------------|-------------------------------|--------------|--------------|-------------|-------------|-------------|-------|--------------|----------|----------|
| <b>Cases</b>  |                               |              |              |             |             |             |       |              |          |          |
| 1 wk ahead    | Hub-ensemble                  | 8770 (1)     | 11700 (1)    | 3670 (1)    | 1230 (1)    | 3870 (1)    | -0.04 | 12700 (1)    | 0.57     | 0.81     |
|               | Hub-ensemble-realised         | 6970 (0.79)  | 8260 (0.71)  | 3060 (0.83) | 943 (0.77)  | 2970 (0.77) | 0.04  | 10800 (0.85) | 0.55     | 0.83     |
|               | Hub-ensemble-with-crowd       | 7820 (0.89)  | 9630 (0.82)  | 3270 (0.89) | 1210 (0.98) | 3330 (0.86) | -0.02 | 12000 (0.94) | 0.48     | 0.81     |
|               | Hub-ensemble-with-renewal     | 7960 (0.91)  | 10300 (0.88) | 3190 (0.87) | 1020 (0.83) | 3760 (0.97) | 0.04  | 12100 (0.95) | 0.57     | 0.83     |
| 2 wk ahead    | Hub-ensemble                  | 18300 (1)    | 21900 (1)    | 6140 (1)    | 3800 (1)    | 8410 (1)    | -0.03 | 26800 (1)    | 0.43     | 0.64     |
|               | Hub-ensemble-realised         | 16400 (0.9)  | 19600 (0.89) | 5350 (0.87) | 3290 (0.87) | 7730 (0.92) | 0.02  | 24200 (0.9)  | 0.43     | 0.69     |
|               | Hub-ensemble-with-crowd       | 16900 (0.92) | 19600 (0.89) | 5230 (0.85) | 4310 (1.13) | 7370 (0.88) | 0.00  | 24600 (0.92) | 0.38     | 0.64     |
|               | Hub-ensemble-with-renewal     | 17500 (0.96) | 21400 (0.98) | 5830 (0.95) | 2880 (0.76) | 8770 (1.04) | 0.00  | 25500 (0.95) | 0.45     | 0.71     |
| <b>Deaths</b> |                               |              |              |             |             |             |       |              |          |          |
| 1 wk ahead    | Hub-ensemble                  | 248 (1)      | 338 (1)      | 92.2 (1)    | 115 (1)     | 41.6 (1)    | -0.04 | 334 (1)      | 0.62     | 0.92     |
|               | Hub-ensemble-realised         | 235 (0.95)   | 332 (0.98)   | 88.6 (0.96) | 90.4 (0.79) | 55.5 (1.33) | -0.01 | 323 (0.97)   | 0.62     | 0.88     |
|               | Hub-ensemble-with-all         | 234 (0.94)   | 331 (0.98)   | 85.2 (0.92) | 98.1 (0.85) | 50.2 (1.21) | -0.05 | 329 (0.99)   | 0.62     | 0.92     |
|               | Hub-ensemble-with-convolution | 234 (0.94)   | 329 (0.97)   | 90.7 (0.98) | 118 (1.03)  | 25.3 (0.61) | -0.08 | 333 (1)      | 0.62     | 0.92     |
|               | Hub-ensemble-with-crowd       | 239 (0.96)   | 337 (1)      | 85.2 (0.92) | 99.6 (0.87) | 54.2 (1.3)  | -0.03 | 322 (0.96)   | 0.62     | 0.92     |
|               | Hub-ensemble-with-renewal     | 246 (0.99)   | 342 (1.01)   | 91.5 (0.99) | 106 (0.92)  | 48.6 (1.17) | -0.06 | 342 (1.02)   | 0.67     | 0.92     |
| 2 wk ahead    | Hub-ensemble                  | 292 (1)      | 385 (1)      | 132 (1)     | 108 (1)     | 51.9 (1)    | 0.01  | 429 (1)      | 0.62     | 0.96     |
|               | Hub-ensemble-realised         | 296 (1.01)   | 398 (1.03)   | 125 (0.95)  | 91 (0.84)   | 80.2 (1.55) | 0.05  | 486 (1.13)   | 0.58     | 0.92     |
|               | Hub-ensemble-with-all         | 303 (1.04)   | 423 (1.1)    | 115 (0.87)  | 122 (1.13)  | 66.1 (1.27) | 0.00  | 483 (1.13)   | 0.62     | 0.88     |
|               | Hub-ensemble-with-convolution | 270 (0.92)   | 385 (1)      | 121 (0.92)  | 119 (1.1)   | 29.9 (0.58) | -0.04 | 403 (0.94)   | 0.58     | 0.96     |
|               | Hub-ensemble-with-crowd       | 303 (1.04)   | 392 (1.02)   | 122 (0.92)  | 106 (0.98)  | 74.6 (1.44) | 0.03  | 499 (1.16)   | 0.58     | 0.92     |
|               | Hub-ensemble-with-renewal     | 296 (1.01)   | 397 (1.03)   | 128 (0.97)  | 97.1 (0.9)  | 71.2 (1.37) | -0.01 | 462 (1.08)   | 0.67     | 0.92     |