Table 4. Characteristics of included studies – Identificatie van kwetsbaarheid bij ouderen

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
Van Dam (2021)	N at baseline 889 Age (mean, IQR) 78 (73-83) years Sex (n, %): Male: 467 (48%) Katz Index of Independence in Activities of Daily Living score (median, IQR): 0 (0-1) Living situation (n, %): - home without home care: 463 (52%) - home with home care: 367 (41%) - other: 59 (7%)	Index instrument: **VMS** Outcome: composite outcome of functional decline, mortality and institutionalization Index instrument: **APOP 2016 (for functional decline or mortality)** Outcome: composite outcome of functional decline, mortality and institutionalization Index instrument: **APOP 2016 (for mortality)** Outcome: composite outcome of functional decline, mortality and institutionalization Index instrument: **ISAR-HP** Outcome: composite outcome of functional decline, mortality and institutionalization	3 months after presentation on the emergency department	Discrimination: AUC-ROC Calibration: Calibration plots	Hospital (country): Amsterdam UMC, location VUmc and Amstelland Hospital (Netherlands) Validation study (external validation) "In total, 1,601 patients were screened for eligibility, and 712 were excluded. Most patients (n.404) were excluded because no informed consent was given, often due to the absence of a caregiver who could provide consent when the patient was too ill or confused. The exact number of patients with informed consent by proxy was not noted. Furthermore, 134 patients were unapproachable, according to the medical staff at the ED (eg, patients who had just received bad news or patients in extreme pain). An additional 96 were excluded due to their limited length of stay at the ED (these were patients who were admitted to the hospital	High

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
	Charlson Comobidity Index (median, IQR): 5 (4-6) Event rate after 3 months (n, %): Composite outcome: 267 (31%) (missing n=36) Mortality: 76 (9%) (missing n=36) Functional decline: 123 (15%) (missing n=36) Institutionalization: 112 (13%) (missing n=36)	In general: "Functional decline was defined as an increase of 1 or more points in Katz Index of Independence in Activities of Daily Living Score compared with baseline." "Institutionalization: The patient was considered institutionalized if he or she lived at home during baseline but had to stay elsewhere during follow-up (e.g. In a nursing home, rehabilitation center or contemporary health institute)" "Mortality was extracted from the electronic health record."			or transferred to different hospitals before the researcher could approach them). No reason of exclusion was reported for 11 patients." "During this study, the APOP consortium released an optimized version. At that time, we had already assessed patients using the first version; therefore, we decided to continue with this version. The optimized version consists of nearly the same variables and shows comparable predictive properties."	

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
Schuijt (2020)	N at baseline 249 Age (median, IQR) 80 (75-86) years Sex (n, %): Male: 153 (61%) Katz Index of Independence in Activities of Daily Living score (median, IQR): 1 (0-2) Living situation (n, %): - living in an institutional care facility: 35 (14%)	Index instrument: **VMS** Outcome: composite outcome of functional decline and mortality In general: "functional decline, defined as a one-or-more point loss of KATZ-ADL" "90-day mortality was determined by consulting the municipal civil registry."	90 days after presentation on the emergency department	Discrimination: AUC-ROC Calibration: Not reported	Hospital (country): Gelre Hospital Apeldoorn (Netherlands) Validation study (external validation) "During the study period, 1203 eligible patients presented to the ED, 379 of whom presented within inclusion hours. A total of 112 patients were excluded. Due to a software error in data registration, 18 subjects had to be excluded because their VMS data was incomplete."	High

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
	Diagnosed with dementia (n, %) 19 (8%) Number of different medication (median, IQR): 5.5 (3-8) Event rate after 3 months (n, %): Composite outcome: 84 (39%) (missing: 32) Mortality: 30 (12%) Functional decline: 54 (29%) (missing: 62)					

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
De Gelder (2018)	N at baseline 2629 LUMC: 751 Alrijne: 881 HMC Bronovo: 498 Erasmus MC: 499 Age (mean, IQR) 79 (74-84) years Sex (n, %): Male: 1236 (47%) Katz Index of Independence in Activities of Daily Living score (median, IQR): 0 (0-1) Living situation (n, %): - Independent with others: 1421 (54,1%)	Index instrument: **APOP 2018 (for functional decline or mortality)** Outcome: composite outcome of functional decline and mortality In general: "Functional decline was defined as at least one point increase in Katz ADL score or new institutionalization (e.g. nursing home admission)." "Data on mortality were obtained from the municipal records."	90 days after visiting the emergency department	Discrimination: AUC-ROC Calibration: Calibration plots	Hospital (country): LUMC, Leiden; Alrijne Hospital, Leiderdorp; Haaglanden Medical Center, The Hague; Erasmus MC, Rotterdam (Netherlands) Development and validation study (internal-external validation design: Steyerberg, 2016) "A total of 3544 individual patients aged 70 years and older visited the emergency departments (EDs) of the four hospitals combined during the inclusion of the study period. Of those, 3147 were eligible for inclusion in the APOP study. In total 2629 patients were included (84% of the eligible patients)"	High

Study	Participants	Instrument	Follow-up	Outcome measures	Comments	Risk of bias (per outcome measure)*
	- Independent alone: 991 (37.7%) - Residentional care or nursing home: 216 (8.2%) Impaired cognition (n,%): 492 (20.5%) Event rate after 3 months (n, %): Composite outcome: 805 (30.6%) (missing 139, 5.3%) Mortality: 259 (9.9%)					

For further details, see risk of bias table in the appendix