

Supplementary Table 1. Characteristics of study population before PSM.

Characteristics	Total (n=3,490,226)	Long-term aspirin use		P-value
		Yes (n=688,018)	No (n=2,802,208)	
CRC diagnosis	38922 (1.12)	4550 (0.66)	34372 (1.23)	<0.001
Age, year	70.3 ± 0.04	72.2 ± 0.05	69.9 ± 0.04	<0.001
50-59	752715 (21.57)	102698 (14.93)	650017 (23.20)	<0.001
60-69	950675 (27.24)	182733 (26.56)	767942 (27.40)	
70-79	907867 (26.01)	204757 (29.76)	703110 (25.09)	
80+	878969 (25.18)	197830 (28.75)	681139 (24.31)	
Gender				<0.001
Male	1668480 (47.80)	359845 (52.30)	1308635 (46.70)	
Female	1821746 (52.20)	328173 (47.70)	1493573 (53.30)	
Race				<0.001
White	2545140 (72.92)	517073 (75.15)	2028067 (72.37)	
Black	460900 (13.21)	90830 (13.20)	370070 (13.21)	
Hispanic	302032 (8.65)	47818 (6.95)	254214 (9.07)	
Others	182154 (5.22)	32297 (4.69)	149857 (5.35)	
Household income				0.043
Quartile1	1020954 (29.25)	199443 (28.99)	821511 (29.32)	
Quartile2	945479 (27.09)	190368 (27.67)	755111 (26.95)	
Quartile3	835776 (23.95)	165948 (24.12)	669828 (23.90)	
Quartile4	687876 (19.71)	132244 (19.22)	555632 (19.83)	
Primary Payer				<0.001
Medicare/Medicaid	2680138 (76.79)	554384 (80.58)	2125754 (75.86)	
Private including HMO	639468 (18.32)	107891 (15.68)	531577 (18.97)	
Self-pay/no-charge/other	170620 (4.89)	25743 (3.74)	144877 (5.17)	
Other long-term medication use				
Anticoagulants	426477 (12.22)	91516 (13.30)	334961 (11.95)	<0.001
Antiplatelet	150278 (4.31)	86210 (12.53)	64068 (2.29)	<0.001
NSAID	35689 (1.02)	13301 (1.93)	22388 (0.80)	<0.001
Systemic steroids	63076 (1.81)	19883 (2.89)	43193 (1.54)	<0.001
Insulin	384706 (11.02)	122162 (17.76)	262544 (9.37)	<0.001
BMI				<0.001
<30	2846304 (81.55)	552333 (80.28)	2293971 (81.86)	
30-39	313641 (8.99)	72046 (10.47)	241595 (8.62)	
40+	330281 (9.46)	63639 (9.25)	266642 (9.52)	
Smoking	1398395 (40.07)	332769 (48.37)	1065626 (38.03)	<0.001

Alcohol abuse	194972 (5.59)	24700 (3.59)	170272 (6.08)	<0.001
Colorectal polyps	50054 (1.43)	13855 (2.01)	36199 (1.29)	<0.001
Family history of colonic polyps	694 (0.02)	172 (0.02)	522 (0.02)	<0.001
Family history of malignant neoplasm of digestive organs	25918 (0.74)	6372 (0.93)	19546 (0.70)	<0.001
Prior PCI/CABG/valve surgery	252263 (7.23)	92410 (13.43)	159853 (5.70)	<0.001
Comorbidities				
Hypertension	2643517 (75.74)	592425 (86.11)	2051092 (73.20)	<0.001
Diabetes	1258941 (36.07)	295940 (43.01)	963001 (34.37)	<0.001
Dyslipidemia	1635989 (46.87)	433436 (63.00)	1202553 (42.91)	<0.001
Ischemic heart disease	1105526 (31.67)	340209 (49.45)	765317 (27.31)	<0.001
Myocardial infarction	189992 (5.44)	51385 (7.47)	138607 (4.95)	<0.001
Heart failure	903936 (25.90)	216408 (31.45)	687528 (24.54)	<0.001
Valvular heart disease	344511 (9.87)	92388 (13.43)	252123 (9.00)	<0.001
Atrial fibrillation	788039 (22.58)	166509 (24.20)	621530 (22.18)	<0.001
Peripheral artery disease	243909 (6.99)	66236 (9.63)	177673 (6.34)	<0.001
VTE	111631 (3.20)	17118 (2.49)	94513 (3.37)	<0.001
Ischemic stroke/TIA	174306 (4.99)	51646 (7.51)	122660 (4.38)	<0.001
Cerebral artery occlusion/stenosis	100961 (2.89)	32543 (4.73)	68418 (2.44)	<0.001
Chronic pulmonary disease	807712 (23.14)	169224 (24.60)	638488 (22.79)	<0.001
Rheumatic disease	125823 (3.61)	23377 (3.40)	102446 (3.66)	<0.001
Peptic ulcer disease	62944 (1.80)	12529 (1.82)	50415 (1.80)	0.300
Severe renal disease	261256 (7.49)	57048 (8.29)	204208 (7.29)	<0.001
Chronic liver disease	190706 (5.46)	25383 (3.69)	165323 (5.90)	<0.001
Liver cirrhosis	60402 (1.73)	4960 (0.72)	55442 (1.98)	<0.001
Dementia	380128 (10.89)	78634 (11.43)	301494 (10.76)	<0.001
History of receiving CRC screening	285 (0.01)	54 (0.01)	231 (0.01)	0.746
Hospital bed size				0.220
Large	1672011 (47.91)	335200 (48.72)	1336811 (47.71)	
Medium	1038683 (29.76)	204510 (29.72)	834173 (29.77)	
Small	779532 (22.33)	148308 (21.56)	631224 (22.53)	
Hospital location/teaching status				0.037
Urban teaching	2384796 (68.33)	478726 (69.58)	1906070 (68.02)	
Urban nonteaching	772436 (22.13)	145545 (21.15)	626891 (22.37)	
Rural	332994 (9.54)	63747 (9.27)	269247 (9.61)	
Hospital region				<0.001
Northeast	673623 (19.30)	113367 (16.48)	560256 (19.99)	

Midwest	780745 (22.37)	182208 (26.48)	598537 (21.36)
South	1392849 (39.91)	269632 (39.19)	1123217 (40.08)
West	643009 (18.42)	122811 (17.85)	520198 (18.56)

PSM, propensity-score matching; CRC, colorectal cancer; NSAID, non-steroidal anti-inflammatory drugs; BMI, body mass index; PCI, percutaneous coronary intervention; CABG, coronary artery bypass graft; VTE, venous thromboembolism; TIA, transient ischemic attack. Categorical variables are presented as unweighted counts (weighted percentage). Continuous data were presented as mean \pm SE. P-value < 0.05 were showed in bold.

Supplemental Table 2. ICD codes used in the study.

Diagnosis	ICD-10 code
Myocardial infarction (MI)	I21.x, I22.x, I25.2, DXCCSR_CIR009
Heart failure	DXCCSR_CIR019
Valvular heart disease	DXCCSR_CIR001, DXCCSR_CIR003
Atrial fibrillation	I48.0-I48.2, I48.91
Peripheral artery disease	DXCCSR_CIR026
Venous thromboembolism (VTE)	I260, I269, I801-803, I808, I809, I820-I823, I828, I829, O082, O223, O871, O882, I81, I82
Ischemic stroke/transient ischemic attack (TIA)	I63, I65, I66, I67.89
Cerebral artery occlusion/stenosis	DXCCSR_CIR023, DXCCSR_CIR024
Rheumatic disease	M05, M06, M31.5, M32-M34, M35.1, M35.3, M36.0
Peptic ulcer	K25-K28
Severe renal disease	N18.4-N18.6
Hypertension	I10-I16
Smoking	Z71.6, Z72.0, Z86.43, Z87.891, F17, O99.33, T65.2
Alcohol abuse	F10
Colorectal polyps	K63.5, Z86.010
Family history of colonic polyps	Z83.71
Family history of malignant neoplasm of digestive organs	Z80.0
Prior percutaneous coronary interventions (PCIs)/coronary artery bypass grafting (CABG)/valve surgery	Z95.1, Z98.61
Ischemic heart disease	DXCCSR_CIR011
Obesity (BMI ≥ 30 kg/m ²)	E66.01, E66.02, E66.09, E66.1, E66.2, E66.8, E66.9, Z68.3, Z68.4
Diabetes	DXCCSR_END002, DXCCSR_END003
Dyslipidemia	E78, E88.1
Dementia	F00.x-F03.x, F05.1, G30.x, G31.1
Cirrhosis	I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7
Chronic pulmonary disease	DXCCSR_RSP008
Chronic liver disease	B18, K70.0-K70.3, K70.9, K71.3-K71.5, K71.7, K73, K74, K76.0, K76.2-K76.4, K76.8, K76.9, Z94.4