SUPPLEMENTAL MATERIAL

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Table S1. Cumulative incidences of AMI after ischemic stroke according to its subtypes.

	Cumulative incidence, % (95% CI)				
	1-year	2-year	3-year	4-year	5-year
Fatal MI	0.2 (0.1-0.3)	0.2 (0.1-0.3)	0.3 (0.2-0.4)	0.3 (0.2-0.4)	0.3 (0.2-0.4)
N of patients	23	25	31	33	33
Non-fatal MI	0.9 (0.7-1.1)	1.1 (0.9-1.3)	1.3 (1.1-1.5)	1.5 (1.3-1.8)	1.7 (1.5-2.0)
N of patients	102	126	152	174	183
STEMI	0.4 (0.3-0.5)	0.4 (0.3-0.6)	0.5 (0.4-0.7)	0.6 (0.5-0.7)	0.6 (0.5-0.8)
N of patients	41	50	61	67	69
NSTEMI	0.2 (0.1-0.3)	0.3 (0.2-0.4)	0.3 (0.2-0.5)	0.4 (0.3-0.6)	0.5 (0.4-0.6)
N of patients	22	30	39	47	50
Unspecified	0.5 (0.4-0.7)	0.6 (0.5-0.8)	0.7 (0.6-0.9)	0.8 (0.7-1.0)	0.9 (0.7-1.1)
N of patients	62	71	83	93	97

CI, cumulative incidence; MI, myocardial infarction; STEMI, ST-elevation myocardial infarction; NSTEMI, non-ST-elevation myocardial infarction

Table S2. Predictors of acute myocardial infarction and mortality up to 5-years after ischemic stroke (Cause-specific hazard model) .

	Hazard ratio (95% CI)	
	Acute myocardial infarction	Mortality
Age>70	1.54 (1.15-2.06)	3.78 (3.47-4.11)
Male sex	1.15 (0.84-1.57)	1.04 (0.97-1.12)
Hypertension	1.50 (1.05-2.15)	1.06 (0.97-1.15)
Diabetes	1.78 (1.36-2.35)	1.32 (1.23-1.42)
Previous stroke or TIA	1.37 (1.01-1.85)	1.23 (1.14-1.33)
Coronary heart disease	2.87 (2.07-3.97)	1.14 (1.03-1.26)
Current smoker	1.08 (0.76-1.54)	1.02 (0.93-1.12)
Stroke subtype		
Large artery atherosclerosis	2.12 (1.25-3.59)	1.89 (1.65-2.17)
Small vessel occlusion	[Reference]	[Reference]
Cardioembolism	2.93 (1.61-5.32)	2.74 (2.36-3.17)
Other determined	1.99 (0.58-6.85)	2.95 (2.24-3.88)
Undetermined	2.77 (1.60-4.78)	2.34 (2.03-2.70)
Antiplatelet use at discharge	1.05 (0.71-1.53)	0.73 (0.67-0.79)
Statin use at discharge	1.03 (0.71-1.50)	0.59 (0.54-0.64)
LDL-C≥100mg/dL	1.20 (0.89-1.61)	0.99 (0.92-1.07)
HDL-C<40mg/dL	1.21 (0.93-1.58)	0.96 (0.90-1.04)
SBP≥140mmHg	0.81 (0.62-1.07)	1.04 (0.97-1.11)
GFR<60mL/min/1.73m^2	1.39 (0.98-1.97)	1.95 (1.79-2.12)

CI, confidence interval; TIA, transient ischemic attack; SBP, systolic blood pressure; LDL, low-density lipoprotein; HDL, high-density lipoprotein; GFR, glomerular filtration rate

Table S3. Predictors of acute myocardial infarction and mortality up to 5-years after ischemic stroke (symptomatic carotid artery disease and atrial fibrillation added to the model instead of stroke subtype).

	Hazard ratio (95% CI)		
	Acute myocardial infarction		Mortality
	Subdistribution hazard model	Cause-specific hazard model	
Age>70	1.33 (0.99-1.78)	1.53 (1.14-2.05)	3.65 (3.35-3.97)
Male sex	1.15 (0.84-1.57)	1.13 (0.83-1.55)	1.01 (0.94-1.09)
Hypertension	1.47 (1.03-2.10)	1.48 (1.04-2.11)	1.04 (0.96-1.13)
Diabetes	1.69 (1.28-2.22)	1.74 (1.32-2.29)	1.29 (1.20-1.38)
Previous stroke or TIA	1.34 (0.99-1.81)	1.36 (1.00-1.84)	1.22 (1.13-1.32)
Atrial fibrillation	1.36 (0.93-2.00)	1.49 (1.00-2.23)	1.47 (1.34-1.61)
Coronary heart disease	2.88 (2.08-4.00)	2.92 (2.10-4.04)	1.16 (1.04-1.28)
Current smoker	1.06 (0.74-1.51)	1.07 (0.75-1.53)	1.01 (0.92-1.11)
Symptomatic carotid artery stenosis	1.35 (0.94-1.94)	1.50 (1.04-2.15)	1.69 (1.55-1.85)
Antiplatelet use at discharge	1.12 (0.75-1.67)	1.02 (0.67-1.54)	0.69 (0.63-0.75)
Statin use at discharge	1.20 (0.82-1.75)	1.03 (0.71-1.50)	0.58 (0.54-0.63)
LDL-C≥100mg/dL	1.18 (0.88-1.57)	1.20 (0.89-1.61)	0.98 (0.92-1.06)
HDL-C<40mg/dL	1.23 (0.94-1.61)	1.21 (0.92-1.58)	0.96 (0.89-1.03)
SBP≥140mmHg	0.79 (0.60-1.04)	0.79 (0.61-1.04)	1.02 (0.95-1.09)
GFR<60mL/min/1.73m^2	1.21 (0.85-1.71)	1.39 (0.98-1.97)	1.94 (1.78-2.11)

CI, confidence interval; TIA, transient ischemic attack; SBP, systolic blood pressure; LDL, low-density lipoprotein; HDL, high-density lipoprotein; GFR, glomerular filtration rate

Table S4. Predictors of acute myocardial infarction and mortality up to 5-years after ischemic stroke (age, systolic blood pressure, low-density lipoprotein, high-density lipoprotein, glomerular filtration rate as continuous variables).

	Hazard ratio (95% CI)		
	Acute myocardial infarction		Mortality
	Subdistribution hazard model	Cause-specific hazard model	
Age (by 10 years-old)	1.19 (1.04-1.36)	1.31 (1.13-1.51)	2.18 (2.09-2.27)
Male sex	1.16 (0.84-1.62)	1.15 (0.83-1.61)	1.13 (1.04-1.22)
Hypertension	1.43 (1.00-2.03)	1.42 (1.00-2.01)	1.00 (0.93-1.09)
Diabetes	1.70 (1.29-2.25)	1.76 (1.34-2.33)	1.39 (1.30-1.50)
Previous stroke or TIA	1.34 (0.99-1.81)	1.36 (1.01-1.83)	1.26 (1.17-1.36)
Coronary heart disease	2.88 (2.09-3.96)	2.90 (2.11-3.99)	1.15 (1.04-1.27)
Current smoker	1.11 (0.78-1.58)	1.13 (0.79-1.61)	1.15 (1.05-1.27)
Stroke subtype			
Large artery atherosclerosis	1.99 (1.17-3.38)	2.08 (1.23-3.53)	1.85 (1.62-2.12)
Small vessel occlusion	[Reference]	[Reference]	[Reference]
Cardioembolism	2.58 (1.42-4.66)	2.91 (1.61-5.29)	2.61 (2.26-3.02)
Other determined	1.96 (0.57-6.76)	2.33 (0.67-8.08)	4.19 (3.18-5.52)
Undetermined	2.51 (1.44-4.37)	2.74 (1.58-4.74)	2.27 (1.97-2.62)
Antiplatelet use at discharge	1.16 (0.80-1.69)	1.05 (0.72-1.55)	0.73 (0.67-0.79)
Statin use at discharge	1.17 (0.80-1.71)	1.00 (0.69-1.46)	0.59 (0.55-0.64)
LDL-C (mmol/L)	1.17 (1.00-1.36)	1.17 (1.01-1.37)	1.01 (0.97-1.05)
HDL-C (mmol/L)	0.64 (0.40-1.03)	0.63 (0.39-1.02)	0.94 (0.84-1.05)
SBP (by 10mmHg)	0.98 (0.93-1.03)	0.98 (0.93-1.03)	1.00 (0.98-1.01)
GFR (mL/min/1.73m^2)	0.998 (0.994-1.002)	0.997 (0.992-1.001)	0.996 (0.995-0.997)

CI, confidence interval; TIA, transient ischemic attack; SBP, systolic blood pressure; LDL, low-density lipoprotein; HDL, high-density lipoprotein; GFR, glomerular filtration rate

Table S5. Predictors of acute myocardial infarction and mortality up to 5-years after ischemic stroke (age, systolic blood pressure, low-density lipoprotein, high-density lipoprotein, glomerular filtration rate as continuous variables and symptomatic carotid artery disease and atrial fibrillation added to the model instead of stroke subtype).

	Hazard ratio (95% CI)		
	Acute myocardial infarction		Mortality
	Subdistribution hazard model	Cause-specific hazard model	
Age (by 10 years-old)	1.19 (1.04-1.36)	1.29 (1.12-1.50)	2.15 (2.06-2.24)
Male sex	1.16 (0.83-1.61)	1.14 (0.81-1.59)	1.09 (1.01-1.18)
Hypertension	1.41 (1.00-2.01)	1.41 (0.99-1.99)	0.99 (0.91-1.08)
Diabetes	1.67 (1.26-2.21)	1.72 (1.30-2.28)	1.37 (1.27-1.47)
Previous stroke or TIA	1.34 (1.00-1.81)	1.35 (1.00-1.83)	1.26 (1.16-1.36)
Atrial fibrillation	1.34 (0.92-1.96)	1.47 (0.99-2.18)	1.39 (1.27-1.52)
Coronary heart disease	2.93 (2.12-4.04)	2.95 (2.14-4.07)	1.16 (1.05-1.29)
Current smoker	1.08 (0.76-1.54)	1.11 (0.78-1.59)	1.14 (1.04-1.26)
Symptomatic carotid artery stenosis	1.32 (0.92-1.90)	1.45 (1.01-2.09)	1.63 (1.49-1.78)
Antiplatelet use at discharge	1.12 (0.75-1.67)	1.01 (0.67-1.53)	0.68 (0.62-0.74)
Statin use at discharge	1.17 (0.80-1.70)	1.00 (0.69-1.45)	0.59 (0.54-0.64)
LDL-C (mmol/L)	1.17 (1.00-1.36)	1.18 (1.01-1.37)	1.00 (0.97-1.05)
HDL-C (mmol/L)	0.64 (0.40-1.03)	0.63 (0.39-1.03)	0.95 (0.84-1.06)
SBP (by 10mmHg)	0.97 (0.92-1.02)	0.97 (0.92-1.02)	0.99 (0.98-1.00)
GFR (mL/min/1.73m^2)	0.998 (0.994-1.002)	0.997 (0.992-1.001)	0.996 (0.995-0.997)

CI, confidence interval; TIA, transient ischemic attack; SBP, systolic blood pressure; LDL, low-density lipoprotein; HDL, high-density lipoprotein; GFR, glomerular filtration rate
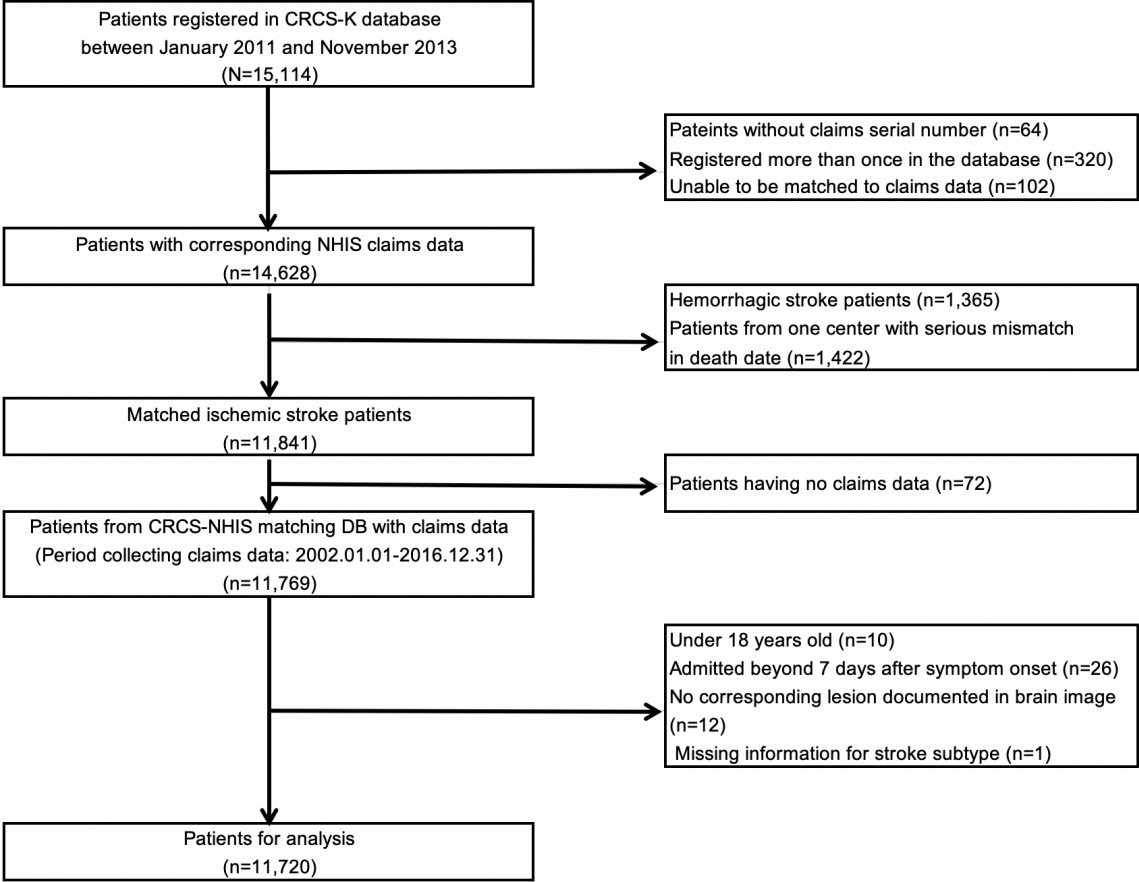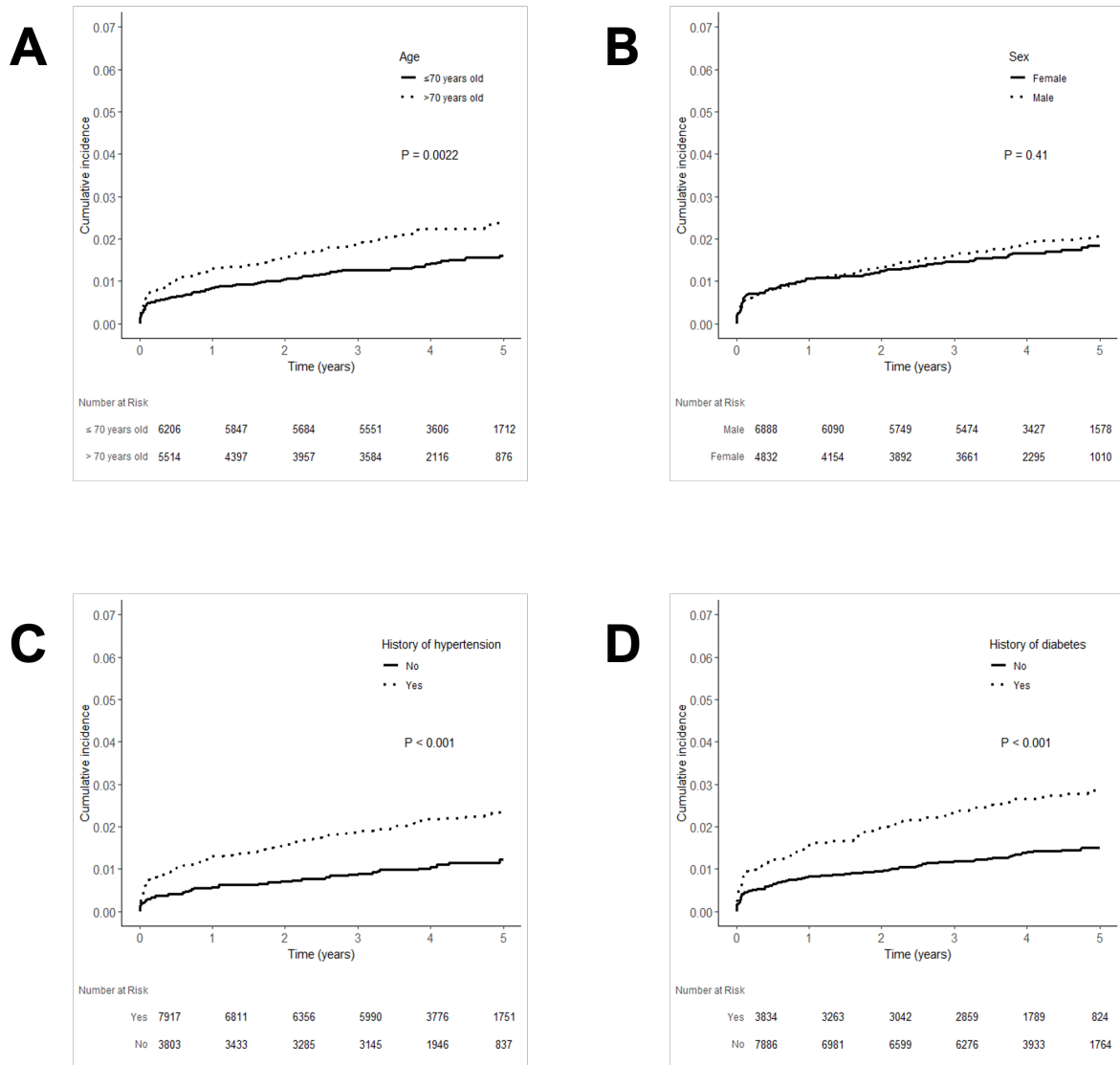
Figure S1. Patient selection.

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┌─────────────────────────────────────┐
│ Patients registered in CRCS-K database │
│ between January 2011 and November 2013 │
│            (N=15,114)                 │
└─────────────────────────────────────┘
                  │
                  │        ┌────────────────────────────────────────────┐
                  ├───────▶│ Pateints without claims serial number (n=64) │
                  │        │ Registered more than once in the database (n=320) │
                  │        │ Unable to be matched to claims data (n=102)  │
                  │        └────────────────────────────────────────────┘
                  ▼
┌─────────────────────────────────────┐
│ Patients with corresponding NHIS claims data │
│            (n=14,628)                 │
└─────────────────────────────────────┘
                  │
                  │        ┌────────────────────────────────────────────┐
                  ├───────▶│ Hemorrhagic stroke patients (n=1,365)        │
                  │        │ Patients from one center with serious mismatch │
                  │        │ in death date (n=1,422)                      │
                  │        └────────────────────────────────────────────┘
                  ▼
┌─────────────────────────────────────┐
│ Matched ischemic stroke patients     │
│            (n=11,841)                 │
└─────────────────────────────────────┘
                  │
                  │        ┌────────────────────────────────────────────┐
                  ├───────▶│ Patients having no claims data (n=72)        │
                  │        └────────────────────────────────────────────┘
                  ▼
┌──────────────────────────────────────────────────────────┐
│ Patients from CRCS-NHIS matching DB with claims data       │
│ (Period collecting claims data: 2002.01.01-2016.12.31)     │
│            (n=11,769)                                       │
└──────────────────────────────────────────────────────────┘
                  │
                  │        ┌────────────────────────────────────────────┐
                  ├───────▶│ Under 18 years old (n=10)                    │
                  │        │ Admitted beyond 7 days after symptom onset (n=26) │
                  │        │ No corresponding lesion documented in brain image │
                  │        │ (n=12)                                       │
                  │        │  Missing information for stroke subtype (n=1) │
                  │        └────────────────────────────────────────────┘
                  ▼
┌─────────────────────────────────────┐
│ Patients for analysis                │
│            (n=11,720)                 │
└─────────────────────────────────────┘
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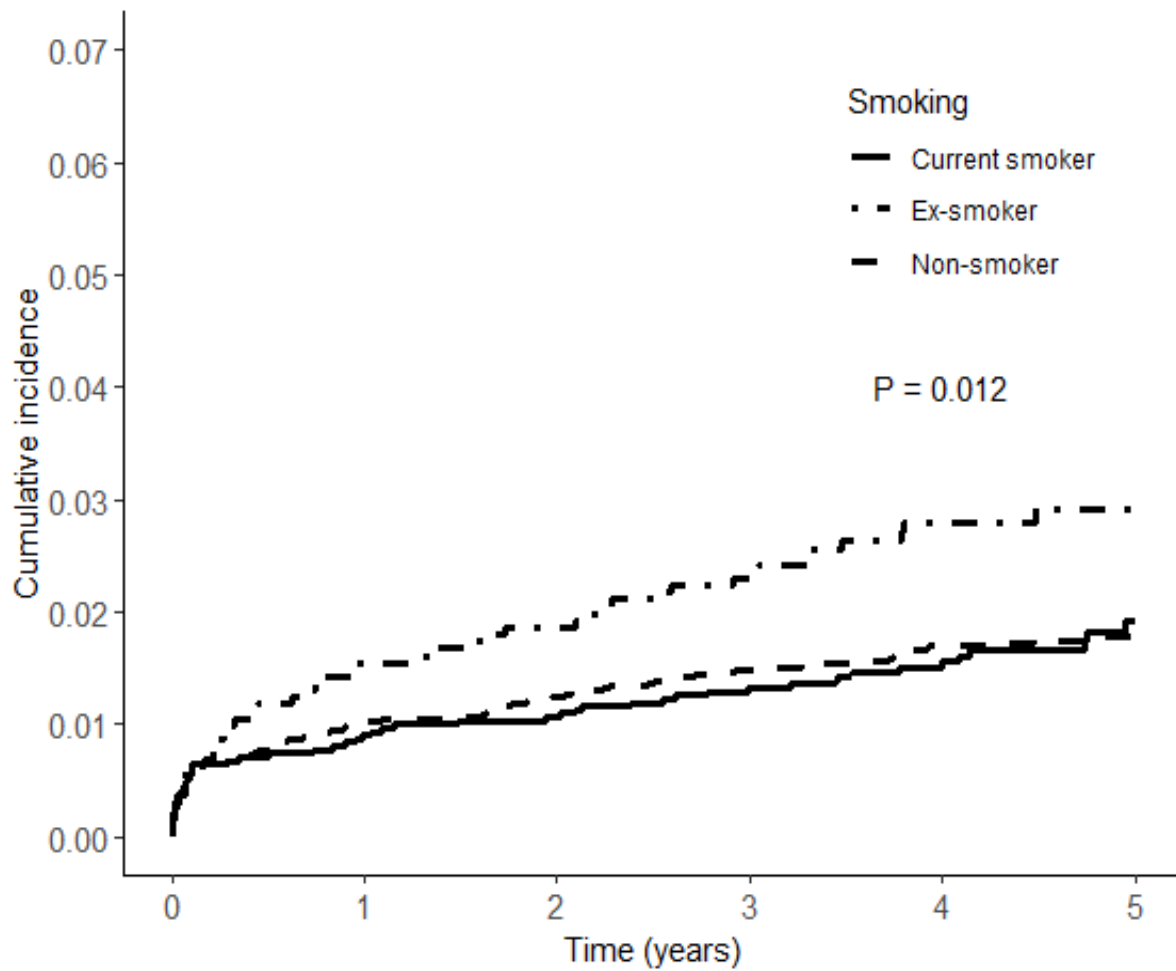
Figure S2. Cumulative incidence of acute myocardial infarction after ischemic stroke for subgroups.

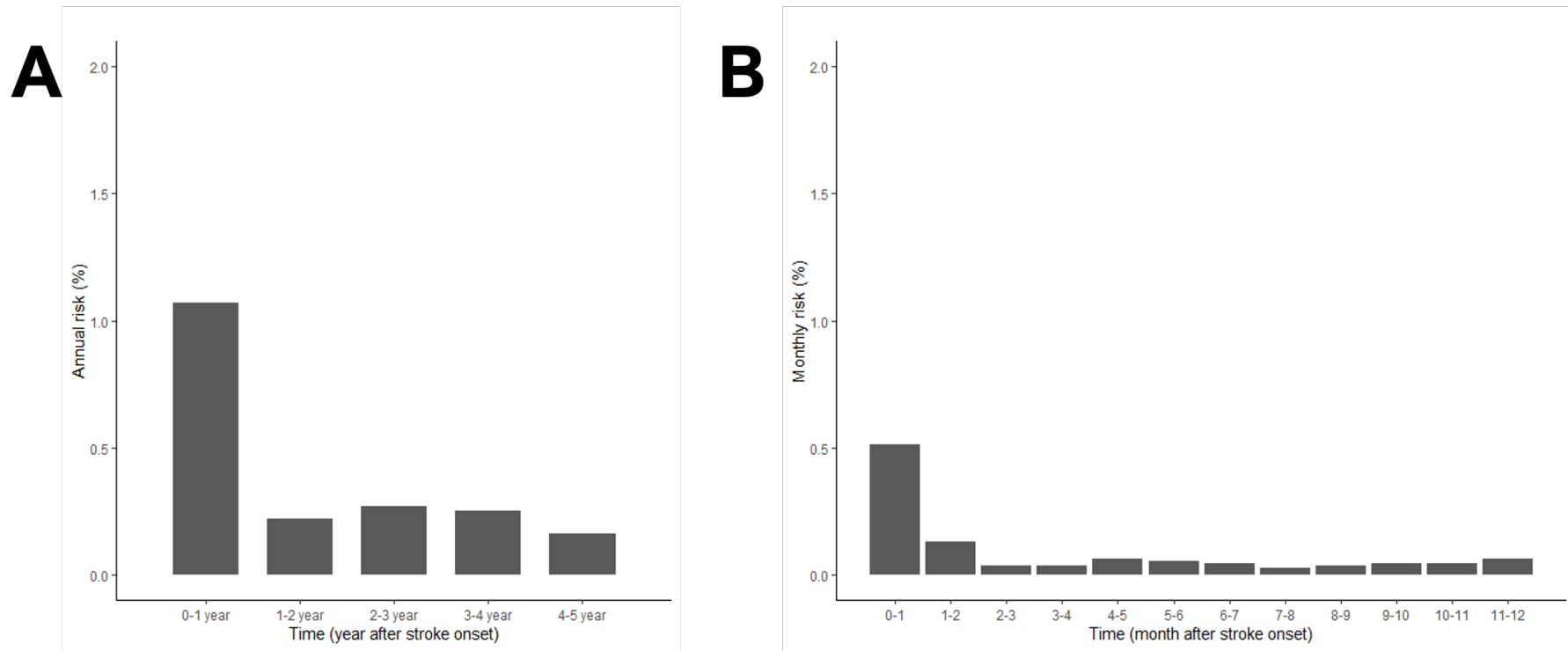(A) Age (B) sex (C) history of hypertension (D) history of diabetes

Figure S3. Cumulative incidence of acute myocardial infarction after ischemic stroke according to smoking status.

Number at Risk						
Current smoker	3099	2844	2724	2626	1649	761
Ex-smoker	1611	1387	1295	1229	765	353
Non-smoker	7010	6013	5622	5280	3308	1474

Figure S4. Annual and monthly risk of acute myocardial infarction after acute ischemic stroke.

(A) Annual risk of acute myocardial infarction after acute ischemic stroke (B) monthly risk of acute myocardial infarction during the first year

after acute ischemic stroke