

### **Supplementary Appendix**

#### **ENDPOINT DEFINITIONS**

##### **Gastric cancer**

Gastric cancer was defined by receiving any of the following diagnosis code from ICD-9-CM:

<b>ICD-9-CM Code</b>	<b>Diagnosis Description</b>
151	Malignant Neoplasm of Stomach
151 (0)	Malignant neoplasm of stomach
151 (1)	Cancer of stomach
151.0	Malignant Neoplasm of Cardia
151.1	Malignant Neoplasm of Pylorus
151.2	Malignant Neoplasm of Pyloric Antrum
151.3	Malignant Neoplasm of Fundus of Stomach
151.4	Malignant Neoplasm of Body of Stomach
151.5	Malignant Neoplasm of Lesser Curvature of Stomach, Unspecified
151.6	Malignant Neoplasm of Greater Curvature of Stomach, Unspecified
151.8	Malignant Neoplasm of Other Specified Sites of Stomach
151.9	Malignant Neoplasm of Small Intestine, Including Duodenum

##### **Death from gastric cancer**

The cause of death was determined by the principal condition that resulted in the death, not the immediate mode of death. Managing physicians would utilize all available information provided, along with clinical expertise, in their adjudication of the cause of death.

## **BASELINE VARIABLES DEFINITIONS**

### **Estimated glomerular filtration rate**

Estimated glomerular filtration rate (eGFR) is calculated based on MDRD equation, expressed as:

$$186 \times (\text{Creatinine}/88.4)^{-1.154} \times (\text{Age})^{-0.203} \times (0.742 \text{ if female}) \times (1.210 \text{ if black})$$

where Creatinine is expressed in  $\mu\text{mol/L}$ .

### **Anemia**

Anemia is defined as hemoglobin  $<13\text{g/dL}$  for men and hemoglobin  $<12\text{g/dL}$  for women.

### **PCI urgency**

- Elective: Patient cardiac status has been stable in the days or weeks before the operation. The procedure can be deferred without increased risk of compromised cardiac outcome.
- Urgent: Procedure required during the same hospitalization to minimize chances of clinical deterioration or adverse outcome. Clinical conditions include (but are not limited to) acute or worsening chest pain, acute or worsening HF, acute MI, critical coronary stenosis, IABP support, UA with intravenous nitroglycerin, and rest angina.
- Emergency: Procedure required because of ongoing, refractory (difficult, complicated, and/or unmanageable), unrelenting cardiac compromise, with or without hemodynamic instability, and not responsive to any form of therapy except PCI.

## Supplementary Tables

**Table S1.** Baseline characteristics of patients of the entire cohort before propensity score matching.

Characteristics	All patients	PPI users	PPI non-users	Missing data
	N = 25298	N = 7708	N = 14314	
Female gender	5606 (22.2%)	1646 (21.4%)	3083 (21.5%)	0
Age, mean (SD)	63.5 (11.3)	64.1 (11.7)	62.9 (11.1)	1 (0.03%)
Chinese	23845 (94.3%)	7230 (93.8%)	13533 (94.5%)	0
Tobacco use	11291 (47.3%)	3426 (47.0%)	6512 (48.2%)	1424 (5.6%)
Diabetes mellitus	8411 (33.2%)	2245 (29.1%)	4994 (34.9%)	0
Hypertension	15296 (60.5%)	4364 (56.6%)	8759 (61.2%)	0
Dyslipidemia	15140 (59.8%)	4400 (57.1%)	8735 (61.0%)	0
Cerebrovascular disease	1982 (7.8%)	561 (7.3%)	1079 (7.5%)	0
Chronic obstructive pulmonary disease	503 (2.0%)	137 (1.8%)	278 (1.9%)	0
Previous myocardial infarction	2318 (9.2%)	365 (4.7%)	1487 (10.4%)	0
Previous CABG	330 (1.3%)	52 (0.7%)	216 (1.5%)	0
Congestive heart failure	1476 (5.8%)	354 (4.6%)	840 (5.9%)	0
Atrial fibrillation or flutter	931 (3.7%)	262 (3.4%)	497 (3.5%)	0
Cirrhosis	31 (0.1%)	11 (0.1%)	19 (0.1%)	0
Baseline eGFR <50ml/min/m <sup>2</sup>	2090 (8.3%)	681 (8.8%)	988 (6.9%)	6 (0.02%)
Baseline anemia	6554 (25.9%)	2293 (29.8%)	3200 (22.4%)	7 (0.03%)
GERD	162 (0.6%)	60 (0.8%)	61 (0.4%)	0
Peptic ulcer disease	671 (2.7%)	279 (3.6%)	253 (1.8%)	0
Helicobacter pylori eradication	673 (2.7%)	245 (3.2%)	239 (1.7%)	0
Acute myocardial infarction	15232 (60.4%)	5784 (75.1%)	7600 (53.3%)	67 (0.3%)
Urgent or emergency PCI	10817 (42.8%)	5185 (67.3%)	4458 (31.1%)	0
Year of PCI				0
2004 - 2008	6235 (24.6%)	391 (5.1%)	5053 (35.3%)	
2009 - 2012	7826 (30.9%)	1114 (14.5%)	5533 (38.7%)	
2013 - 2016	5964 (23.6%)	2657 (34.5%)	2561 (17.9%)	
2016 - 2017	5273 (20.8%)	3546 (46.0%)	1167 (8.2%)	

**Table S2.** Medications on hospital discharge and post-procedure characteristics of the entire cohort before propensity score matching.

Characteristics	All patients*	PPI users	PPI non-users
	N = 25298	N = 7708	N = 14314
<b>Duration of PPI after PCI, median (IQR) - days</b>	0 (0, 511)	1309 (719, 1884)	0 (0, 0)
<b>On PPI &gt;30 days after cessation of P2Y12 inhibitor</b>	6664 (26.8%)	6578 (85.6%)	0 (0.0%)
<b>Aspirin on discharge</b>	24626 (97.3%)	7563 (98.1%)	13889 (97.0%)
<b>P2Y12 inhibitors on discharge</b>	24909 (98.5%)	7689 (99.8%)	14009 (97.9%)
<b>Potent P2Y12 inhibitors on discharge</b>	3193 (12.6%)	2135 (27.7%)	761 (5.3%)
<b>Duration of P2Y12 inhibitor after PCI (IQR) - days</b>	365 (180, 400)	366 (365, 425)	365 (91, 386)
<b>Anti-coagulation on discharge</b>	681 (2.7%)	324 (4.2%)	238 (1.7%)
<b>Metformin on discharge</b>	5648 (22.3%)	1719 (22.3%)	3201 (22.4%)
<b>Statin on discharge</b>	22611 (89.4%)	7460 (96.8%)	12240 (85.5%)
<b>Angiotensin blockade on discharge</b>	16973 (67.1%)	5669 (73.5%)	9121 (63.7%)
<b>Beta-blocker on discharge</b>	18843 (74.5%)	5717 (74.2%)	10713 (74.8%)
<b>Drop in hemoglobin &gt;2g/dL after PCI</b>	4453 (17.6%)	1739 (22.6%)	2038 (14.2%)
<b>Gastrointestinal bleeding during follow up</b>	1557 (6.2%)	410 (5.3%)	929 (6.5%)
<b>Upper endoscopy during follow up</b>	4298 (17.0%)	1220 (15.8%)	2434 (17.0%)

\*Included patients who were neither PPI users nor PPI non-users if the PPI duration was >14

days but <180 consecutive days, refer to definition in the Method session for details.

**Table S3.** Hazard ratios for proton pump inhibitor users in the sensitivity analyses.

<b>Outcomes</b>	<b>Hazard Ratio</b>	<b>95% Confidence Interval</b>		<b>P value</b>
<b><u>Restricted to patients with <math>\geq 1</math> upper endoscopy done after PCI</u></b>				
<b>Gastric cancer</b>	3.09	1.20	7.94	0.019
<b>Death from gastric cancer</b>	2.73	0.70	10.64	0.148
<b><u>All complete cases by cox regression</u></b>				
<b>Gastric cancer</b>	2.38	1.20	4.76	0.014
<b>Death from gastric cancer</b>	3.54	1.29	9.74	0.014
<b><u>Falsification analysis</u></b>				
<b>Lung cancer</b>	1.00	0.70	1.43	0.98
<b><u>All cases by multiple imputation</u></b>				
<b>Gastric cancer</b>	1.98	1.07	3.66	0.030
<b>Death from gastric cancer</b>	2.69	1.11	6.52	0.029

**Table S3.** Hazard ratios for all co-variates in the Cox regression model in the sensitivity analyses.

Characteristics	Hazard ratio	95% confidence interval		P-value
PPI use	2.38	1.20	4.76	0.014
Female gender	0.35	0.16	0.80	0.012
Age, mean (SD)	1.07	1.04	1.10	<0.001
Chinese	2.58	0.36	18.79	0.35
Tobacco use	1.10	0.63	1.91	0.75
Diabetes mellitus	0.86	0.40	1.85	0.70
Hypertension	0.89	0.51	1.57	0.70
Dyslipidemia	0.67	0.39	1.16	0.16
Cerebrovascular disease	0.19	0.03	1.39	0.10
Chronic obstructive pulmonary disease	1.18	0.28	5.01	0.82
Previous myocardial infarction	0.60	0.21	1.72	0.34
Previous CABG	1.60	0.21	12.3	0.65
Congestive heart failure	0.88	0.26	2.94	0.84
Atrial fibrillation or flutter	0.95	0.22	4.19	0.95
Cirrhosis	N/A	N/A	N/A	N/A
Baseline eGFR <50ml/min/m <sup>2</sup>	1.52	0.62	3.73	0.36
Baseline anemia	0.87	0.47	1.60	0.65
GERD	2.62	0.36	19.41	0.34
Peptic ulcer disease	0.40	0.05	3.02	0.37
Helicobacter pylori eradication	2.47	0.74	8.21	0.14
Acute myocardial infarction	0.81	0.44	1.51	0.52
Urgent or emergency PCI	0.80	0.40	1.62	0.54
Year of PCI				
2004 - 2008	Reference			
2009 - 2012	0.68	0.36	1.30	0.24
2013 - 2016	0.40	0.15	1.06	0.064
2016 - 2017	0.59	0.16	2.13	0.42
Metformin on discharge	0.87	0.34	2.19	0.76
Aspirin on discharge	0.60	0.18	1.96	0.40
P2Y12 inhibitors on discharge	N/A	N/A	N/A	N/A
Anti-coagulation on discharge	0.84	0.11	6.72	0.87
Statin on discharge	0.81	0.41	1.60	0.54
Drop of hemoglobin >2g/dL after PCI	0.35	0.14	0.90	0.028