eTable 1. ICD-9-CM diagnosis codes used to identify comorbidities

Condition	ICD-9-CM codes
Hypertension	401, 402, 405
Hyperlipidemia	272.0, 272.1, 272.2, 272.3, 272.4
Stroke	430, 431, 432, 433, 434, 436, 438
Atrial fibrillation	427.31
Myocardial infarct	410.11, 410.71, 410.72, 410.81, 410.91, 411.1, 411.81, 412, 413.1, 413.9, 429.79
Congestive heart failure	402.01, 402.11, 402.91, 428.0, 428.1, 429.3
Peripheral vascular disease	440.20, 440.21, 440.23, 440.24, 440.9, 443.81, 443.9, 444.22
Dementia	290.0, 290.10, 290.12, 290.40, 291.0, 291.2, 291.8, 291.81, 293.0, 293.83, 294.0, 294.1, 294.8, 438
Chronic pulmonary disease	416.0, 416.8, 416.9, 491.20, 491.21, 491.8, 491.9, 492.0, 492.8, 493.20, 403.90, 495.1 496, 508.0, 515, 516.3, 518.1
Connective tissue disease	710.0, 710.1, 710.4, 712.38, 714.0, 715.09, 715.36, 715.89, 715.91, 715.95, 715.96, 715.98, 716.98, 716.99, 719.98, 728.89
Ulcer disease	531.40, 532.40, 532.70, 532.90, 533.20, 533.70, 533.90
Mild liver disease	571.2, 571.3, 571.5, 573.8
Diabetes	250.00, 250.01, 250.02, 250.03, 250.20, 250.21, 250.80, 250.81, 250.82, 250.83
Diabetes with end-organ damage	250.31, 250.40, 250.41, 250.50, 250.51, 250.52, 250.60, 250.61, 250.62, 250.63, 250.71, 250.72, 250.90, 250.92
Moderate or severe renal disease	581.9, 582.81, 582.9, 583.81, 585, 586
Nonmetastatic solid tumor	153.9, 154.8, 162.3, 162.4, 162.9, 173.9, 185, 200.13, 238.4
Leukemia	204.10, 204.11, 205.00
Lymphoma, multiple myeloma	202.80
Metastatic tumor	197.0, 197.4, 197.7, 198.3, 198.5, 198.89, 199.0 199.1
Acquired immunodeficiency syndrome	042

ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.

eTable 2. Predictors of stroke severity index and their corresponding billing codes in Taiwan's National Health Insurance program

Predictor	Billing codes
Airway suctioning	47041C, 47042C
Bacterial sensitivity test	13009B, 13009BB, 13010B, 13010BA, 13011B, 13011BB, 13020B
General ward stay	02006K, 02007A, 02008B, 03001K, 03002A, 03003B, 03004B, 03005K, 03006A, 03007B, 03008B, 03026K, 03027A, 03028B, 03029B
ICU stay	02011K, 02012A, 02013B, 03010E, 03010K, 03011A, 03011F, 03012B, 03012G, 03013B, 03013H, 03047E, 03048F, 03049G, 03050H
Nasogastric intubation	47017C, 47018C, 47018CA
Osmotherapy (mannitol or glycerol infusion)	A009633255, A009633266, A009633277, A009745277, A013354277, A015561255, A015561266, A015561277, A016476238, A016476266, A016476277, A031387238, A033425266, A042601238, B014379277, B020322265, B020322277, N012343266, A023733263, A023733265, A023733266, A023733277, A024986209, A024986265, A024986266, A024986277, A025104266, A025104277, A025355266, A025355277, A026793265, A026793266, A026793277, A028475265, A028475277, A029475265, A029475266, A029475277, A034722277, AC23733263, AC23733266, AC23733277, AC24986265, AC24986266, AC24986277, AC28475277, AC29475265, B006604277, B017082263, B017082277, B017728265, B017728277
Urinary catheterization	47013C, 47014C

ICU, intensive care unit.

eTable 3. Characteristics of patients across the study hospitals

Characteristic	CMMC (n=955)	LH (n=239)	CYCH (n=166)	P
Mean (SD) age, years	60.5 (14.4)	62.1 (15.7)	61.8 (14.5)	0.236[a]
Female sex	360 (37.7)	69 (28.9)	58 (34.9)	0.038[b]
Mean (SD) NIHSS score	17.3 (12.9)	19.2 (13.0)	12.1 (11.1)	<0.001[a]
Mean (SD) SSI score	15.4 (7.0)	13.5 (6.3)	14.2 (5.9)	<0.001[a]
Airway suctioning	309 (32.4)	46 (19.2)	54 (32.5)	<0.001[b]
Bacterial sensitivity test	365 (38.2)	40 (16.7)	25 (15.1)	<0.001[b]
General ward stay	767 (80.3)	172 (72.0)	144 (86.7)	0.001[b]
ICU stay	700 (73.3)	182 (76.2)	149 (89.8)	<0.001[b]
Nasogastric intubation	572 (59.9)	126 (52.7)	84 (50.6)	0.021[b]
Osmotherapy (mannitol or glycerol)	732 (76.6)	76 (31.8)	84 (50.6)	<0.001[b]
Urinary catheterization	615 (64.4)	92 (38.5)	85 (51.2)	<0.001[b]

CMMC, Chi Mei Medical Center; CYCH, Chiayi Christian Hospital; ICU, intensive care unit; LH, Landseed Hospital;

NIHSS, National Institutes of Health Stroke Scale; SD, standard deviation; SSI, stroke severity index.

[a]Analysis of variance

[b]Chi-squared test

Data are presented as numbers (percentage) unless otherwise specified.

eTable 4. Logistic regression models to predict 3-month mortality

	Base model	Model with NIHSS	Model with SSI
	OR (95% CI)		
Age	1.01 (1.00-1.02)	1.01 (1.00-1.03)[a]	1.01 (1.00-1.02)
Female	0.99 (0.71-1.38)	0.90 (0.60-1.35)	0.98 (0.68-1.40)
Modified CCI ≥2	1.59 (1.10-2.30)[a]	1.44 (0.91-2.26)	1.54 (1.02-2.32)[a]
Hypertension	0.33 (0.23-0.46)[c]	0.30 (0.20-0.46)[c]	0.36 (0.25-0.52)[c]
Hyperlipidemia	0.39 (0.22-0.69)[b]	0.64 (0.32-1.27)	0.60 (0.32-1.13)
Prior stroke	1.46 (0.94-2.27)	1.25 (0.73-2.14)	1.29 (0.80-2.08)
Atrial fibrillation	0.94 (0.25-3.53)	1.66 (0.37-7.44)	0.79 (0.19-3.28)
NIHSS	NA	1.16 (1.14-1.19)[c]	NA
SSI	NA	NA	1.25 (1.20-1.31)[c]

CCI, Charlson comorbidity index; CI, confidence interval; NA, not applicable; NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio; SSI, stroke severity index.

[a]$P<0.05$

[b]$P<0.01$

[c]$P<0.001$

eTable 5. Logistic regression models to predict 6-month mortality

	Base model	Model with NIHSS	Model with SSI
	OR (95% CI)		
Age	1.01 (1.00-1.02)[a]	1.02 (1.01-1.03)[b]	1.01 (1.00-1.03)[a]
Female	0.97 (0.70-1.33)	0.83 (0.56-1.22)	0.92 (0.65-1.31)
Modified CCI ≥2	1.56 (1.09-2.23)[a]	1.39 (0.90-2.16)	1.47 (0.99-2.18)
Hypertension	0.34 (0.25-0.48)[c]	0.32 (0.21-0.48)[c]	0.37 (0.26-0.54)[c]
Hyperlipidemia	0.41 (0.24-0.69)[b]	0.69 (0.36-1.33)	0.65 (0.36-1.20)
Prior stroke	1.42 (0.93-2.17)	1.20 (0.72-2.00)	1.22 (0.77-1.94)
Atrial fibrillation	0.77 (0.21-2.89)	1.19 (0.27-5.16)	0.62 (0.15-2.55)
NIHSS	NA	1.15 (1.13-1.17)[c]	NA
SSI	NA	NA	1.23 (1.18-1.28)[c]

CCI, Charlson comorbidity index; CI, confidence interval; NA, not applicable; NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio; SSI, stroke severity index.

[a]$P<0.05$

[b]$P<0.01$

[c]$P<0.001$

eTable 6. Logistic regression models to predict 1-year mortality

	Base model	Model with NIHSS	Model with SSI
	OR (95% CI)		
Age	1.02 (1.00-1.03)[b]	1.03 (1.01-1.04)[c]	1.02 (1.01-1.04)[b]
Female	1.00 (0.71-1.40)	0.79 (0.52-1.21)	0.86 (0.59-1.28)
Modified CCI ≥2	1.76 (1.19-2.59)[b]	1.50 (0.93-2.42)	1.57 (1.02-2.43)[a]
Hypertension	0.31 (0.21-0.44)[c]	0.30 (0.19-0.48)[c]	0.34 (0.22-0.51)[c]
Hyperlipidemia	0.34 (0.20-0.58)[c]	0.53 (0.28-1.00)	0.55 (0.30-1.01)
Prior stroke	1.31 (0.85-2.03)	1.21 (0.70-2.06)	1.24 (0.75-2.03)
Atrial fibrillation	1.00 (0.27-3.63)	1.82 (0.37-8.85)	0.87 (0.20-3.85)
NIHSS	NA	1.14 (1.12-1.16)[c]	NA
SSI	NA	NA	1.23 (1.18-1.28)[c]

CCI, Charlson comorbidity index; CI, confidence interval; NA, not applicable; NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio; SSI, stroke severity index.

[a]$P<0.05$

[b]$P<0.01$

[c]$P<0.001$

eFigure 1. Correlation of stroke severity index and mRS at 3 months, 6 months, and 1 year in the three hospitals. CMMC, Chi Mei Medical Center; CYCH, Chiayi Christian Hospital; LH, Landseed Hospital; mRS, modified Rankin Scale; NIHSS, National Institutes of Health Stroke Scales.