

Supplementary Table 4. The HRs with 95% CIs of the other covariates regarding 90-day mortality

Variable	HR (95% CI)	<i>P</i> -value
Age, year	1.03 (1.03, 1.03)	<0.001
Female sex	0.64 (0.61, 0.67)	<0.001
Having a job at surgery	1.01 (0.96, 1.07)	0.723
Residence at surgery		
Urban area	1	
Rural area	0.98 (0.93, 1.03)	0.421
Unknown	1.72 (1.33, 2.22)	<0.001
Household income level		
Medical aid program	1.24 (1.12, 1.37)	<0.001
Q1	1	
Q2	1.02 (0.93, 1.11)	0.741
Q3	1.08 (1.00, 1.17)	0.051
Q4	0.99 (0.92, 1.06)	0.771
Unknown	0.81 (0.64, 1.03)	0.085
Type of cancer surgery		
Lung cancer surgery	1	
Gastric cancer surgery	0.44 (0.41, 0.48)	<0.001
Colorectal cancer surgery	0.95 (0.87, 1.03)	0.171
Esophageal cancer surgery	0.73 (0.62, 0.85)	<0.001
Small bowel cancer surgery	1.48 (1.34, 1.63)	<0.001
Liver cancer surgery	0.51 (0.46, 0.57)	<0.001
Pancreatic cancer surgery	0.51 (0.45, 0.57)	<0.001
BD or GB cancer surgery	0.83 (0.75, 0.91)	<0.001
VATS or laparoscopy	0.51 (0.48, 0.53)	<0.001

Intraoperative remifentanyl infusion	1.01 (0.95, 1.07)	0.859
Neoadjuvant chemotherapy	2.13 (1.99, 2.29)	<0.001
Adjuvant chemotherapy	0.24 (0.22, 0.27)	<0.001
Adjuvant radiotherapy	1.95 (1.46, 2.61)	<0.001
Intraoperative pRBC transfusion	4.71 (4.45, 4.98)	<0.001
Tertiary general hospital (vs general hospital)	0.74 (0.56, 0.97)	0.031
Annual case volumes of major cancer surgery		
Q1<361	1	
Q2: 362-758	0.97 (0.92, 1.03)	0.355
Q3: 759-2,718	0.82 (0.76, 0.88)	<0.001
Q4>2,718	0.68 (0.63, 0.74)	<0.001
Disability at surgery		
Mild to moderate	0.99 (0.92, 1.06)	0.750
Severe	1.36 (1.22, 1.51)	<0.001
Preoperative comorbidities		
Myocardial infarction	1.21 (1.10, 1.33)	<0.001
Congestive heart failure	1.28 (1.21, 1.33)	<0.001
Peripheral vascular disease	1.33 (1.25, 1.41)	<0.001
Cerebrovascular disease	1.57 (1.48, 1.67)	<0.001
Dementia	1.52 (1.41, 1.64)	<0.001
Chronic pulmonary disease	1.48 (1.41, 1.55)	<0.001
Rheumatic disease	1.07 (0.96, 1.19)	0.199
Peptic ulcer disease	1.30 (1.23, 1.36)	<0.001
Mild liver disease	1.40 (1.33, 1.47)	<0.001
DM without chronic complication	1.73 (1.65, 1.82)	<0.001
DM with chronic complication	1.42 (1.33, 1.47)	<0.001
Hemiplegia or paraplegia	1.27 (1.10, 1.47)	0.001

Renal disease	1.49 (1.37, 1.61)	<0.001
Moderate or severe liver disease	2.22 (1.98, 2.48)	<0.001
AIDS	0.69 (0.33, 1.45)	0.326
Year of surgery		
2016	1	
2017	1.12 (1.04, 1.21)	0.003
2018	1.13 (1.05, 1.22)	0.002
2019	1.15 (1.06, 1.24)	<0.001
2020	1.06 (0.98, 1.14)	0.167

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HR, hazard ratio; CI, confidence interval; BD, bile duct; GB, gall bladder; VATS, video assisted thoracic surgery; pRBC, packed red blood cell ; DM, diabetes mellitus; AIDS, acquired immunodeficiency syndrome