

Supplementary Table 1. Daily number of patients treated for RDs and climate and air-pollution factors

	Average temperature (°C)	Temperature difference (°C)	Average humidity (%)	Daylight duration (hr)	Sunshine duration (hr)	Total solar insolation amount (MJ/m ²)	Atmospheric pressure (hPa)	Precipitation (mm)	Cloud amount ^{a)}	PM _{2.5} (ppb)	PM ₁₀ (ppb)	O ₃ (ppb)	NO ₂ (ppb)	CO (ppb)	SO ₂ (ppb)	Daily no. of patients treated for RDs per 10,000 inhabitants	Population in Seoul
2014																	
Regular day (n=238)	13.3±10.4	9.0±2.9	62.8±14.9	12.2±1.8	6.7±3.7	12.4±5.6	1,006.3±7.9	2.3±8.4	4.6±3.1	24.2±13.9	47.2±28.6	22.4±13.0	35.1±12.9	537.0±206.0	5.7±1.7	73.3±18.3	10,369,593
Holiday (n=68)	13.6±10.1	8.7±2.6	62.8±13.5	12.2±1.8	6.3±4.0	12.1±6.1	1,005.7±7.6	2.1±6.6	4.9±3.1	22.3±10.8	41.8±22.2	26.4±13.5	27.9±10.4	492.6±174.8	5.3±1.5	11.1±8.8	
Day after holidays (n=59)	13.5±10.2	9.0±3.1	63.3±16.6	12.2±1.8	6.8±3.9	12.3±5.7	1,005.9±8.0	2.2±5.3	4.5±3.2	23.2±13.1	45.2±24.3	22.9±11.3	33.0±11.4	522.0±196.6	5.7±2.0	102.9±27.5	
Total (n=365)	13.4±10.3	9.0±2.9	62.9±14.9	12.2±1.8	6.7±3.8	12.3±5.7	1,006.2±7.9	2.2±7.7	4.7±3.1	23.7±13.2	45.8±26.9	23.2±12.9	33.4±12.5	526.3±199.2	5.6±1.7	66.5±34.2	
2015																	
Regular day (n=241)	13.7±10.2	9.4±3.1	59.8±14.3	12.2±1.8	7.1±4.0	12.7±6.3	1,005.9±8.2	2.2±7.6	4.6±3.1	23.6±11.6	43.8±22.6	22.0±10.7	33.5±12.5	533.6±195.1	5.5±1.5	66.6±18.9	10,297,138
Holiday (n=67)	13.8±10.1	9.6±3.3	58.8±16.5	12.2±1.8	7.3±4.1	13.1±6.4	1,006.5±7.5	2.7±7.5	4.5±3.2	21.9±10.8	45.1±34.7	25.0±11.7	27.0±10.1	495.5±162.8	5.2±1.3	10.3±6.5	
Day after holidays (n=57)	13.1±10.1	9.1±3.4	61.0±15.3	12.1±1.8	6.6±4.2	12.2±6.3	1,006.3±7.8	1.5±3.1	5.0±3.3	22.4±12.1	51.2±74.0	21.2±10.8	31.4±11.0	507.0±183.1	5.3±1.3	97.9±25.2	
Total (n=365)	13.6±10.1	9.4±3.2	59.8±14.8	12.2±1.8	7.1±4.1	12.7±6.3	1,006.1±8.0	2.2±7.1	4.6±3.1	23.1±11.5	45.2±37.5	22.4±10.9	32.0±12.1	522.5±187.9	5.4±1.4	61.2±32.4	
2016																	
Regular day (n=242)	13.4±11.2	9.2±2.8	59.0±14.2	12.2±1.8	7.0±3.8	12.4±5.9	1,006.2±8.5	3.3±12.2	4.7±2.9	26.3±11.3	47.8±20.8	23.6±11.8	32.5±10.3	528.5±151.0	5.0±1.0	73.3±24.4	10,204,057
Holiday (n=67)	14.1±10.9	8.9±3.3	60.6±13.8	12.2±1.7	6.1±4.0	12.2±6.4	1,006.0±7.5	1.9±6.5	5.3±2.9	26.2±12.6	47.1±24.9	26.1±12.1	27.3±10.7	519.4±179.4	4.8±1.0	12.7±11.6	
Day after holidays (n=57)	13.8±10.8	9.4±2.7	58.0±13.3	12.2±1.8	7.0±3.7	12.7±6.0	1,006.0±7.3	1.2±4.5	4.8±2.9	25.7±11.3	48.9±21.5	23.2±11.3	31.5±9.6	519.3±136.1	4.8±1.0	104.8±32.3	
Total (n=366)	13.6±11.0	9.1±2.8	59.1±14.0	12.2±1.8	6.8±3.8	12.4±6.0	1,006.1±8.1	2.7±10.5	4.8±2.9	26.2±11.5	47.8±21.7	24.0±11.8	31.4±10.4	525.4±154.3	4.9±1.0	67.1±37.0	
2017																	
Regular day (n=238)	13.0±11.2	9.4±2.8	57.0±13.6	12.2±1.8	7.6±3.8	13.0±7.0	1,006.3±7.8	1.4±5.4	4.3±3.0	25.3±14.1	43.9±19.7	24.4±12.5	31.3±11.2	533.6±169.0	4.8±0.9	86.9±22.1	10,124,579
Holiday (n=69)	13.3±10.5	9.2±3.3	59.8±15.4	12.1±1.8	6.5±4.3	11.5±7.4	1,006.5±7.1	8.3±26.6	5.1±3.5	23.6±14.2	43.1±24.7	26.4±12.4	25.0±9.4	498.6±151.0	4.6±0.9	15.1±15.7	
Day after holidays (n=58)	13.2±10.8	9.1±3.2	58.4±17.0	12.4±1.8	6.8±4.2	12.3±6.8	1,005.9±7.8	5.6±21.1	5.0±3.4	23.8±14.9	44.9±33.7	24.8±13.0	28.4±10.5	496.6±158.9	4.5±0.8	121.4±30.9	
Total (n=365)	13.1±11.0	9.3±3.0	57.7±14.5	12.2±1.8	7.2±4.0	12.6±7.1	1,006.3±7.7	3.4±15.1	4.6±3.2	24.7±14.2	43.9±23.3	24.9±12.5	29.7±11.0	521.1±164.6	4.7±0.0	78.8±40.2	
2018																	
Regular day (n=235)	13.0±11.8	9.0±3.0	58.1±15.1	12.2±1.8	7.2±4.0	13.9±7.5	1,006.5±8.3	3.6±12.4	4.6±3.3	23.1±15.4	40.6±24.0	22.6±11.3	29.0±12.4	506.8±171.3	4.4±1.1	86.3±24.5	10,049,607
Holiday (n=69)	12.8±11.1	9.2±2.6	55.2±15.2	12.2±1.8	6.9±3.7	14.0±6.6	1,006.8±7.3	2.4±10.6	5.0±2.9	21.7±14.6	36.9±19.8	25.8±11.7	24.6±10.4	489.9±150.6	4.3±0.9	14.1±8.2	
Day after holidays (n=61)	13.3±11.1	9.3±3.0	57.8±14.8	12.2±1.8	7.3±3.7	14.1±7.3	1,006.3±7.3	4.3±12.1	4.9±3.1	23.2±15.9	39.5±23.1	22.9±11.0	29.2±12.5	519.7±185.1	4.4±1.1	125.6±36.4	
Total (n=365)	13.0±11.5	9.1±2.9	57.5±15.1	12.2±1.8	7.1±3.9	13.9±7.3	1,006.5±7.9	3.5±12.0	4.7±3.2	22.8±15.3	39.7±23.1	23.3±11.3	28.2±12.2	505.8±169.8	4.4±1.1	79.2±42.6	
2019																	
Regular day (n=240)	13.6±10.4	9.3±2.8	56.3±15.4	12.2±1.8	7.1±3.9	14.1±6.8	1,006.3±8.2	2.3±8.4	4.8±3.0	24.6±16.6	41.7±24.3	24.6±12.6	28.8±11.0	529.6±168.7	4.0±0.9	83.6±20.5	10,010,983
Holiday (n=66)	13.7±10.0	9.0±3.2	57.7±16.6	12.1±1.8	6.6±4.3	13.1±7.2	1,005.7±7.9	2.5±5.7	5.2±3.1	24.1±16.9	39.0±25.1	26.0±12.3	24.8±11.9	525.8±197.1	3.8±0.9	13.2±5.2	
Day after holidays (n=59)	13.5±9.9	9.3±2.9	58.0±14.6	12.2±1.8	6.8±4.2	13.4±6.9	1,005.5±7.6	2.9±9.3	4.8±2.7	25.6±23.2	42.8±32.1	23.9±11.1	28.4±12.4	544.1±207.0	3.9±0.9	121.3±28.4	
Total (n=365)	13.6±10.2	9.3±2.9	56.8±15.5	12.2±1.8	7.0±4.0	13.8±6.9	1,006.0±8.1	2.4±8.2	4.9±3.0	24.7±17.8	41.4±25.8	24.7±12.3	28.0±11.5	531.2±180.2	3.9±0.9	77.0±38.7	
2014-2019																	
Regular day (n=1,434)	13.3±10.8	9.2±2.9	58.8±14.7	12.2±1.8	7.1±3.9	13.1±6.6	1,006.3±8.1	2.5±9.4	4.6±3.1	24.5±13.9	44.2±23.6	23.3±12.0	31.7±12.0	528.2±177.7	4.9±1.3	78.3±22.9	
Holiday (n=406)	13.6±10.4	9.1±3.1	59.2±15.3	12.2±1.7	6.6±4.1	12.7±6.7	1,006.2±7.5	3.3±13.1	5.0±3.1	23.3±13.5	42.1±25.7	25.9±12.2	26.1±10.5	503.4±169.4	4.7±1.2	12.8±10.1	
Day after holidays (n=351)	13.4±10.4	9.2±3.0	59.4±15.3	12.2±1.8	6.9±3.9	12.9±6.5	1,006.0±7.6	3.0±11.1	4.8±3.1	24.0±15.6	45.3±38.9	23.2±11.4	30.3±11.3	518.2±179.2	4.8±1.4	112.5±32.0	
Total (n=2,191)	13.4±10.7	9.2±3.0	59.0±14.9	12.2±1.8	7.0±3.9	13.0±6.6	1,006.2±7.9	2.7±10.5	4.7±3.1	24.2±14.1	44.0±27.0	23.7±12.0	30.5±11.8	522.0±176.6	4.8±1.3	71.6±36.3	

Values are presented as mean±standard deviation.

RD, respiratory disease; PM_{2.5}, particulate matter ≤2.5 μm in aerodynamic diameter; PM₁₀, particulate matter ≤10 μm in aerodynamic diameter; O₃, ozone; NO₂, nitrogen dioxide; CO, carbon monoxide; SO₂, sulfur dioxide.

^{a)}Cloud covered area, expressed as 10 fractions of the entire sky.