

Supplementary Table 6. Predicted ICU Length of Stay in South Korea in 2030 and 2040 Using the ARIMA Model

Administrative districts	2019–Actual			2030–Predicted				2040–Predicted			
	ICU Beds	ICU length of stay (K)	Occupancy rate (%)	ICU length of stay (K)	95% CI	Occupancy rate (%)*	ICU bed demand [†]	ICU length of stay (K)	95% CI	Occupancy rate (%)*	ICU bed demand [†]
South Korea	8344	2219.1	72.9	3126.8	2884.8–3368.9	102.7 (94.7–110.6)	10708.2	3952.1	3617.7–4286.6	129.8 (118.8–140.7)	13534.6
Seoul	1907	542.8	78.0	665.1	654.2–676.0	95.6 (94–97.1)	2277.7	775.0	764.1–785.9	111.3 (109.8–112.9)	2654.1
Busan	679	160.8	64.9	208.9	179.0–238.9	84.3 (72.2–96.4)	715.4	252.7	211.3–294.1	102 (85.3–118.7)	865.4
Incheon	487	136.3	76.7	153.8	127.3–180.2	86.5 (71.6–101.4)	526.7	190.4	153.8–226.9	107.1 (86.5–127.6)	652.1
Daegu	374	99.3	72.8	174.6	142.1–207.2	127.9 (104.1–151.8)	597.9	243.1	198.1–288.0	178.1 (145.1–211)	832.5
Gwangju	338	87.1	70.6	167.7	105.0–230.5	135.9 (85.1–186.8)	574.3	241.1	154.4–327.8	195.4 (125.2–265.7)	825.7
Daejeon	281	79.4	77.4	79.4	28.1–130.7	77.4 (27.4–127.4)	271.9	79.4	8.5–150.2	77.4 (8.3–146.4)	271.9
Ulsan	133	36.7	75.5	48.9	-2.9–100.8	100.7 (-6–207.6)	167.5	60.1	-72.5–192.8	123.8 (-149.3–397.2)	205.8
Gyeonggi-do	1588	421.9	72.8	571.1	525.6–616.7	98.5 (90.7–106.4)	1955.8	706.8	643.8–769.7	121.9 (111.1–132.8)	2420.5
Gangwon-do	367	98.0	73.1	154.1	112.6–195.6	115 (84.1–146)	527.7	205.1	147.8–262.5	153.1 (110.3–196)	702.4
Chungcheongbuk-do	264	64.5	66.9	64.5	32.2–96.7	66.9 (33.4–100.4)	220.9	64.5	19.9–109.0	66.9 (20.7–113.1)	220.9
Chungcheongnam-do	291	84.9	79.9	151.4	119.7–183.1	142.5 (112.7–172.4)	518.5	211.9	168.1–255.7	199.5 (158.3–240.7)	725.7
Jeollabuk-do	317	70.5	61.0	70.5	45.6–95.4	60.9 (39.4–82.5)	241.4	70.5	36.1–104.9	60.9 (31.2–90.7)	241.4
Jeollanam-do	352	82.1	63.9	82.0	47.4–116.7	63.8 (36.9–90.8)	280.8	82.0	34.1–130.0	63.8 (26.5–101.2)	280.8
Gyeongsangbuk-do	461	113.5	67.5	153.8	127.3–180.2	91.4 (75.7–107.1)	526.7	190.4	153.8–226.9	113.2 (91.4–134.8)	652.1
Gyeongsangnam-do	391	105.8	74.1	162.5	147.0–178.0	113.9 (103–124.7)	556.5	214.1	192.6–235.5	150 (135–165)	733.2
Jeju-do	127	35.4	76.4	38.0	34.5–41.4	82 (74.4–89.3)	130.1	38.0	34.5–41.4	82 (74.4–89.3)	130.1

ICU, intensive care unit; ARIMA, autoregressive integrated moving average; K, thousand.

*Occupancy rates in 2030 and 2040 calculated as [predicted number of ICU bed days (lower 95% CI–upper 95% CI)] ÷ (ICU beds at 2019×365 days); [†]Numbers of ICU beds calculated assuming an occupancy rate of 80%.