

## Appendix 1: objectives and validation criteria of frailty diagnostic tools

Diagnostic tool	Objective	Main Validation Criteria
Clinical Frailty Scale [30]	To validate the Clinical Frailty Scale by following those persons who remained alive 5 years after CSHA-2 (1299/ 2305 [56.4%]). Follow-up vital and domicile status (living in the community or in an institution) was known for all 2305 participants who did not have dementia at the time of CSHA-2, of whom 249 had entered an institutional facility between CSHA-2 and -3.	To follow a cohort prospectively; after 5 years, to determine the ability of the Clinical Frailty Scale to predict death or need for institutional care, and correlated the results with those obtained from other established tools.
Edmonton Frail Scale [15]	To develop and test a brief and user-friendly screening interview for frailty in seniors commonly encountered by geriatricians in both the inpatient and outpatient settings.	To assess validity of frailty measure compared to the clinical impression of geriatric specialists after their more comprehensive assessment
Frail Scale Status [16]	To demonstrate the predictive validity of the FRAIL scale in persons who do not have basic activities of daily living (ADL) deficits (no difficulties or no dependencies) at baseline to explore the robustness of the FRAIL scale to screen adults at risk of bad outcomes.	The associations of FRAIL scale scores categorized as frail or pre-frail (versus healthy) were examined with poor outcomes on the following measures: ADL difficulties, instrumental activities of daily living (IADL) difficulties, short physical performance battery (SPPB), gait speed, one-leg stand test, grip strength, injurious falls, laboratory tests, and mortality.
Frailty index [17]	To present a detailed, step-by-step procedure to describe which potential variables can be included in a frailty index, and how to establish cut-points for continuous variables.	The frailty index reveals how frailty, understood as a vulnerability state with an increased risk of adverse outcomes (mortality), can be quantified
Frailty phenotype [7]	To develop and operationalize a phenotype of frailty in older adults and assess concurrent and predictive validity. The study used data from the Cardiovascular Health Study	Annual examinations and surveillance for outcomes including incident disease, hospitalization, falls, disability, and mortality.
Groningen Frailty Indicator (GFI)	A cross-sectional study design was used to evaluate the structural validity and criterion validity of the GFI questionnaire in older adults aged 65 years and older	To establish criterion validity of the observed GFI subscales. The GFI subscales were compared to related reliable and valid scales considered to be gold standards of the individual dimensions (De Jong Gierveld Loneliness Scale, Hospital Anxiety Depression Scale, physical functioning subscale of the RAND-36, and perceived general health item of the EuroQoL-5D).
Sega grid [21]	To obtain a frailty risk profile and provide a report of issues and factors likely to influence the functional decline.	To propose actions to reduce frailty.
Share Frailty Instrument [22]	To assess whether those five SHARE variables approaching Fried's frailty phenotype had	Mortality was measured for prospective validation.

internal validity on their own and could be statistically

summarized in a single factor with three underlying

latent classes (i.e. non-frail, pre-frail and frail), with

appropriate biopsychosocial correlates and predictive

validity

Strawbridge questionnaire [23]

To assess predictors and prevalence of frailty in community-dwelling sample of older persons.

Frailty on the Strawbridge score correlated with 3-year adverse outcomes.

Tilburg Frailty Indicator [23, 24]

To assess the reliability, construct validity, and predictive (concurrent) validity of the Tilburg Frailty Indicator (TFI), a self-report questionnaire for measuring frailty in older persons.

The predictive validity for frailty was investigated by performing linear regression and receiver operating characteristics (ROC) analyses...The ROC analyses were applied to criteria of adverse outcomes: disability and health care utilization

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