**Table S4:**

**Comparison of Actual Values and Predicted Values with Relative Errors from Three Models (SARIMA, Prophet, LSTM) for Pulmonary Tuberculosis (PTB) Incidence (2020-2023).**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Time** | **Actual Value** | **SARIMA** | |  | **Prophet** | |  | **LSTM** | |
| **Predicted Value** | **relative error(%)** |  | **Predicted Value** | **relative error(%)** |  | **Predicted Value** | **relative error(%)** |
| Jan-20 | 67682 | 73269.17 | 8.26 |  | 75867.25 | 12.09 |  | 79241.28 | 17.08 |
| Feb-20 | 44933 | 68276.52 | 51.95 |  | 72265.3 | 60.83 |  | 80114.16 | 78.30 |
| Mar-20 | 73427 | 91349.84 | 24.41 |  | 98781.71 | 34.53 |  | 85263.59 | 16.12 |
| Apr-20 | 85684 | 88027.38 | 2.73 |  | 94042.02 | 9.75 |  | 85926.02 | 0.28 |
| May-20 | 83385 | 87457.92 | 4.88 |  | 91470.25 | 9.70 |  | 86281.15 | 3.47 |
| Jun-20 | 84952 | 87833.31 | 3.39 |  | 86114.32 | 1.37 |  | 86371.78 | 1.67 |
| Jul-20 | 83101 | 84409.55 | 1.57 |  | 86064.42 | 3.57 |  | 82616.45 | -0.58 |
| Aug-20 | 76423 | 81443.72 | 6.57 |  | 82962.83 | 8.56 |  | 78236.20 | 2.37 |
| Sep-20 | 75409 | 76991.98 | 2.10 |  | 79862.73 | 5.91 |  | 74379.92 | -1.36 |
| Oct-20 | 67843 | 67724.15 | -0.18 |  | 74259.09 | 9.46 |  | 70462.03 | 3.86 |
| Nov-20 | 69640 | 67842.32 | -2.58 |  | 74437.09 | 6.89 |  | 67316.88 | -3.34 |
| Dec-20 | 64097 | 67105.99 | 4.69 |  | 76520.3 | 19.38 |  | 65201.45 | 1.72 |
| Jan-21 | 64813 | 72642.29 | 12.08 |  | 70034.25 | 8.06 |  | 63728.90 | -1.67 |
| Feb-21 | 55425 | 63391.31 | 14.37 |  | 68619.82 | 23.81 |  | 64342.86 | 16.09 |
| Mar-21 | 80803 | 92781.81 | 14.82 |  | 93846.74 | 16.14 |  | 72355.38 | -10.45 |
| Apr-21 | 80548 | 85200.28 | 5.78 |  | 90613.75 | 12.50 |  | 76877.37 | -4.56 |
| May-21 | 75243 | 84229.39 | 11.94 |  | 87254.35 | 15.96 |  | 77530.06 | 3.04 |
| Jun-21 | 73884 | 76690.64 | 3.80 |  | 83429.7 | 12.92 |  | 77029.03 | 4.26 |
| Jul-21 | 76648 | 78009.14 | 1.78 |  | 82804.3 | 8.03 |  | 74267.97 | -3.11 |
| Aug-21 | 67966 | 76613.99 | 12.72 |  | 79774.46 | 17.37 |  | 71009.31 | 4.48 |
| Sep-21 | 67812 | 71048.6 | 4.77 |  | 76424.83 | 12.70 |  | 68217.95 | 0.60 |
| Oct-21 | 61391 | 65560.99 | 6.79 |  | 70890.2 | 15.47 |  | 65298.67 | 6.37 |
| Nov-21 | 61753 | 67958.05 | 10.05 |  | 71646.61 | 16.02 |  | 64043.90 | 3.71 |
| Dec-21 | 61788 | 66355.25 | 7.39 |  | 72936.66 | 18.04 |  | 62827.67 | 1.68 |
| Jan-22 | 61697 | 68597.35 | 11.18 |  | 68085.54 | 10.35 |  | 63864.04 | 3.51 |
| Feb-22 | 52596 | 59293.64 | 12.73 |  | 66086.74 | 25.65 |  | 65705.09 | 24.92 |
| Mar-22 | 73110 | 84260.88 | 15.25 |  | 88989.17 | 21.72 |  | 70607.52 | -3.42 |
| Apr-22 | 61185 | 82186.15 | 34.32 |  | 87168.3 | 42.47 |  | 70262.74 | 14.84 |
| May-22 | 63590 | 80068.12 | 25.91 |  | 83099.2 | 30.68 |  | 68374.38 | 7.52 |
| Jun-22 | 67901 | 79755.51 | 17.46 |  | 80695.84 | 18.84 |  | 67216.28 | -1.01 |
| Jul-22 | 71422 | 76429.22 | 7.01 |  | 79520.68 | 11.34 |  | 66011.32 | -7.58 |
| Aug-22 | 69019 | 71837.81 | 4.08 |  | 76563.58 | 10.93 |  | 63497.80 | -8.00 |
| Sep-22 | 58638 | 67512.27 | 15.13 |  | 72996.69 | 24.49 |  | 62561.32 | 6.69 |
| Oct-22 | 51125 | 60156.24 | 17.67 |  | 67559.28 | 32.15 |  | 60435.03 | 18.21 |
| Nov-22 | 48352 | 56388.77 | 16.62 |  | 68842.08 | 42.38 |  | 59184.44 | 22.40 |
| Dec-22 | 33951 | 55718.01 | 64.11 |  | 69404.62 | 104.43 |  | 57871.66 | 70.46 |
| Jan-23 | 53730 | 62479.69 | 16.28 |  | 66067.69 | 22.96 |  | 56095.71 | 4.40 |
| Feb-23 | 71841 | 54597.3 | -24.00 |  | 63514.05 | -11.59 |  | 56382.32 | -21.52 |
| Mar-23 | 76331 | 80999.7 | 6.12 |  | 84210.99 | 10.32 |  | 61554.13 | -19.36 |
| Apr-23 | 72846 | 75969.94 | 4.29 |  | 83704.98 | 14.91 |  | 61860.83 | -15.08 |
| May-23 | 69068 | 74885.04 | 8.42 |  | 79003.65 | 14.39 |  | 64332.43 | -6.86 |
| Jun-23 | 64788 | 71448.23 | 10.28 |  | 77910.41 | 20.25 |  | 64815.50 | 0.04 |
| Jul-23 | 66989 | 70241.81 | 4.86 |  | 76214.31 | 13.77 |  | 62580.91 | -6.58 |
| Aug-23 | 66563 | 67657.64 | 1.64 |  | 73331.56 | 10.17 |  | 58585.11 | -11.99 |
| Sep-23 | 61859 | 62716.91 | 1.39 |  | 69579.91 | 12.48 |  | 54779.87 | -11.44 |
| Oct-23 | 59239 | 55606.85 | -6.13 |  | 64265.92 | 8.49 |  | 53128.57 | -10.31 |
| Nov-23 | 57432 | 55953.83 | -2.57 |  | 66022.83 | 14.96 |  | 53378.70 | -7.06 |
| Dec-23 | 52826 | 54830.1 | 3.79 |  | 65922.86 | 24.79 |  | 55019.47 | 4.15 |