

Subjective cognitive decline-plus features and risk of conversion in a community-based cohort with up to 16 years of follow-up

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Background

- **SCD** is considered an early stage preceding objective cognitive impairment.
- **SCD-plus** criteria aim to identify individuals at higher risk of progression.
- Previous studies mainly involved **memory clinics or high-risk cohorts** with **short follow-up**.

Aim Evaluate which SCD-plus features predict progression to MCI or dementia in a **low-risk, community-based cohort** followed for **up to 16 years**.

Methods

409 cognitively normal aged ≥ 50 years *Brain Aging Network for Cognitive Health (BrANCH)* cohort (2009–2023) (**Table**)

Predictor:

- 39-item **Everyday Cognition (ECog)** questionnaire
- Self- and informant-reported concerns

Outcome: Consensus diagnosis of MCI or dementia

Analysis:

- Cox proportional hazards models
- Adjusted for age, sex, education, MMSE, and Geriatric Depression Scale scores
- Sensitivity analysis including APOE genotype

Baseline	N = 409
Age, y	71 (66, 75)
Female (%)	222 (54.3)
Education, y	18 (16, 19)
F/U time, y	7.27 (4.34, 11.41)
Race (%)	
White	366 (89.5)
Asian	27 (6.6)
Black	5 (1.2)
Global CDR ^a	
0	392 (98.5)
0.5	6 (1.5)
Converted (%)	55 (13.4)

Table Baseline characteristics of the study population.

Note: Unless specified, values are presented as median (interquartile range) Abbreviations: CDR, clinical dementia rating; F/U, follow-up.
^a 6 individuals (1.5%) with a global CDR of 0.5 had normal neuropsychological test and received a baseline diagnosis of cognitively unimpaired

Refining SCD-plus for community populations may improve early identification of future cognitive decline.

Results

- **Baseline age** was the strongest predictor of conversion.
- **Age ≥ 65 years** predicted progression better than the traditional **≥ 60 -year SCD-plus cutoff**.
- **Any consistent cognitive symptom** (ECog ≥ 3) or **reported symptom** (ECog ≥ 2) was more predictive than average ECog scores.
- Only the **self-reported memory domain score** predicted future impairment.
- **Self-reported cognitive concern** predicted conversion, **informant concern did not**.
- **Persistent self-reported global and attention complaints** predicted conversion.
- Persistent **informant-reported** complaints were **not predictive**.
- **APOE genotype** was not associated with impairment-free survival.

Discussion

- Only **selected SCD-plus features** predicted long-term cognitive decline in this **low-risk community cohort**.
- **Self-reported symptoms** were consistently more informative than informant reports.
- SCD-plus criteria may require **population-specific refinement** rather than universal application.
- Findings can inform **screening strategies** and **preclinical intervention trials**.
- Harmonization of SCD-plus should consider both the **target population** and the **feasibility of measuring individual features**.

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Figure Results of Cox proportional hazards models. Hazard ratios are shown for baseline ECog scores reported by the participant (self), informant, or both. In Panel A, the left plot displays hazard ratios per standard deviation increase in average domain scores; for the combined measure, scores represent the sum of self- and informant-reported ECog. The middle and right plots in Panel A show hazard ratios for the presence of any item within a domain scored as consistent (≥ 3) or reported (≥ 2), respectively. Panel B shows hazard ratios for the presence of cognitive concern reported by the participant and/or the informant (N refers to all participants with available data). In participants with longitudinal ECog data, Panel C presents hazard ratios for persistent ECog symptoms, defined as individuals whose slope and intercept from linear mixed-effects models were at or above the 50th percentile.

