

Supplementary Table 3. Basic characteristics of patients who visited the ED, categorized by ED LOS of less than 12 hours or 12 hours or longer

Characteristic	Total (n=25,578,263)	LOS		P-value
		<12 hr (n=24,649,880)	≥12 hr (n=928,383)	
Age group				<0.001
Pediatric (0–19 yr)	5,255,793 (20.5)	5,190,824 (21.1)	64,969 (7.0)	
Adult (20–64 yr)	12,592,753 (49.2)	12,232,139 (49.6)	360,614 (38.8)	
Elderly (≥65 yr)	7,729,717 (30.2)	7,226,917 (29.3)	502,800 (54.2)	
Sex				<0.001
Male	12,942,900 (50.6)	12,437,450 (50.5)	505,450 (54.4)	
Female	12,635,363 (49.4)	12,212,430 (49.5)	422,933 (45.6)	
Geographic location				<0.001
Metropolitan area	13,918,539 (54.4)	13,458,311 (54.6)	460,228 (49.6)	
Gangwon-do	954,553 (3.7)	935,406 (3.8)	19,147 (2.1)	
Chungcheongnam-do	2,156,667 (8.4)	2,119,457 (8.6)	37,207 (4.0)	
Chungcheongbuk-do	654,188 (2.6)	640,541 (2.6)	13,643 (1.5)	
Gyeongsangbuk-do	2,168,773 (8.5)	2,042,474 (8.3)	126,299 (13.6)	
Gyeongsangnam-do	2,569,164 (10.0)	2,436,718 (9.9)	132,446 (14.3)	
Jeollabuk-do	1,139,245 (4.5)	1,063,176 (4.3)	76,069 (8.2)	
Jeollanam-do	1,292,612 (5.1)	1,236,209 (5.0)	56,403 (6.1)	
Jeju Island	724,529 (2.8)	717,588 (2.9)	6,941 (0.7)	
Insurance type				<0.001
National health insurance	22,720,482 (88.8)	21,913,077 (88.9)	807,405 (87.0)	
Automobile insurance	835,459 (3.3)	821,903 (3.3)	13,556 (1.5)	
Medical aid	1,489,049 (5.8)	1,393,772 (5.7)	95,277 (10.3)	
Other (including private insurance)	533,273 (2.1)	521,128 (2.1)	12,145 (1.3)	
ED type				<0.001
Level I	8,212,001 (32.1)	7,819,988 (31.7)	392,013 (42.2)	
Level II	17,366,262 (67.9)	16,829,892 (68.3)	536,370 (57.8)	
Arrival route				<0.001
Direct visit	22,550,020 (88.2)	21,904,087 (88.9)	645,933 (69.6)	
Transfer	2,547,057 (10.0)	2,309,386 (9.4)	237,671 (25.6)	
Referral from outpatient	475,718 (1.9)	431,237 (1.7)	44,481 (4.8)	
Other	5,468 (0.0)	5,170 (0.0)	298 (0.0)	
Means of arrival				<0.001
On foot	224,761 (0.9)	216,167 (0.9)	8,594 (0.9)	
Emergency medical services (119 ambulance)	5,267,312 (20.6)	4,979,245 (20.2)	288,067 (31.0)	
Other vehicle	20,058,526 (78.4)	19,429,261 (78.8)	629,265 (67.8)	
Other	27,664 (0.1)	25,207 (0.1)	2,457 (0.3)	
Admission season				<0.001
Spring (March–May)	6,030,653 (23.6)	5,791,850 (23.5)	238,803 (25.7)	
Summer (June–August)	6,789,094 (26.5)	6,547,062 (26.6)	242,032 (26.1)	
Fall (September–November)	6,539,378 (25.6)	6,313,378 (25.6)	226,000 (24.3)	
Winter (December–February)	6,219,138 (24.3)	5,997,590 (24.3)	221,548 (23.9)	
Admission time				<0.001
Morning (08:00–15:59)	9,430,370 (36.9)	9,171,737 (37.2)	258,633 (27.9)	
Evening (16:00–23:59)	11,106,431 (43.4)	10,587,154 (43.0)	519,277 (55.9)	

Night (00:00–07:59)	5,041,462 (19.7)	4,890,989 (19.8)	150,473 (16.2)	
Emergency symptom	20,183,029 (78.9)	19,295,081 (78.3)	887,948 (95.6)	<0.001
KTAS				<0.001
Level 1	261,200 (1.0)	236,033 (1.0)	25,167 (2.7)	
Level 2	1,403,282 (5.5)	1,268,609 (5.1)	134,673 (14.5)	
Level 3	9,962,014 (38.9)	9,401,590 (38.1)	560,424 (60.4)	
Level 4	11,393,719 (44.5)	11,202,613 (45.4)	191,106 (20.6)	
Level 5	2,558,048 (10.0)	2,541,035 (10.3)	17,013 (1.8)	
Initial level of consciousness				<0.001
Alert	24,738,285 (96.7)	23,909,944 (97.0)	828,341 (89.2)	
Verbal	412,147 (1.6)	358,400 (1.5)	53,747 (5.8)	
Pain response	274,068 (1.1)	236,697 (1.0)	37,371 (4.0)	
Unresponsive	153,763 (0.6)	144,839 (0.6)	8,924 (1.0)	
Initial systolic blood pressure				<0.001
Normal	9,391,043 (36.7)	8,936,454 (36.3)	454,589 (49.0)	
Abnormal	12,529,384 (49.0)	12,107,807 (49.1)	421,577 (45.4)	
Other	3,657,836 (14.3)	3,605,619 (14.6)	52,217 (5.6)	
Initial diastolic blood pressure				<0.001
Normal	12,112,182 (47.4)	11,578,914 (47.0)	533,268 (57.4)	
Abnormal	9,802,178 (38.3)	9,460,292 (38.4)	341,886 (36.8)	
Other	3,663,903 (14.3)	3,610,674 (14.6)	53,229 (5.7)	
Initial heart rate				<0.001
Normal	18,803,720 (73.5)	18,193,432 (73.8)	610,288 (65.7)	
Abnormal	5,137,662 (20.1)	4,846,540 (19.7)	291,122 (31.4)	
Other	1,636,881 (6.4)	1,609,908 (6.5)	26,973 (2.9)	
Initial body temperature				<0.001
Normal	14,767,248 (57.7)	14,295,958 (58.0)	471,290 (50.8)	
Abnormal	10,526,924 (41.2)	10,076,180 (40.9)	450,744 (48.6)	
Other	284,091 (1.1)	277,742 (1.1)	6,349 (0.7)	
Initial respiratory rate				<0.001
Normal	21,518,856 (84.1)	20,765,452 (84.2)	753,404 (81.2)	
Abnormal	2,407,881 (9.4)	2,261,121 (9.2)	146,760 (15.8)	
Other	1,651,526 (6.5)	1,623,307 (6.6)	28,219 (3.0)	
Initial SpO ₂				<0.001
Normal	13,488,575 (52.7)	12,780,903 (51.8)	707,672 (76.2)	
Abnormal	241,321 (0.9)	207,031 (0.8)	34,290 (3.7)	
Other	11,848,367 (46.3)	11,661,946 (47.3)	186,421 (20.1)	
Myocardial infarction				<0.001
Diagnosed	174,026 (0.7)	154,828 (0.6)	19,198 (2.1)	
Excluded	25,404,237 (99.3)	24,495,052 (99.4)	909,185 (97.9)	
Cerebral infarction				<0.001
Diagnosed	433,177 (1.7)	395,207 (1.6)	37,970 (4.1)	
Excluded	25,145,086 (98.3)	24,254,673 (98.4)	890,413 (95.9)	
Sepsis				<0.001
Diagnosed	160,631 (0.6)	135,743 (0.6)	24,888 (2.7)	
Excluded	25,417,632 (99.4)	24,514,137 (99.4)	903,495 (97.3)	
Intracranial hemorrhage				<0.001
Diagnosed	152,303 (0.6)	143,042 (0.6)	9,261 (1.0)	
Excluded	25,425,960 (99.4)	24,506,838 (99.4)	919,122 (99.0)	
COVID-19				<0.001
Diagnosed	276,379 (1.1)	249,766 (1.0)	26,613 (2.9)	
Excluded	25,301,884 (98.9)	24,400,114 (99.0)	901,770 (97.1)	

Severe illness (28 diseases)				<0.001
Diagnosed	3,228,330 (12.6)	2,892,544 (11.7)	335,786 (36.2)	
Excluded	22,349,933 (87.4)	21,757,336 (88.3)	592,597 (63.8)	
ED outcome				<0.001
Discharge	19,568,805 (76.5)	19,337,542 (78.4)	231,263 (24.9)	
Transfer to another hospital	416,317 (1.6)	354,210 (1.4)	62,107 (6.7)	
General ward admission	4,569,595 (17.9)	4,020,545 (16.3)	549,050 (59.1)	
ICU admission	909,872 (3.6)	832,408 (3.4)	77,464 (8.3)	
Death	113,674 (0.4)	105,175 (0.4)	8,499 (0.9)	
Hospital outcome ^{a)}				<0.001
Discharge	4,612,394 (18.0)	4,096,336 (16.6)	516,058 (55.6)	
Transfer to another hospital	527,277 (2.1)	465,403 (1.9)	61,874 (6.7)	
Death	278,793 (1.1)	236,658 (1.0)	42,135 (4.5)	
Other	61,003 (0.2)	54,556 (0.2)	6,447 (0.7)	

Values are presented as number (%). Percentages may not total 100 due to rounding.

ED, emergency department; LOS, length of stay; KTAS, Korean Triage and Acuity Scale; SpO₂, oxygen saturation as measured by pulse oximetry; ICU, intensive care unit.

^{a)}The total hospital outcome is equivalent to the sum of patients admitted.