

Figure S1: Percentage distribution of the Italian population in 2015 in the ReS database and according to the Italian Institute of Statistics (ISTAT), by age group

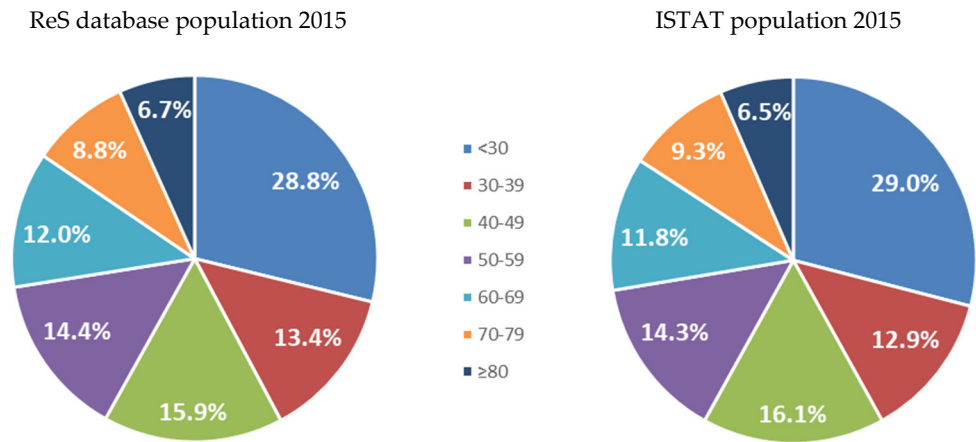


Table S1: Criteria for the selection of patients with coronary artery diseases

Administrative database	Description
Demographics	Aged ≥ 35 years
AND at least one of the following criteria	
Hospitalizations	Hospitalization with a primary/secondary diagnosis among the following (ICD-9-CM code): 410.x – Acute myocardial infarction 411.x – Other acute and subacute forms of ischemic heart disease 412 – Old myocardial infarction 413.x – Angina pectoris 414.x - Other forms of chronic ischemic heart disease AND/OR Hospitalization with a procedure on coronary artery among the following (ICD-9-CM code): 36.x – Operations on vessels of heart 00.66 – PTCA - percutaneous transluminal coronary angioplasty
Exemption for disease	002.414 – Diseases of the circulatory system (other forms of chronic ischemic heart disease) A02.414 - Diseases of the circulatory system (other forms of chronic ischemic heart disease)

Table S2: Criteria for the exclusion of patients not eligible for cardiovascular secondary prevention strategies. Patients had to meet at least one of the following criteria per condition in the 3 years before the index date.

Dialysis therapy	
Administrative database	Description
Hospitalizations	Hospitalization with a primary/secondary diagnosis among the following (ICD-9-CM code): V56.x - Encounter for dialysis and dialysis catheter care V45.1 - Postsurgical renal dialysis status AND/OR Hospitalization associated to the following DRG (diagnoses related group) code: 317 – Hospitalization for renal dialysis AND/OR Hospitalization with a procedure among the following (ICD-9-CM code): 39.95 – Hemodialysis 54.98 – Peritoneal dialysis
Outpatient specialist services	39.95 – Hemodialysis 54.98 – Peritoneal dialysis
Neoplasia	
Administrative database	Description
Hospitalizations	Hospitalization with a primary/secondary diagnosis among the following (ICD-9-CM code): From 140.x to 208.x - Neoplasms V10.x - Personal history of malignant neoplasm V58.1x – Chemotherapy AND/OR Hospitalization with a procedure among the following (ICD-9-CM code): 00.10 – Implantation of chemotherapeutic agent 99.25 – Injection or infusion of cancer chemotherapeutic substance 99.28 - Injection or infusion of biological response modifier [BRM] as an antineoplastic agent
Outpatient specialist services	99.25 - Injection or infusion of cancer chemotherapeutic substance
Exemption for disease	048 – Patients affected by malignant neoplasms and by tumors of uncertain behavior
Pharmaceuticals	A prescription of a specific drug: L01 – Antineoplastic agents AND/OR A prescription with the exemption code 048

Table S3: Criteria for the selection of patients with relevant comorbidities during the available period before the index date. Patients had to meet at least one of the following criteria per comorbidity.

Heart failure	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 402.01 – Malignant hypertensive heart disease with heart failure 402.11 – Benign hypertensive heart disease with heart failure 402.91 – Unspecified hypertensive heart disease with heart failure 404.01 – Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.03 – Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease 404.11 – Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.13 – Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease 404.91 – Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.93 – Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease 428.x – Heart failure
Exemption for disease	021.428 - Heart failure
Pharmaceuticals	A prescription of the following specific drug: C09DX04 – Sacubitril/Valsartan AND/OR A prescription with the exemption for disease code 021
Atrial fibrillation	
Administrative database	Description
Hospitalizations	Hospitalization with the following main/secondary diagnosis (ICD-9-CM code): 427.3x - Atrial fibrillation and flutter
Cerebrovascular diseases	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code):

	430 – 438.x - Cerebrovascular Disease
Depression	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following primary/secondary diagnoses (ICD-9-CM code): 296.2x - Major depressive disorder single episode 296.3x - Major depressive disorder recurrent episode 296.5x - Bipolar disorder, most recent episode (or current) depressed 296.82 - Atypical depressive disorder 298.0x - Depressive type psychosis 300.4 - Dysthymic disorder 301.12 - Chronic depressive personality disorder
Exemption for disease	044.296.2 - Psychosis (major depressive disorder single episode) 044.296.3 - Psychosis (major depressive disorder recurrent episode) 044.296.5 - Psychosis (bipolar disorder, most recent episode (or current) depressed) 044.296.8 - Psychosis (manic depressive psychosis, other unspecified) 044.298.0 – Psychosis (depressive type psychosis)
Pharmaceuticals	A prescription of a specific drug (ATC code): N06A– Antidepressants
Diabetes	
Administrative database	Description
Hospitalizations	Hospitalization with the following primary/secondary diagnosis (ICD-9-CM code): 250.x - Diabetes mellitus
Exemption for disease	013.250 - Diabetes mellitus
Pharmaceuticals	A prescription of a specific drug (ATC code): A10 - Drugs used in diabetes AND/OR A drug prescription with the exemption for disease code 013
Dyslipidaemia	
Administrative database	Description
Hospitalizations	Hospitalization with the following primary/secondary diagnosis (ICD-9-CM code): 272.x - Disorders of lipid metabolism
Exemption for disease	025 - Type IIa and IIb heterozygous familial hypercholesterolemia – Polygenic hypercholesterolemia – Familial combined hypercholesterolemia – Type III hyperlipoproteinemia

Pharmaceuticals	Prescription of at least 3 packs of specific drugs: C10A - Lipid modifying agents, plain C10B - Lipid modifying agents, combinations AND/OR A prescription with the exemption for disease code 025
Arterial hypertension	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following primary/secondary diagnoses (ICD-9-CM code): 401.x - Essential hypertension 402.x - Hypertensive heart disease 403.x - Hypertensive chronic kidney disease 404.x - Hypertensive heart and chronic kidney disease 405.x - Secondary hypertension
Exemption for disease	031 – Arterial hypertension A31 - Arterial hypertension without organ damage
Pharmaceuticals	Prescription of <u>at least 4 packs</u> of one or more specific drugs (ATC code): C02 – Antihypertensives C03 - Diuretics C07 – Beta blocking agents C08 – Calcium channel blockers C09 – Agents acting on the renin-angiotensin system AND/OR A prescription with the exemption for disease code 031 or A31
Severe liver diseases	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 070.x - Viral hepatitis 571.x - Chronic liver disease and cirrhosis 572.x - Liver abscess and sequelae of chronic liver disease 573.x - Other disorders of liver V42.7 - Liver replaced by transplant
Exemption for disease	016 – Chronic hepatitis (active) 008 – Liver cirrhosis, biliary cirrhosis
Pharmaceutical	A prescription of a specific drug (ATC code): J05AP - Antivirals for treatment of HCV infections J05AF08 - adefovir J05AF10 - entecavir J05AF11 - telbivudine AND/OR A prescription with the exemption for disease code 016 or 008

Chronic lung diseases	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 490.x - Bronchitis, not specified as acute or chronic 491.x - Chronic bronchitis 492.x - Emphysema 493.x - Asthma 494.x - Bronchiectasis 496.x - Chronic airway obstruction, not elsewhere classified 518.81- 518.84 - Respiratory failure
Exemption for disease	024 – Chronic respiratory failure 007 - Asthma
Pharmaceutical	Prescription of <u>at least 3 packs</u> of drugs for obstructive airway diseases: R03 – Drugs for obstructive airway diseases AND/OR Prescription with the exemption for disease code 024 or 007
Rheumatoid arthritis	
Administrative database	Description
Hospitalizations	Hospitalization with a primary/secondary diagnosis among the following (ICD-9-CM code): 714.0 – Rheumatoid arthritis 714.1 – Felty's syndrome 714.2 – Other rheumatoid arthritis with visceral or systemic involvement 714.3x - Juvenile chronic polyarthritis
Exemption for disease	006 - Rheumatoid arthritis

Table S4: Criteria for the identification of cardiovascular relevant causes of hospitalization in the follow-up.

Acute coronary syndrome	
Administrative database	Description
Hospitalizations	Hospitalization with a primary/secondary diagnosis among the following (ICD-9-CM code): 410.x - Acute myocardial infarction 411.x – Other acute and subacute forms of ischemic heart disease
Angina pectoris	
Administrative database	Description
Hospitalizations	Hospitalization with the following primary/secondary diagnosis the following (ICD-9-CM code): 413.x – Angina pectoris
Heart failure	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 402.01 – Malignant hypertensive heart disease with heart failure 402.11 – Benign hypertensive heart disease with heart failure 402.91 – Unspecified hypertensive heart disease with heart failure 404.01 – Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.03 – Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease 404.11 – Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.13 – Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease 404.91 – Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified 404.93 - Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease 428.x – Heart failure
Haemorrhagic stroke/ intracranial haemorrhage	
Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 430.x – Subarachnoid haemorrhage 431.x – Intracerebral haemorrhage 432.x – Other and unspecified intracranial haemorrhage
Ischemic stroke/transient ischemic attack	

Administrative database	Description
Hospitalizations	Hospitalization with one of the following main/secondary diagnoses (ICD-9-CM code): 433.x – Occlusion and stenosis of precerebral arteries 434.x – Occlusion of cerebral arteries 435.x – Transient cerebral ischemia 436 – Acute but ill-defined cerebrovascular disease 437.x - Other and ill-defined cerebrovascular disease

Table S5: Hospitalizations of patients with CAD and eligible for cardiovascular (CV) secondary prevention drugs during the follow-up year

	Patients hospitalized (n; %)	Mean number of hospitalizations per hospitalized patient	Mean number of days of in-hospital stay
Main diagnoses identifying the relevant CV events			
Acute coronary syndrome (ACS)	2,392; 5.2	1.2	8.2
Heart failure	1,847; 4.0	1.4	10.7
Angina pectoris	741; 1.6	1.0	4.5
Ischemic stroke/transient ischemic attack (TIA)	652; 1.4	1.1	9.0
Haemorrhagic stroke/intracranial bleeding	61; 0.1	1.1	10.8
At least a hospitalization due to relevant CV events	5,244; 11.4	1.3	8.8
Main diagnoses identifying other CV events (first 5 in descending order)			
Chronic ischemic heart disease, other than old myocardial infarction and angina pectoris	2,174; 4.7	1.1	7.8
Ill-defined descriptions and complications of heart disease	875; 1.9	1.0	16.9
Cardiac dysrhythmias	576; 1.2	1.2	6.1
Atherosclerosis	369; 0.8	1.3	9.0
Other diseases of endocardium	356; 0.8	1.2	12.9
At least a hospitalization due to other CV events	4,185; 9.1	1.2	9.7
Main diagnoses identifying non-CV causes of hospitalization (first 5 in descending order)			
Diseases of lung, other than acute pulmonary infections, lung diseases due to external agents and chronic obstructive pulmonary diseases	1,019; 2.2	1.3	12.0
Organ or tissue replaced by artificial/mechanical devices/prosthesis	493; 1.1	1.0	19.9
Symptoms involving respiratory system and other chest symptoms	473; 1.0	1.0	4.5
Acute renal failure	318; 0.7	1.1	10.9
Cholelithiasis	240; 0.5	1.2	9.6
At least a hospitalization due to non-CV causes of hospitalization	8,053; 17.5	1.5	11.1