

SUPPLEMENTAL MATERIAL

Supplemental Table 1. *International Classification of Diseases (ICD) and Anatomical Therapeutic Chemical Classification System (ATC) codes and definitions used in the study.*

Stroke cohort: The stroke cohort consisted of patients aged 18-60 years who were registered in the Danish Stroke Registry with ischemic stroke (ICD-10: I63), intracerebral hemorrhage (ICD-10: I61), or unspecified stroke (ICD-10: I64) between 1 May 2004 and 31 December 2018. Transient ischemic attacks were not included. We considered unspecified stroke as ischemic stroke. In the same period we used the Danish National Patient Registry to identify patients with a primary discharge diagnosis of subarachnoid hemorrhage (ICD-10: I60). We selected only the first-ever event, excluding patients with a prior stroke diagnosis based on any of the following codes registered in the Patient Registry going back to 1 January 1980 (ICD-8: 433–434, 431, 436, 430; ICD-10: I63, I61, I64, I60). A patient could contribute to the analysis of only one stroke subtype. The hospital admission date was used to define the “index date”. We excluded patients who were not participating in the labor force at four weeks before the index date.

Comparison cohort: We constructed a general population comparison cohort using the Danish Civil Registration System. We matched (with replacement) five persons from the general population on birth year and sex to each stroke patient, requiring comparators to be alive on the index date of the matched stroke patient. As in the case of stroke patients, we required comparators to be part of the labor market at four weeks before the index date.

Labor market participation: We compiled information on labor market participation from the DREAM registry. Based on weekly information, we categorized patients into six mutually exclusive groups according to the type of transfer payment received for each week from the index date up to 5 years later. Below we list DREAM codes for each group and a corresponding description of those codes:

- **Labor market participation**
 - No transfer payment: No codes
 - Various employment schemes (no transfer payments): 511, 521, 522
 - State educational grants: 651-652, 661
 - Parental leave transfer payments: 881
 - Various unemployment transfer payments, not directly related to health: 111,115,121,130-139,140-149,151-153,160-169,213-219,231,299,412,413,700-709,710-719,720-729,730-739,740-748
- **Sick leave**
 - Sick leave transfer payments: 890-899
 - Other transfer payments related to health: 750-758,760-768,771,774,781,810,813-818,870,873-878
- **Disability pension:** 783
- **Voluntary early retirement:** 611, 621, 622
- **State pension:** 998
- **Death:** 999

Covariates measured for both the stroke and general population comparison cohort:

- **Disposable income** (Income Statistics Registry): defined as “low”, “medium”, or “high” based on the variable “PERINDKIALT_13” (yearly personal income, gross, DKK). Cohort members were grouped into tertiles according to income for each year in the study period, thereby accounting for inflation. Average 5-year income was used.
- **Highest education attained** (Population Education Register): Defined as “low” (primary or lower secondary), “medium” (upper secondary or academic professional degree), “high” (university education at the bachelor’s level or higher), or “missing” based on the variable “HFAUDD”.
- **Ischemic heart disease** (Patient Registry, Prescription Registry): defined as either a hospital-based diagnosis recorded in the Patient Registry at any time before the index date (ICD-10: I20–I25) *or* at least two filled prescriptions for an anti-anginal drug registered within 365 days before the index date in the Prescription Registry (ATC: C01DA).
- **Atrial fibrillation/flutter** (Patient Registry): defined as a hospital-based diagnosis registered at any time before the index date in the Patient Registry (ICD-10: I48)
- **Hypertension** (Patient Registry): defined as either a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: I10–I15] *or* two or more filled prescriptions for different antihypertensive drug, classes registered within 180 days before the stroke admission date in the Prescription Registry [ATC: C02 (Adrenergic antihypertensives); C03A, C03B, C03D C03EA (Non, loop diuretics and potassium sparing agents); C07 (Beta, blockers); C08 (Ca, antagonists); C09A, C09B, C09X C09C, C09D (Inhibitors of RAAS, system)]
- **Diabetes** (Patient Registry, Prescription Registry): defined as either a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: E10–E14, O24 [excl. O244], G632, H360, N083) *or* at least two filled prescriptions for an anti-diabetic drug registered within 365 days before the index date in the Prescription Registry (ATC: A10)
- **Heart failure** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: I500–I503, I508, I509, I110, I130, I132, I420, I426–I429)
- **Venous thromboembolism:** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: I801, I802, I803, I26)
- **Peripheral artery disease** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: I70–I74)
- **Valvular heart disease** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: I05, I06, I34, I35, I390, I391, I511A)
- **Cancer** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: C00–C99)

- **Thyroid disease** (Patient Registry, Prescription Registry): defined as either a hospital-based diagnosis recorded at any time before the index date in the Patient Registry [ICD-10: E00, E05, E061, E069, E07] *or* at least two filled prescription for a thyroid therapy drug recorded within 365 days before the index date in the Prescription Registry [ATC: H03].
- **Connective tissue disorders** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry [ICD-10: M05-M06, M08-M09, M30-M36, D86].
- **Chronic pulmonary disease** (Patient Registry, Prescription Registry): defined as either a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: J44) *or* at least two filled prescriptions for a obstructive airway disease drug recorded within 365 days before the index date in the Prescription Registry (ATC: R03).
- **Chronic kidney disease** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry [ICD-10: N03, N11, N18, N19].
- **Chronic liver disease** (Patient Registry): defined as a hospital-based diagnosis recorded at any time before the index date in the Patient Registry [ICD-10: B16, B19, K70, K74, K766, I85].
- **Migraine** (Patient Registry, Prescription Registry): defined as either a hospital-based diagnosis recorded at any time before the index date in the Patient Registry (ICD-10: G43) *or* at least two filled prescriptions for a obstructive airway disease drug recorded within 365 days before the index date in the Prescription Registry (ATC: N02C).
- **Organic disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry (ICD-10: F00-F09, G231, G30–G31).
- **Substance abuse** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F10-F19).
- **Schizophrenia** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F20-F29).
- **Mood disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F30-F39) *or* at least two filled prescriptions for an anti-depressive drug recorded at any time after the index date in the Prescription Registry (ATC N06A), whichever occurred first.
- **Neurotic disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F40-F48).
- **Eating disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F50).
- **Personality disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F60).
- **Intellectual disabilities** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F70-F79).
- **Developmental disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F84).
- **Behavioral disorders** (Psychiatric Central Research Registry, Patient Registry): defined as a hospital-based diagnosis recorded at any time after the index date in the Psychiatric Central Research Registry or the Patient Registry (ICD-10: F90-F99).
- **Anticoagulants** (Prescription Registry): defined as a filled prescription for an anticoagulant recorded within 365 days before the index date in the Prescription Registry (ATC: B01AA, B01AB, B01AE, B01AF).
- **Antiplatelets** (Prescription Registry): defined as a filled prescription for an antiplatelet recorded within 365 days before the index date in the Prescription Registry (ATC: B01AC).
- **Statins** (Prescription Registry): defined as a filled prescription for a statin recorded within 365 days before the index date in the Prescription Registry (ATC: C10AA).
- **Proton pump inhibitors** (Prescription Registry): defined as a filled prescription for a statin recorded within 365 days before the index date in the Prescription Registry (ATC: A02BC).
- **Nonsteroidal anti-inflammatory drugs** (Prescription Registry): defined as a filled prescription for a statin recorded within 365 days before the index date in the Prescription Registry (ATC: M01A).
- **Opioids** (Prescription Registry): defined as a filled prescription for a statin recorded within 365 days before the index date in the Prescription Registry (ATC: MN02A).
- **Antipsychotics** (Prescription Registry): defined as a filled prescription for a statin recorded within 365 days before the index date in the Prescription Registry (ATC: N05A).

Covariates measured only for the stroke cohort:

- **Scandinavian Stroke Scale score** (Stroke Registry): defined as “mild” (45–58), “moderate” (30–44), “severe or very severe” (0–29), or “missing”.
 - **Essen risk score** (Stroke Registry, Patient Registry, and Prescription Registry)
 - *Age 65–75 years (1 point)*
 - *Age >75 years (2 points)*
 - *Hypertension (1 point):* defined as either a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: I10–I15] *or* two or more filled prescriptions for different antihypertensive drug, classes recorded within 180 days before the stroke admission date in the Prescription Registry [ATC: C02 (Adrenergic antihypertensives); C03A, C03B, C03D C03EA (Non, loop diuretics and potassium sparing agents); C07 (Beta, blockers); C08 (Ca, antagonists); C09A, C09B, C09X C09C, C09D (Inhibitors of RAAS, system))]
 - *Diabetes (1 point):* defined as either a hospital-based diagnosis recorded at any time before the index date in the Patient Registry [ICD-10: E10–E14, O24 [excl. O244], G632, H360, N083] *or* at least two filled prescriptions for an anti-diabetic drug recorded within 365 days before the index date in the Prescription Registry (ATC: A10)
 - *Myocardial infarction (1 point):* defined as a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: I21, I23].
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- *Other cardiovascular disease (1 point)*: defined as either a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: I20, I22, I24, I25, I801, I802, I803, I26, I500, I501, I502, I503, I508, I509, I110, I130, I132, I420, I426, I427, I428, I429, E78] *or* one or more filled prescriptions for an antianginal or lipid-lowering drug recorded within 365 days before the stroke admission date in the Prescription Registry [ATC: C01DA, C10])
- *Peripheral artery disease (1 point)*: defined as a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: I70, I71, I72, I73, I74].
- *Smoker (1 point)*: defined from the Stroke Registry as daily/occasional or former smokers.
- *Transient ischemic attack (1 point)*: defined as a hospital-based diagnosis recorded at any time before the stroke discharge date in the Patient Registry [ICD-10: G45].
- **Thrombolysis** (Stroke Registry): defined as “yes”, “no”, or “contraindicated”.
- **Thrombectomy** (Stroke Registry): defined as “yes”, “no”, or “contraindicated”.

Mortality: Date of all-cause mortality was identified from the Civil Registration System and from the DREAM registry.

Supplemental Table 2. Prevalence of labor market participation two years after ischemic stroke and propensity score-weighted differences and ratios compared with age-, sex-, and calendar-year-matched individuals from the general population in patient subgroups.

	Prevalence, ischemic stroke, %	Propensity score-weighted prevalence difference vs. general population (95% CI)*	Propensity score-weighted prevalence ratio vs. general population (95% CI)*
Age group			
18–40	76.0	-18.73 (-21.51 to -15.94)	0.80 (0.78 to 0.83)
41–50	68.2	-25.76 (-27.91 to -23.61)	0.73 (0.71 to 0.75)
51–60	59.2	-30.06 (-31.63 to -28.50)	0.66 (0.65 to 0.68)
Sex			
Men	65.0	-27.25 (-28.71 to -25.79)	0.70 (0.69 to 0.72)
Women	62.0	-29.74 (-31.86 to -27.61)	0.67 (0.65 to 0.70)
Calendar period of stroke diagnosis			
2004–2006	57.0	-31.95 (-33.82 to -30.08)	0.64 (0.62 to 0.66)
2007–2009	60.9	-18.91 (-34.81 to -3.00)	0.79 (0.64 to 0.99)
2010–2012	65.6	-27.51 (-30.28 to -24.75)	0.70 (0.67 to 0.73)
2013–2015	68.6	-24.69 (-27.35 to -22.02)	0.74 (0.71 to 0.76)
2016–2018	68.4	-27.31 (-31.60 to -23.02)	0.71 (0.67 to 0.76)
Labor market participation four weeks before the index date			
Employed	66.4	-27.04 (-28.04 to -26.04)	0.71 (0.70 to 0.72)
Receipt of state educational grants	85.4	-8.70 (-15.88 to -1.52)	0.91 (0.84 to 0.99)
Parental leave payments	61.5	-36.96 (-56.53 to -17.38)	0.60 (0.42 to 0.85)
Unemployment payments not related to health	49.9	-27.34 (-31.20 to -23.48)	0.64 (0.59 to 0.69)
Disposable income (5-year average)			
Low	58.2	-27.35 (-30.01 to -24.69)	0.68 (0.65 to 0.71)
Medium	61.0	-29.89 (-32.02 to -27.77)	0.67 (0.65 to 0.70)
High	72.6	-21.18 (-23.45 to -18.92)	0.78 (0.75 to 0.80)
Education level			
Low (primary or lower secondary)	61.9	-29.57 (-32.97 to -26.18)	0.67 (0.63 to 0.71)
Medium (upper secondary or academic profession degree)	63.6	-28.23 (-29.62 to -26.83)	0.69 (0.68 to 0.71)
High (university education at bachelor's level or higher)	77.9	-16.81 (-21.27 to -12.36)	0.83 (0.78 to 0.87)
Number of non-psychiatric comorbidities			
0	67.2	-27.30 (-29.12 to -25.48)	0.71 (0.69 to 0.73)
1	64.0	-25.45 (-27.65 to -23.25)	0.72 (0.70 to 0.74)
2+	55.2	-27.32 (-30.37 to -24.28)	0.68 (0.64 to 0.71)
Number of psychiatric comorbidities			
0	65.6	-27.10 (-28.22 to -25.98)	0.71 (0.69 to 0.72)
1	55.1	-26.19 (-30.34 to -22.05)	0.69 (0.64 to 0.73)
2+	48.0	-30.90 (-39.43 to -22.37)	0.60 (0.51 to 0.71)
Stroke severity (Scandinavian Stroke Scale)			
Mild (45–58)	69.4	-23.39 (-24.93 to -21.85)	0.75 (0.73 to 0.76)
Moderate (30–45)	50.5	-43.14 (-48.41 to -37.86)	0.53 (0.47 to 0.59)
Severe or very severe (0–29)	24.8	-67.91 (-72.99 to -62.83)	0.25 (0.21 to 0.30)
Essen risk score			
0	71.6	-19.95 (-22.48 to -17.43)	0.79 (0.76 to 0.81)
1	64.9	-26.22 (-27.94 to -24.51)	0.72 (0.70 to 0.73)
2	64.1	-33.87 (-45.81 to -21.93)	0.63 (0.52 to 0.78)
3+	57.9	-35.16 (-44.39 to -25.93)	0.60 (0.51 to 0.71)
Thrombolysis			
Yes	64.5	-30.83 (-35.08 to -26.58)	0.67 (0.62 to 0.71)
No	64.5	-23.53 (-30.18 to -16.88)	0.74 (0.67 to 0.81)
Contraindicated	66.1	-25.66 (-27.29 to -24.02)	0.72 (0.71 to 0.74)
Thrombectomy			
Yes	46.9	-52.05 (-60.20 to -43.89)	0.45 (0.38 to 0.55)
No	64.4	-34.74 (-44.92 to -24.56)	0.62 (0.52 to 0.74)
Contraindicated	69.1	-23.59 (-25.39 to -21.78)	0.75 (0.73 to 0.77)

Propensity score weights calculated based on the following covariates: age (omitted when stratifying by this variable), sex (omitted when stratifying by this variable), calendar period (omitted when stratifying by this variable), labor market participation at four weeks before the index date (omitted when stratifying by this variable), income level (omitted when stratifying by this variable), education level (omitted when stratifying by this variable), hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities (omitted when stratifying by this variable), and number of psychiatric comorbidities (omitted when stratifying by this variable).

Supplemental Table 3. Prevalence of labor market participation two years after intracerebral hemorrhage and propensity score-weighted differences and ratios compared with age-, sex-, and calendar-year-matched individuals from the general population in patient subgroups.

	Prevalence, intracerebral hemorrhage, %	Propensity score-weighted prevalence difference vs. general population (95% CI)*	Propensity score-weighted prevalence ratio vs. general population (95% CI)*
Age group			
18–40	55.0	-41.23 (-50.98 to -31.47)	0.57 (0.48 to 0.68)
41–50	45.0	-50.05 (-56.21 to -43.90)	0.47 (0.41 to 0.54)
51–60	38.3	-51.78 (-56.08 to -47.47)	0.43 (0.39 to 0.47)
Sex			
Men	45.1	-47.22 (-51.17 to -43.27)	0.49 (0.45 to 0.53)
Women	37.8	-51.97 (-57.94 to -46.00)	0.41 (0.36 to 0.48)
Calendar period of stroke diagnosis			
2004–2006	35.3	-55.03 (-60.21 to -49.84)	0.39 (0.34 to 0.45)
2007–2009	40.0	-54.57 (-62.12 to -47.02)	0.40 (0.33 to 0.49)
2010–2012	41.8	-56.25 (-63.94 to -48.56)	0.38 (0.31 to 0.47)
2013–2015	45.8	-45.63 (-54.19 to -37.08)	0.51 (0.42 to 0.61)
2016–2018	51.7	-42.89 (-53.12 to -32.67)	0.55 (0.45 to 0.67)
Labor market participation four weeks before the index date			
Employed	43.7	-51.87 (-54.74 to -49.00)	0.45 (0.42 to 0.48)
Receipt of state educational grants	80.0	-6.33 (-16.25 to 3.59)	0.93 (0.84 to 1.04)
Parental leave payments	38.5	-78.57 (-102.66 to -54.48)	0.21 (0.07 to 0.66)
Unemployment payments not related to health	33.7	-41.21 (-49.71 to -32.71)	0.47 (0.39 to 0.58)
Disposable income (5-year average)			
Low	37.6	-50.10 (-58.55 to -41.66)	0.41 (0.32 to 0.51)
Medium	38.9	-52.84 (-59.26 to -46.42)	0.42 (0.36 to 0.49)
High	52.2	-46.83 (-53.57 to -40.09)	0.51 (0.45 to 0.59)
Education level			
Low (primary or lower secondary)	40.3	-47.13 (-53.65 to -40.61)	0.46 (0.40 to 0.53)
Medium (upper secondary or academic profession degree)	41.3	-51.32 (-55.30 to -47.34)	0.44 (0.40 to 0.49)
High (university education at bachelor's level or higher)	56.9	-55.42 (-68.14 to -42.70)	0.44 (0.33 to 0.59)
Number of non-psychiatric comorbidities			
0	43.9	-52.33 (-57.44 to -47.21)	0.44 (0.39 to 0.49)
1	42.4	-48.15 (-54.11 to -42.19)	0.47 (0.41 to 0.53)
2+	38.8	-48.91 (-55.57 to -42.25)	0.44 (0.38 to 0.52)
Number of psychiatric comorbidities			
0	44.3	-49.79 (-52.58 to -47.00)	0.47 (0.44 to 0.50)
1	31.6	-58.42 (-67.16 to -49.68)	0.33 (0.25 to 0.44)
2+	34.1	-30.70 (-65.17 to 3.77)	0.53 (0.27 to 1.03)
Stroke severity (Scandinavian Stroke Scale)			
Mild (45–58)	62.0	-29.30 (-33.73 to -24.86)	0.68 (0.64 to 0.73)
Moderate (30–45)	37.6	-54.43 (-64.96 to -43.91)	0.41 (0.31 to 0.54)
Severe or very severe (0–29)	21.0	-75.37 (-81.38 to -69.36)	0.21 (0.16 to 0.28)
Essen risk score			
0	49.5	-44.96 (-52.16 to -37.76)	0.52 (0.45 to 0.60)
1	44.5	-46.16 (-51.64 to -40.68)	0.49 (0.44 to 0.56)
2	45.3	-45.45 (-56.32 to -34.58)	0.50 (0.40 to 0.63)
3+	45.6	-60.08 (-76.59 to -43.56)	0.36 (0.23 to 0.58)
Thrombolysis			
Yes	-	-	-
No	-	-	-
Contraindicated	-	-	-
Thrombectomy			
Yes	-	-	-
No	-	-	-
Contraindicated	-	-	-

Propensity score weights calculated based on the following covariates: age (omitted when stratifying by this variable), sex (omitted when stratifying by this variable), calendar period (omitted when stratifying by this variable), labor market participation at four weeks before the index date (omitted when stratifying by this variable), income level (omitted when stratifying by this variable), education level (omitted when stratifying by this variable), hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities (omitted when stratifying by this variable), and number of psychiatric comorbidities (omitted when stratifying by this variable).

Supplemental Table 4. Prevalence of labor market participation two years after subarachnoid hemorrhage and propensity score-weighted differences and ratios compared with age-, sex-, and calendar-year-matched individuals from the general population in patient subgroups.

	Prevalence, subarachnoid hemorrhage, %	Propensity score-weighted prevalence difference vs. general population (95% CI)*	Propensity score-weighted prevalence ratio vs. general population (95% CI)*
Age group			
18–40	74.8	-20.84 (-24.54 to -17.14)	0.78 (0.74 to 0.82)
41–50	60.6	-32.68 (-37.30 to -28.05)	0.65 (0.61 to 0.70)
51–60	51.0	-37.40 (-41.10 to -33.70)	0.58 (0.54 to 0.62)
Sex			
Men	68.2	-25.52 (-28.28 to -22.76)	0.73 (0.70 to 0.76)
Women	55.3	-37.01 (-40.05 to -33.97)	0.60 (0.57 to 0.63)
Calendar period of stroke diagnosis			
2004–2006	60.0	-31.87 (-35.07 to -28.67)	0.65 (0.62 to 0.69)
2007–2009	58.5	-33.34 (-38.97 to -27.70)	0.64 (0.58 to 0.70)
2010–2012	63.0	-28.19 (-33.27 to -23.11)	0.70 (0.65 to 0.75)
2013–2015	62.0	-30.52 (-35.33 to -25.71)	0.68 (0.63 to 0.73)
2016–2018	65.1	-29.50 (-36.24 to -22.76)	0.69 (0.62 to 0.76)
Labor market participation four weeks before the index date			
Employed	61.4	-32.35 (-34.92 to -29.78)	0.65 (0.63 to 0.68)
Receipt of state educational grants	89.0	-5.90 (-13.58 to 1.78)	0.94 (0.86 to 1.02)
Parental leave payments	43.2	-42.01 (-70.79 to -13.23)	0.54 (0.30 to 0.96)
Unemployment payments not related to health	54.0	-21.12 (-29.11 to -13.12)	0.73 (0.64 to 0.83)
Disposable income (5-year average)			
Low	60.0	-31.23 (-34.69 to -27.76)	0.65 (0.61 to 0.69)
Medium	57.5	-35.14 (-39.34 to -30.94)	0.62 (0.58 to 0.67)
High	67.0	-37.23 (-45.82 to -28.63)	0.62 (0.53 to 0.71)
Education level			
Low (primary or lower secondary)	61.5	-29.55 (-34.20 to -24.90)	0.67 (0.63 to 0.73)
Medium (upper secondary or academic profession degree)	59.7	-34.22 (-36.94 to -31.51)	0.63 (0.61 to 0.66)
High (university education at bachelor's level or higher)	71.3	-26.44 (-35.61 to -17.27)	0.73 (0.64 to 0.83)
Number of non-psychiatric comorbidities			
0	64.0	-31.74 (-34.52 to -28.96)	0.67 (0.64 to 0.70)
1	57.1	-30.48 (-34.88 to -26.07)	0.66 (0.62 to 0.71)
2+	50.1	-29.18 (-36.20 to -22.16)	0.65 (0.58 to 0.73)
Number of psychiatric comorbidities			
0	61.8	-31.75 (-33.58 to -29.92)	0.66 (0.64 to 0.68)
1	57.1	-26.32 (-33.46 to -19.18)	0.69 (0.62 to 0.78)
2+	57.7	-10.47 (-26.08 to 5.15)	0.87 (0.70 to 1.08)
Stroke severity (Scandinavian Stroke Scale)			
Mild (45–58)	-	-	-
Moderate (30–45)	-	-	-
Severe or very severe (0–29)	-	-	-
Essen risk score			
0	-	-	-
1	-	-	-
2	-	-	-
3+	-	-	-
Thrombolysis			
Yes	-	-	-
No	-	-	-
Contraindicated	-	-	-
Thrombectomy			
Yes	-	-	-
No	-	-	-
Contraindicated	-	-	-

Propensity score weights calculated based on the following covariates: age (omitted when stratifying by this variable), sex (omitted when stratifying by this variable), calendar period (omitted when stratifying by this variable), labor market participation at four weeks before the index date (omitted when stratifying by this variable), income level (omitted when stratifying by this variable), education level (omitted when stratifying by this variable), hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities (omitted when stratifying by this variable), and number of psychiatric comorbidities (omitted when stratifying by this variable).

Supplemental Table 5. Prevalences of labor market participation, sick leave, receipt of a disability pension, voluntary early retirement, receipt of a state pension, and death, and propensity score-weighted differences and ratios comparing patients with recurrent stroke, according to stroke subtype, with age-, sex-, and calendar-year-matched individuals from the general population.

	6 months	1 year	2 years	5 years
Labor market participation				
Prevalence, ischemic stroke, %	58.5	60.3	56.6	37.7
Prevalence, general population, %	96.8	95	91.9	78.2
PS-weighted difference, % (95% CI)*	-38.83 (-42.95 to -34.71)	-23.86 (-35.01 to -12.71)	-24.08 (-35.75 to -12.40)	-37.67 (-49.52 to -25.82)
PS-weighted ratio (95% CI)*	0.60 (0.56 to 0.64)	0.72 (0.62 to 0.82)	0.70 (0.60 to 0.82)	0.50 (0.41 to 0.60)
Prevalence, intracerebral hemorrhage, %	36.5	35.2	27.3	18.8
Prevalence, general population, %	95.6	93.6	90.8	79.5
PS-weighted difference, % (95% CI)*	-61.54 (-72.62 to -50.45)	-60.39 (-72.37 to -48.42)	-53.42 (-71.82 to -35.02)	-59.08 (-79.58 to -38.59)
PS-weighted ratio (95% CI)*	0.37 (0.28 to 0.50)	0.37 (0.27 to 0.51)	0.34 (0.22 to 0.52)	0.24 (0.13 to 0.45)
Prevalence, subarachnoid hemorrhage, %	67.5	68.2	68	56.4
Prevalence, general population, %	96.5	95.3	93.4	83.5
PS-weighted difference, % (95% CI)*	-23.87 (-33.65 to -14.10)	-23.53 (-31.64 to -15.41)	-25.03 (-31.20 to -18.86)	-11.92 (-31.59 to 7.75)
PS-weighted ratio (95% CI)*	0.74 (0.66 to 0.83)	0.74 (0.67 to 0.82)	0.73 (0.67 to 0.79)	0.83 (0.62 to 1.11)
Sick leave				
Prevalence, ischemic stroke, %	34.1	24.3	14	12.3
Prevalence, general population, %	2.6	3.5	4.0	3.6
PS-weighted difference, % (95% CI)*	31.97 (28.02 to 35.93)	20.22 (16.15 to 24.29)	9.51 (5.77 to 13.25)	10.02 (6.72 to 13.33)
PS-weighted ratio (95% CI)*	15.69 (6.86 to 35.88)	5.97 (3.23 to 11.06)	3.10 (1.71 to 5.62)	5.34 (3.00 to 9.51)
Prevalence, intracerebral hemorrhage, %	47.3	35.2	18.2	8.3
Prevalence, general population, %	2.9	4.4	3.9	4.3
PS-weighted difference, % (95% CI)*	45.65 (34.17 to 57.12)	33.28 (22.07 to 44.48)	17.06 (7.71 to 26.41)	5.95 (-2.18 to 14.08)
PS-weighted ratio (95% CI)*	28.63 (11.01 to 74.43)	18.19 (7.96 to 41.59)	16.18 (6.29 to 41.64)	3.50 (0.93 to 13.09)
Prevalence, subarachnoid hemorrhage, %	25.3	19.9	11.4	9.8
Prevalence, general population, %	2.8	3.4	3.6	4.9
PS-weighted difference, % (95% CI)*	17.49 (7.90 to 27.08)	12.70 (5.04 to 20.35)	7.75 (3.63 to 11.86)	-3.72 (-22.87 to 15.42)
PS-weighted ratio (95% CI)*	3.23 (1.07 to 9.73)	2.75 (1.10 to 6.89)	3.10 (1.54 to 6.25)	0.73 (0.17 to 3.04)
Disability pension				
Prevalence, ischemic stroke, %	3.9	10.2	20.6	29
Prevalence, general population, %	0.1	0.3	0.6	1.6
PS-weighted difference, % (95% CI)*	3.60 (2.08 to 5.12)	6.97 (1.46 to 12.49)	17.01 (10.90 to 23.12)	23.33 (14.93 to 31.73)
PS-weighted ratio (95% CI)*	13.38 (2.47 to 72.53)	3.17 (0.66 to 15.26)	5.80 (1.32 to 25.36)	5.12 (1.41 to 18.55)
Prevalence, intracerebral hemorrhage, %	-	15.5	31.8	39.6
Prevalence, general population, %	-	0.3	1.8	2.9
PS-weighted difference, % (95% CI)*	-	13.36 (3.98 to 22.75)	22.55 (6.48 to 38.63)	24.58 (2.38 to 46.79)
PS-weighted ratio (95% CI)*	-	7.28 (0.96 to 55.02)	3.43 (0.95 to 12.49)	2.64 (0.79 to 8.84)
Prevalence, subarachnoid hemorrhage, %	3.2	6.5	13.8	20.1
Prevalence, general population, %	0.1	0.2	0.5	1.9
PS-weighted difference, % (95% CI)*	3.14 (1.38 to 4.90)	6.27 (3.75 to 8.79)	12.05 (7.82 to 16.28)	16.36 (10.64 to 22.07)
PS-weighted ratio (95% CI)*	116.82 (14.90 to 915.97)	32.22 (7.04 to 147.40)	7.95 (2.28 to 27.76)	5.40 (2.30 to 12.67)
Voluntary early retirement				
Prevalence, ischemic stroke, %	1.2	2.1	4.4	6.6
Prevalence, general population, %	0.3	0.9	3	8.9
PS-weighted difference, % (95% CI)*	1.02 (0.22 to 1.83)	-5.41 (-15.10 to 4.29)	-5.67 (-15.96 to 4.62)	-3.75 (-11.77 to 4.26)
PS-weighted ratio (95% CI)*	8.76 (2.58 to 29.70)	0.28 (0.07 to 1.12)	0.44 (0.15 to 1.28)	0.64 (0.28 to 1.45)
Prevalence, intracerebral hemorrhage, %	1.4	1.4	4.5	4.2
Prevalence, general population, %	1.6	1.7	3.5	7.1
PS-weighted difference, % (95% CI)*	1.03 (-1.62 to 3.68)	1.08 (-1.68 to 3.84)	-4.38 (-16.55 to 7.79)	0.87 (-5.68 to 7.41)
PS-weighted ratio (95% CI)*	4.17 (0.46 to 37.84)	4.27 (0.47 to 38.76)	0.51 (0.10 to 2.69)	1.26 (0.23 to 6.81)
Prevalence, subarachnoid hemorrhage, %	-	1.1	2.1	4.2
Prevalence, general population, %	0.7	1.0	2.3	6
PS-weighted difference, % (95% CI)*	-	0.27 (-1.10 to 1.63)	0.62 (-1.27 to 2.50)	-1.62 (-6.96 to 3.72)
PS-weighted ratio (95% CI)*	-	1.33 (0.31 to 5.68)	1.43 (0.49 to 4.18)	0.72 (0.26 to 1.97)
State pension				

Prevalence, ischemic stroke, %	-	-	-	5.5
Prevalence, general population, %	-	-	-	6.3
PS-weighted difference, % (95% CI)*	-	-	-	1.81 (-0.92 to 4.55)
PS-weighted ratio (95% CI)*	-	-	-	1.49 (0.81 to 2.75)
Prevalence, intracerebral hemorrhage, %	-	-	-	2.1
Prevalence, general population, %	-	-	-	4.8
PS-weighted difference, % (95% CI)*	-	-	-	0.90 (-3.25 to 5.06)
PS-weighted ratio (95% CI)*	-	-	-	1.77 (0.21 to 14.55)
Prevalence, subarachnoid hemorrhage, %	-	-	-	3.4
Prevalence, general population, %	-	-	-	2.4
PS-weighted difference, % (95% CI)*	-	-	-	-3.39 (-12.95 to 6.18)
PS-weighted ratio (95% CI)*	-	-	-	0.50 (0.11 to 2.28)

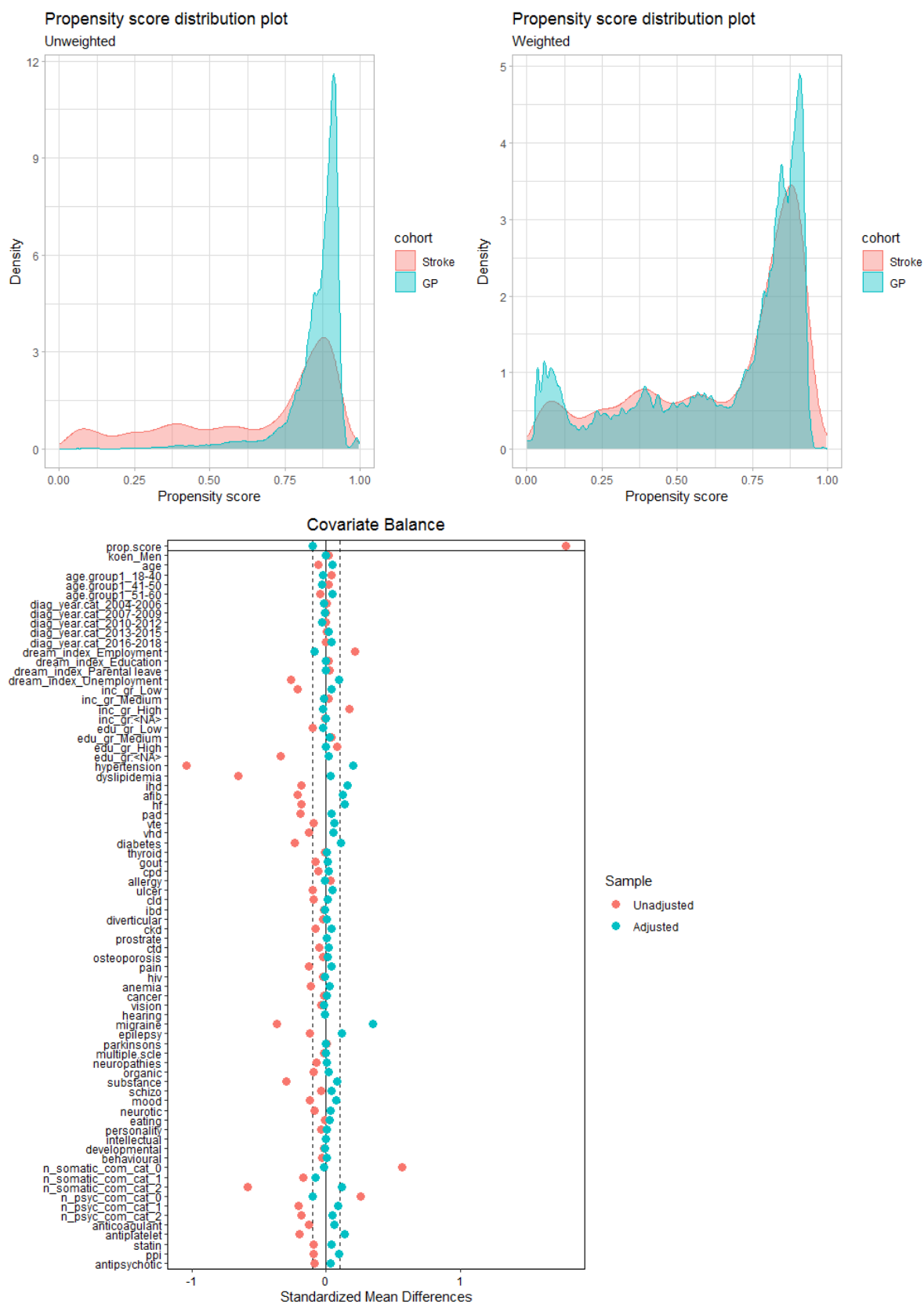
Death

Prevalence, ischemic stroke, %	2.2	3	4.4	8.9
Prevalence, general population, %	0.1	0.2	0.3	1.2
PS-weighted difference, % (95% CI)*	2.11 (1.02 to 3.19)	1.98 (-0.30 to 4.25)	3.32 (0.79 to 5.86)	6.53 (2.60 to 10.46)
PS-weighted ratio (95% CI)*	39.04 (11.09 to 137.35)	2.94 (0.45 to 19.31)	4.07 (0.65 to 25.43)	3.75 (1.07 to 13.12)
Prevalence, intracerebral hemorrhage, %	12.2	12.7	18.2	27.1
Prevalence, general population, %	-	-	-	1
PS-weighted difference, % (95% CI)*	-	-	-	26.90 (14.32 to 39.47)
PS-weighted ratio (95% CI)*	-	-	-	146.81 (31.67 to 680.57)
Prevalence, subarachnoid hemorrhage, %	4.0	4.0	4.4	5.3
Prevalence, general population, %	-	-	0.1	0.9
PS-weighted difference, % (95% CI)*	-	-	4.37 (2.19 to 6.55)	3.72 (-0.12 to 7.57)
PS-weighted ratio (95% CI)*	-	-	148.88 (19.22 to 1152.99)	3.36 (0.55 to 20.35)

Abbreviations: CI, confidence interval; PS, propensity score.

*Propensity score weights calculated based on the following covariates: age, sex, calendar period, labor market participation at four weeks before the index date, income level, education level, hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities, and number of psychiatric comorbidities.

Supplemental Figure 1. Plots of the propensity score density, before and after weighting, and plot of the standardized mean differences for each covariate, before and after weighting.



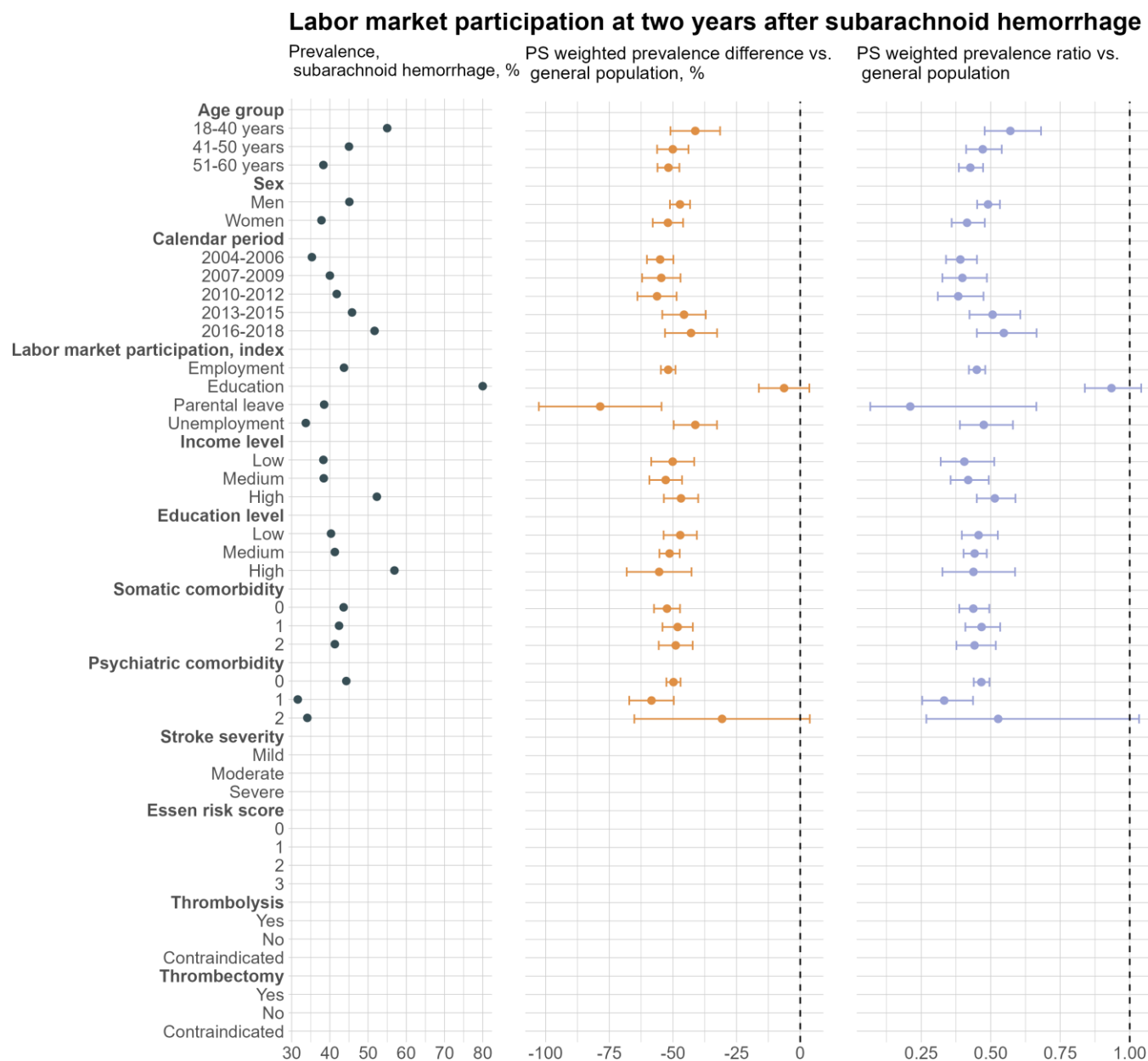
Supplemental Figure 2. Prevalence of labor market participation two years after intracerebral hemorrhage and propensity score-weighted differences and ratios compared with age-, sex-, and calendar-year-matched individuals from the general population in patient subgroups.



Abbreviation: PS, propensity score.

Propensity score weights calculated based on the following covariates: age (omitted when stratifying by this variable), sex (omitted when stratifying by this variable), calendar period (omitted when stratifying by this variable), labor market participation at four weeks before the index date (omitted when stratifying by this variable), income level (omitted when stratifying by this variable), education level (omitted when stratifying by this variable), hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities (omitted when stratifying by this variable), and number of psychiatric comorbidities (omitted when stratifying by this variable).

Supplemental Figure 3. Prevalence of labor market participation two years after subarachnoid hemorrhage and propensity score-weighted differences and ratios compared with age-, sex-, and calendar-year-matched individuals from the general population in patient subgroups.



Abbreviation: PS, propensity score.

Propensity score weights calculated based on the following covariates: age (omitted when stratifying by this variable), sex (omitted when stratifying by this variable), calendar period (omitted when stratifying by this variable), labor market participation at four weeks before the index date (omitted when stratifying by this variable), income level (omitted when stratifying by this variable), education level (omitted when stratifying by this variable), hypertension, dyslipidemia, ischemic heart disease, atrial fibrillation or flutter, valvular heart disease, heart failure, peripheral artery disease, venous thromboembolism, diabetes, thyroid disorder, gout, chronic pulmonary disease, allergy, ulcer/chronic gastritis, chronic liver disease, inflammatory bowel disease, diverticular disease of intestine, chronic kidney disease, prostate disorders, connective tissue disorders, osteoporosis, painful conditions, HIV/AIDS, anemias, cancers, vision problems, hearing problems, migraine, epilepsy, Parkinson disease, multiple sclerosis, neuropathies, organic disorders, substance abuse, schizophrenia, mood disorders, neurotic disorders, eating disorders, personality disorders, intellectual disabilities, developmental disorders, and behavioral disorders, anticoagulants, antiplatelets, statins, proton pump inhibitors, and antipsychotics, number of non-psychiatric comorbidities (omitted when stratifying by this variable), and number of psychiatric comorbidities (omitted when stratifying by this variable).

Supplemental Figure 4. Weekly prevalences of labor market participation, sick leave, receipt of a disability pension, voluntary early retirement, receipt of a state pension, and death among patients with a recurrent ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage and among age-, sex-, and calendar-year-matched individuals from the general population.

