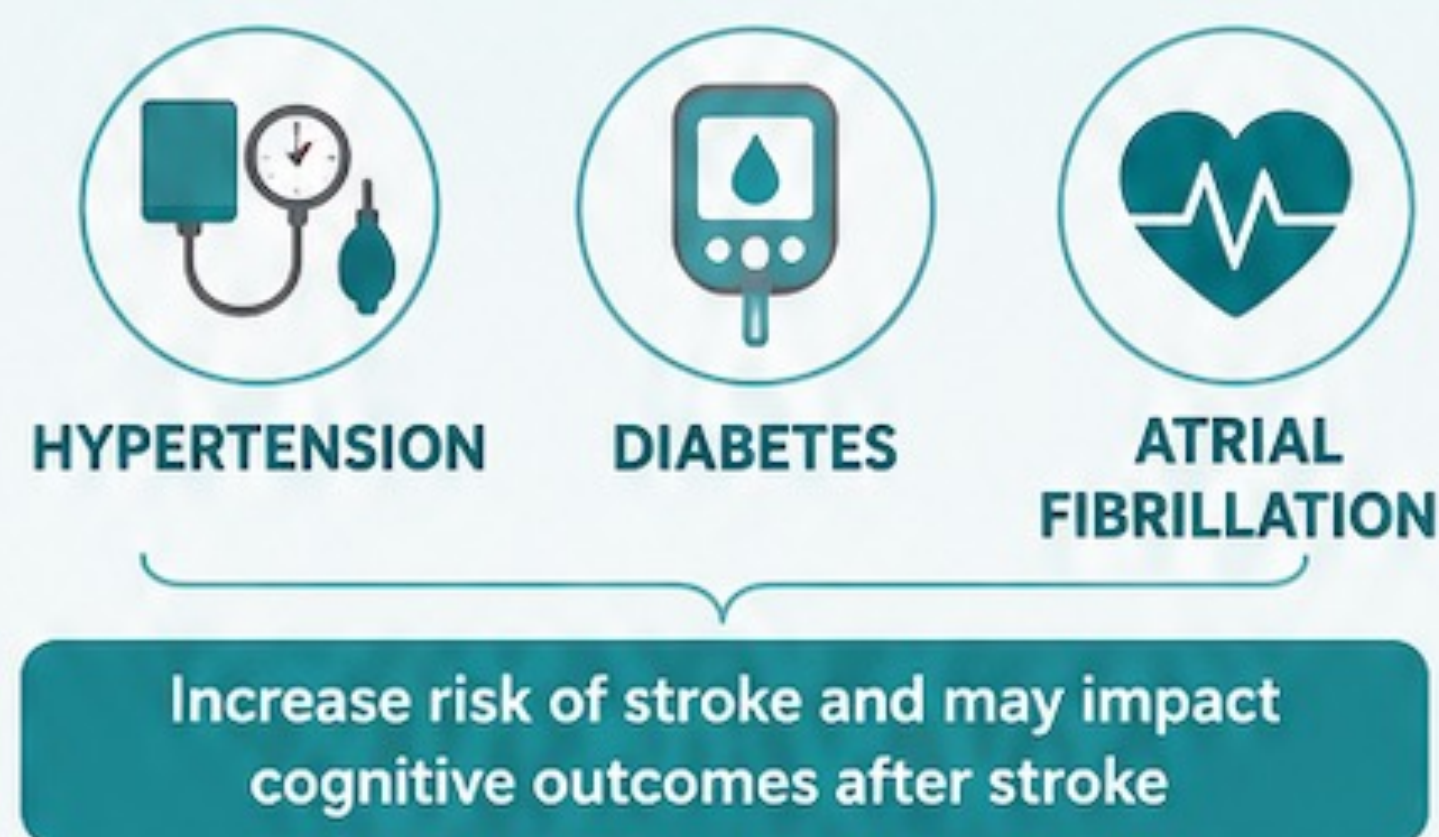


Background:

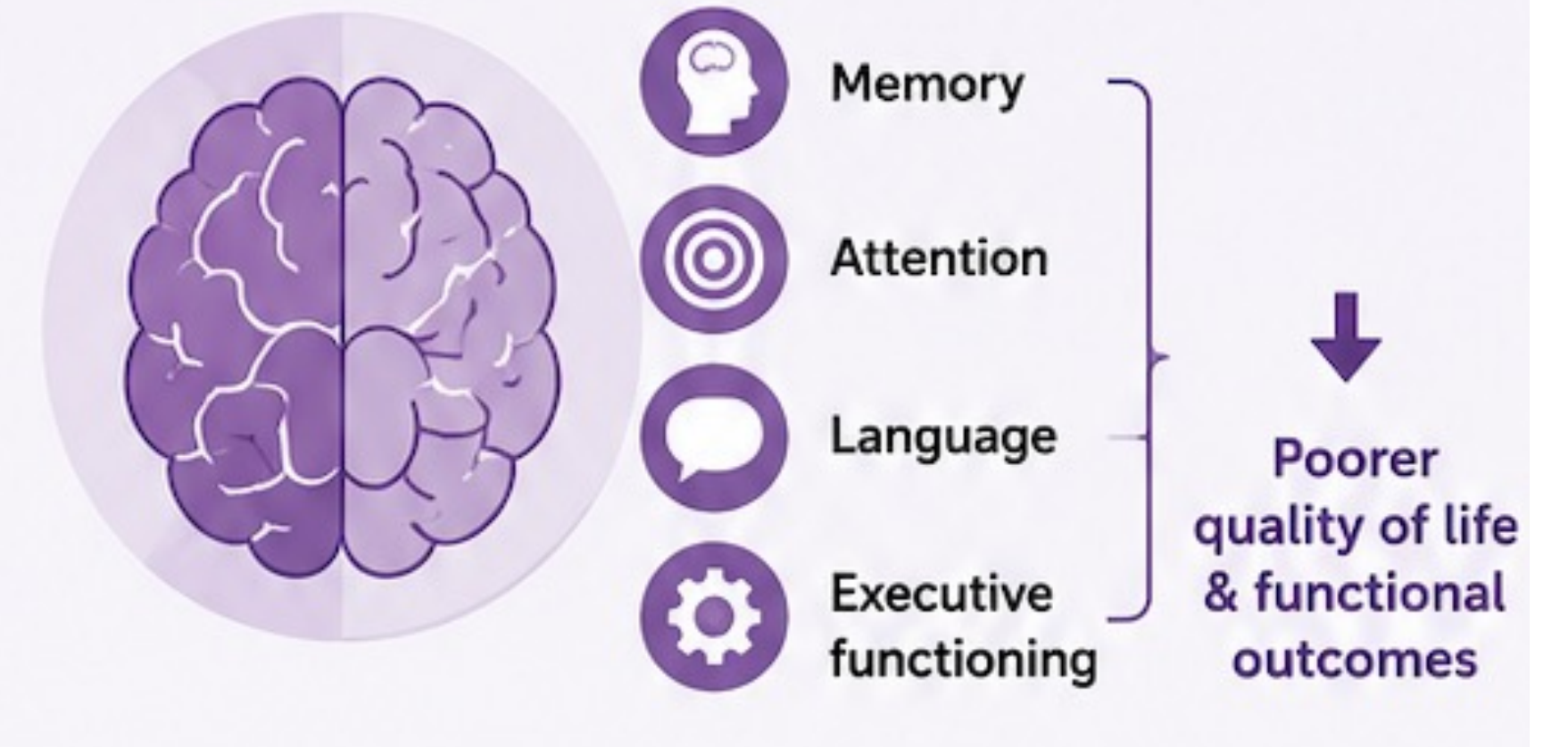
CARDIOVASCULAR RISK FACTORS (CVFs)

Cardiovascular risk factors (CVFs), including hypertension, diabetes and atrial fibrillation, are established risk factors for stroke and may also influence cognitive outcomes following stroke. [5, 6]



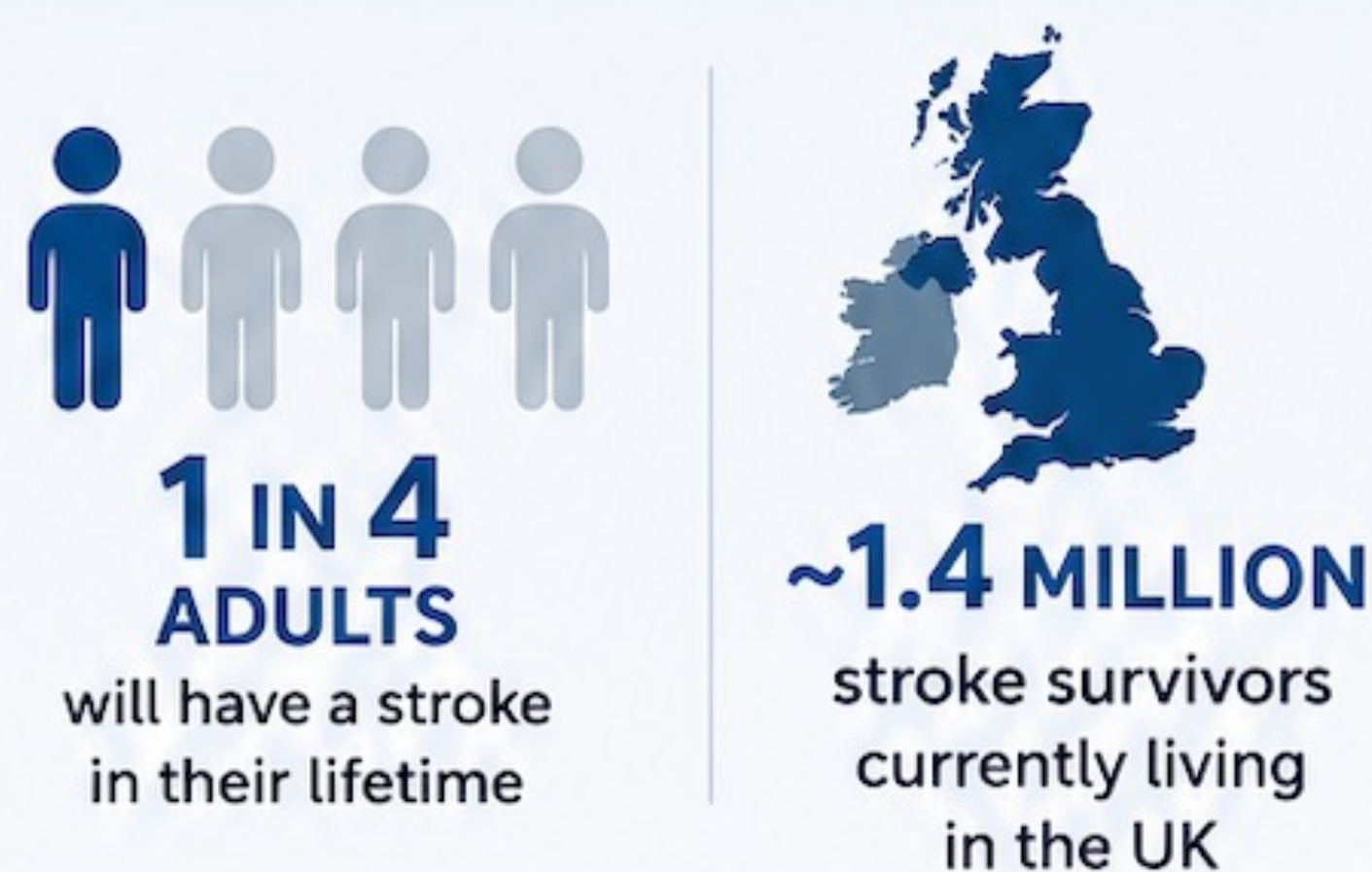
POST-STROKE COGNITIVE IMPAIRMENT (PSCI)

PSCI can affect multiple cognitive domains, including memory, attention, language and executive functioning, and is associated with poorer quality of life and functional outcomes. [3, 4]



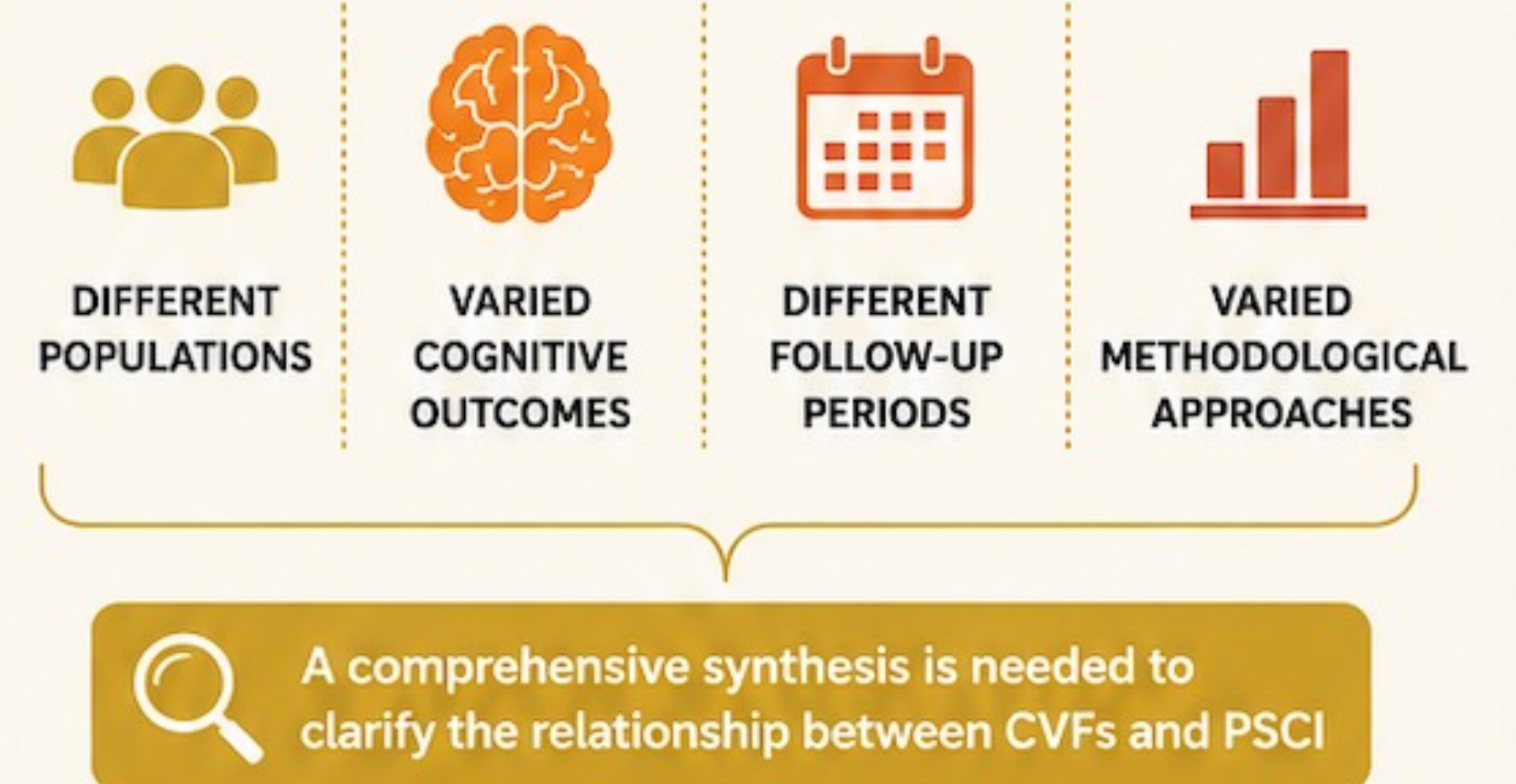
A MAJOR GLOBAL AND UK HEALTH BURDEN

Stroke is a major global and UK health burden, with approximately **1 in 4 adults** expected to experience a stroke during their lifetime and around 1.4 million stroke survivors currently living in the UK. [1,2]



EVIDENCE REMAINS HETEROGENEOUS

However, evidence regarding the relationship between cardiovascular risk factors and PSCI remains heterogeneous, with differences in study populations, cognitive outcomes, follow-up periods and methodological approaches. This highlights the need for a comprehensive synthesis of the available evidence. [7]



Pre-Registered Method

MEDLINE, PubMed, Scopus, PsychINFO, EMBASE, and CINAHL were systematically searched and then screened by two independent reviewers for articles that met the following criteria.

Eligibility:

- Adults (aged 18 or over) with stroke.
- Primary peer-reviewed studies
- Studies examining both cardiovascular risk factors and post-stroke cognition
- Human studies
- Published in the English language
- Excluded case reports, ongoing studies and non-peer-reviewed literature

Quality Assessment:

- Newcastle-Ottawa Scale (NOS)

Data Analysis:

- Random-effects meta-analysis where appropriate.
- Standardised Mean Differences (Hedges' g).
- Narrative synthesis if meta-analysis is not feasible.

Cardiovascular Risk Factors:

- Hypertension
- Diabetes mellitus
- Atrial fibrillation
- Dyslipidaemia
- Smoking
- Obesity
- Physical inactivity
- Heart disease

Please scan for PROSPERO registration.



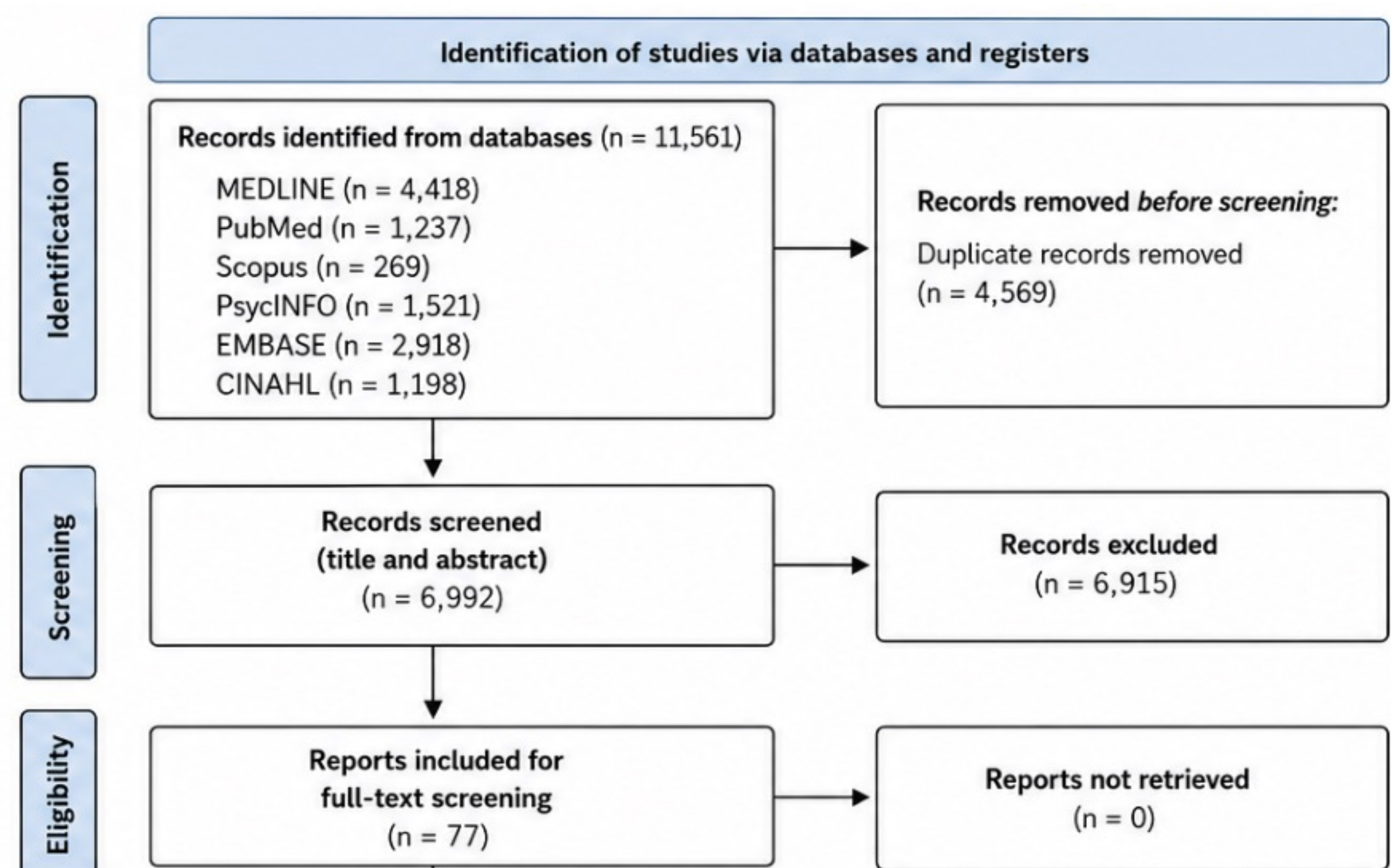
Aim:

- To systematically review and meta-analyse the relationship between cardiovascular risk factors and post-stroke cognitive impairment, exploring both global cognition and individual cognitive domains.

Why is this review important?

- PSCI is a major determinant of long-term recovery after stroke
- Identifying modifiable cardiovascular risk factors may improve prediction of cognitive outcomes.
- Finding may support earlier intervention, targeted rehabilitation and personalized stroke care.
- Results will identify gaps in the evidence to inform future research.

Preliminary Results



References:

[1] Feigin et al (2022) <https://doi.org/10.1177/17474930211065917>
[2] Stroke Association (2019) <https://www.stroke.org.uk/stroke/statistics>
[3] Stolwyk et al (2024) <https://doi.org/10.1007/s11065-024-09635-5>

[4] Stoleyk et al (2021) <https://doi.org/10.1161/STROKEAHA.120.032215>
[5] Filler et al (2024) [https://doi.org/10.1016/S2666-7568\(23\)00217-9](https://doi.org/10.1016/S2666-7568(23)00217-9)
[6] Aam et al (2021) <https://doi.org/10.3389/fneur.2021.678794>

[7] Obaid et al (2020) <https://doi.org/10.1136/bmjopen-2020-037982>