Supplementary Figure 1 Flow diagram illustrating the process used in the linkage of the data.

Supplementary Table 1: Summary of variables and data sources for pre-hospital/hospital/outcome data linkage project

Note that the index event is identified in AuSCR as the trusted source of confirmed stroke/TIA and from which the long-term outcome data are reliably obtained. AuSCR personal identifier variables, as relevant for matching records that can be used for linkage, will be submitted to Ambulance Victoria and the Victorian Data Linkage Unit as indicated in the first row of variables below. Where similar or the same variables are found in content datasets these can be used to validate the quality of information.

Ambulance Victoria variables	Australian Stoke Clinical Registry (AuSCR) variables
Personal identifiers used for the linkage and removed after linkage except a project ID	
First name, surname, address postcode, date of birth, sex, hospital name/code, hospital arrival date and time, Medicare number.	First name, surname, address, date of birth, sex, hospital arrival date and time, admission and discharge dates, ICD10 discharge codes, hospital unit record number, Medicare number
Content data that will be linked to a project ID for each patient and merged into a de-identified dataset for analysis	
Patient characteristics	*Data obtained in hospital*

- Age, sex
- Address local government area

Episode information
- o Case date/time
- o Case number
- **000 Triage/Diagnosis**
  - o AMPDS Event Type (final)
  - o Response Code
  - o Referral Service Triage Outcome
  - o Referral Service Guidline

Patient characteristics
- Age, sex, ethnicity, preferred language, aboriginal or Torres Straight Islanders status
- Stroke type
- Stroke onset time and date
- Postcode of residence to determine socioeconomic status and local government area
- Ability to walk on admission
- National Institutes of Health Stroke scale score (stroke severity)
- Transfer or inpatient stroke
- Arrived by Ambulance

Ambulance Victoria variables	Australian Stoke Clinical Registry variables

- o **Vehicle Type**
  - ▪ Emergency Ambulance
  - ▪ HEMS
  - ▪ Non-emergency
- o **Highest Skill set**
  - ▪ MICA/ALS
- o **Teams**
- **Paramedic Diagnoses**
  - o Final Assesment
  - o Case Nature
  - o Case description
  - o Categorised <6 hours, > 6 hours
  - o Date/Time of onset un/known (we take from text fields)
  - o Date/time Last seen well un/known (we take from text fields)
  - o MASS completed
  - o Pain scores (initial final)
- **Paramedic Managements**
- **Pre-notification to hospital**

Clinical care processes (quality of care indicators in hospital)
- Management in a stroke unit
- Treated with thrombolysis if an ischaemic stroke or endovascular clot retrieval and information about the treatment or the procedures including time provided and outcomes, where relevant
- Discharge care plan provided
- Discharge prevention medication including antihypertensives, lipids or anti platelets
- Other: swallowing assessment, oral intake or medications prior to swallow screen/ assessment, mobilised during admission

- **Location type**
- **Event location**
  - X,Y coordinates
  - Post Code
  - Local Government Area
- **Response time stamps**

- **Date/Time at location (first ambulance)**
- **Date/ Time At patient**
- **Date/Time Patient Loaded**
- **Date/Time depart scene**
- **Transport signal**
- **Patient Arrival in ED**
  - Date/Time arrival to hospital
  - Date/Time Triage
  - Date/Time off stretcher
  - Date/Time departure

Calculated intervals:
  - Response time
  - Scene time
  - Transport time
  - Triage time
  - Off stretcher time
  - Hospital time
  - Case time

Destination name (hospital)

Ambulance Victoria variables	Australian Stoke Clinical Registry variables
Within 180 days of stroke admission (as defined in AuSCR) • Additional transport and type, local government area, hospital destination, dates and times, 000 diagnosis, response codes, final assessment	**Long term outcomes 90-180 days post admission** • Survival status: death date and cause of death • Current residence • Readmission since discharge o Date readmission

- o Reason readmission
- o Other stroke / TIA

Disability

- o Modified Rankin score
- o EQ5D for quality of life

AuSCR, Australian Stoke Clinical Registry; ICD10, International Classification of Diseases, 10th Edition; AMPDS, Advanced Medical Priority Dispatch System; HEMS, helicopter emergency medical service; MICA, intensive care paramedic; ALS, advanced life support; MASS, Melbourne Ambulance Stroke Screen tool; TIA, transient ischaemic attack.