Supplementary Table I: Checklist of Study-Wide Elements Essential to Describe when Reporting or Sharing Data in Studies of Stroke Genetics

Data Element	Description
Study design	Fully describe overall study design (e.g. case-control; cohort; imbedded) How were cases and controls identified and recruited?
Study population	Describe geographic area, recruitment location and method of cases and controls
Case definition	Provide definitions of IS/ICH/SAH (both clinical and radiographic components) Describe who adjudicated cases, with what data, and by what process
Control definition	Define stroke-free status Describe matching of controls to cases on sex, age, race/ethnicity. It is also preferable to match on geography and time period. Describe who adjudicated the controls, with what data, and by what process.
Consent form elements	Provide a copy of the study consent form. Additionally, describe: -allowances for data sharing with collaborators (including limitations by facility or country) and into data repositories. -whether investigators offered to return main or incidental findings to patients, and if so, using what process? -whether the genetic sample or data is allowed to be used in future studies and if so, for what purposes? If any of the above items are patient-level options in the consent form, provide the specific responses in the case report form by subject.
Sample Transfers	See companion paper[1] for discussion of Material Transfer Agreements between facilities when sharing samples.
Risk factors	Provide definitions of all risk factors, using standardized definitions Individualize risk factors collected if necessary for unique populations (e.g. pediatrics) Record as quantitative variables wherever feasible and possible
Neuroimaging	Provide information on all MR parameters, including diffusion gradients and fractional anisotropy Provide imaging data for centralized adjudication
Data Timepoints	Provide recruitment dates, inclusive, for both cases and controls Provide the timepoints relevant to the index stroke (for cases) or enrollment (for controls) that outcomes data is measured in the study overall -Recommended early timepoints: 24 hours, 7 days or at discharge (whichever is earlier) -Recommended late timepoints: 3 mo preferred; 6 and 12 months are also options

Acronyms: ICH: intracerebral hemorrhage; IS: ischemic stroke; MR: magnetic resonance; SAH: subarachnoid hemorrhage

[1] Battey TWK, Valant V, Kassis SB, Kourkoulis C, Lee C, Anderson CD, et al. Recommendations from the International Stroke Genetics Consortium, part 2: Biological sample collection and storage. *Accepted to Stroke*. 2014

Supplementary Table II: Checklist of Minimal and Preferred Patient-Level Data Elements to Collect in Studies of Stroke Genetics

Data Type	Data Element	Definitions or Comments	Minimal	Preferred
Consent Form Elements	Data sharing	Are there limits on sharing with certain types of investigators? Is sharing with other countries allowed?	x	
	Future uses	Which patients allow their data to be used in future studies and what uses are allowed?	x	
	Return of information	Which patients prefer to have main or incidental findings returned to them?	x	
	Person providing consent	Specify if case, LAR, or other method		x
Subject Demographics	Case or control status		x	
	Year of birth		x	
	Sex	Male / female	x	
	Race/ethnicity	Self-reported; categories will depend on population sample; provide definitions of categories		x
	Height, weight			x
	Date of biosample draw		x	
	Age at or date of assessment of case vs control status			x
	Age at or date of incident stroke	If case	x	
	Age at or date of prior stroke(s)	If case; specify for each whether IS, ICH, SAH		x

	Age at or date of recurrent stroke(s) or other follow-up events	Specify for each whether IS, ICH, SAH		x
	Last follow-up date	For cases and controls		x
Vascular Risk factors	Hypertension	Confirmed by the patient or medical record		
	Diabetes mellitus	Confirmed by the patient or medical record		x
	Atrial fibrillation / flutter	Confirmed by the patient or medical record		x
	Dyslipidemia	Confirmed by the patient or medical record		x
	Family history of stroke	In 1st degree relative; specify IS, SAH, or ICH; specify if early stroke (<55 years old)		x
	Coronary artery disease	Confirmed by the patient or medical record		x
	Peripheral artery disease	Confirmed by the patient or medical record		x
	Obesity	Body mass index		x
	Cardiac valvular disease	Specify valve		x
	Carotid artery stenosis	Record percent stenosis, imaging method (e.g. angiography, Doppler ultrasound) and method of determination (e.g. European Carotid Surgery Trial, North American Symptomatic Carotid Endarterectomy Trial)		x
	Pregnancy	Not applicable / not pregnant; pregnant (note trimester or week of pregnancy); 0-12 weeks post-partum		x
	History of IA	For cases of aSAH and IA studies, record:		x

		Personal and family history of IA/SAH and aneurysms in other vascular beds; IA location and both ruptured and unruptured IA status Presence of IA-associated syndromic conditions		
	Tobacco	Record mode of use (e.g. cigarettes, cigars, pipes) and classify as current (≥1 cigarettes / day within 90 days), former (≥1 cigarettes / day for at least 90 days but none in last 90d), or never Investigators can also record usage as number of packs per year and specify date of last use Smokeless tobacco requires separate definitions in populations with high usage		x
	Alcohol	Specify as current vs. past use (specify date of last use); daily (number of drinks per day) vs. binge use (over 5 drinks per occasion); quantify amount per day of drinking; use standard volumes for units		x
	Recreational drugs	Specify type and frequency		x
Stroke Phenotype	IS Subtype	TOAST	x	
		Causative Classification System / ASCO Phenotypic System		x
	IS Severity	NIHSS or SSS		x
	ICH Location	Deep (originating from the deep gray structures - thalamus, basal ganglia, internal capsule, periventricular)	x	
		Lobar (cortical and/or immediately subcortical white matter distinct from the deep structures cited under deep ICH)	x	
		Brainstem	x	
		Cerebellum	x	
		Primary IVH (hemorrhage originating from and mainly limited to ventricles)	x	
		Single (where deep vs. lobar localization cannot be distinguished)	x	

		Multiple (multiple, distinct ICH's in both deep and lobar locations)	x	
	ICH Severity	GCS	x	
		FUNC or ICH score		x
	ICH Size	<30cc, 30-60cc, or >60cc	x	
		Cubic centimeter (ABC/2 method)		x
	SAH Subtype	Aneurysmal (berry or fusiform)	x	
		Intracranial dissection		
		Perimesencephalic with IA		
		Cortical without structural cause		
	SAH Severity	Hunt and Hess or WFNS	x	
		Hemorrhage volume: Fisher or Hijdra scales		x
	IA Description	Aneurysmal rupture status (ruptured / unruptured)	x	
		Mutiplicity (solitary / multiple)		x
		Posterior / anterior or specific artery		x
		Minimum diameter of largest aneurysm		x
		IA treatment modality, delayed cerebral ischemia, re-bleeding, neurologic outcomes		x
Outcomes Measures	Mortality	Date of death	x	
		Cause of death		x
	Neurologic deterioration	In-hospital, measured by NIHSS		x
	Recurrent stroke	Record date and stroke subtype		x
	modified Rankin Score	At all timepoints chosen	x	

	Barthel Index			x
	Glasgow Outcome Scale			x
	Functional Independence Measurements			x
	Hemorrhagic Transformation of IS	Classify by subtype: hemorrhagic infarction without space-occupying effect (HI-1 or HI-2) or parenchymal hematoma with mass effect (PH-1 or PH-2)		x

Acronyms: BMI: body mass index; IA: intracranial aneurysm; ICH: intracerebral hemorrhage; IS: ischemic stroke; IVH: interventricular hemorrhage; LAR: legally authorized representative; NIHSS: National Institutes of Health Stroke Scale; SAH: subarachnoid hemorrhage; SSS: Scandinavian Stroke Scale; TOAST: Trial of ORG 10172 in Acute Stroke Treatment; WFNS: World Federation of Neurosurgical Societies

Supplementary Table III: Imaging Recommendations in Studies of Stroke Genetics

	Minimal	Preferred
Acute IS	CT	MRI: T2, FLAIR, DWI, ADC
Chronic IS	CT	MRI: T2, FLAIR, DWI
Lacune of presumed vascular origin	CT	MRI: T1, T2, FLAIR
Perivascular spaces	MRI: T2, FLAIR	
White matter hyperintensities of presumed vascular origin	CT	MRI: T2, FLAIR
Spontaneous ICH	CT	MRI T1, T2* (GRE or SWI)
Spontaneous SAH	CT	MRI T1, T2* (GRE or SWI)
Hemorrhagic transformation of IS	CT	MRI: T2* (GRE or SWI)
Cerebral microbleeds, petechial hemorrhage	MRI: T2* (GRE or SWI)	
Vascular malformations and aneurysms	CTA, MRA, or digital subtraction angiography	

Acronyms: CT: computed tomography; CTA: CT angiography; FLAIR: fluid attenuated inversion recovery; GRE – gradient echo; ICH: intracerebral hemorrhage; IS: ischemic stroke; MRA: MR angiography; SAH: subarachnoid hemorrhage; SWI – susceptibility weighted imaging; WMH: white matter hyperintensities