

Appendix 1

Table S1

Posterior Probability of Assignment (PPA) of the 4-Group Joint Trajectory Models of Cognition and Frailty

Assigned Trajectory Group Based on the Maximal PPA*	Average PPA According to the 4 Fitted Joint Trajectory Groups			
	No Cognitive Frailty	Slow Cognitive Decline and Progressive Frailty	Rapid Cognitive Decline and Progressive Frailty	Cognitive Frailty
No cognitive frailty	.92	.08	.004	.00
Slow cognitive decline and progressive frailty	.04	.90	.06	.001
Rapid cognitive decline and progressive frailty	.001	.08	.91	.01
Cognitive frailty	.00	.001	.04	.96

*Based on the maximal PPA, a person was assigned to different joint trajectory groups. Bolded values represent the average PPA for those with maximal PPA for a specific joint trajectory group.

Appendix 2

Table S2

Estimated Joint Trajectory Groups and Group-Specific Growth Parameters

	No Cognitive Frailty	Slow Cognitive Decline and Progressive Frailty	Rapid Cognitive Decline and Progressive Frailty	Cognitive Frailty
Predicted group probability (%)	27.8	45.5	20.2	6.5
Growth parameter				
Cognition (MMSE score), censored normal model				
Intercept	28.36***	27.62***	24.18***	29.60***
Linear term	-0.09	-0.02	1.00***	-5.79***
Quadratic term	0.006	-0.05*	-0.39***	0.28***
Frailty (Fried phenotype), zero-inflated Poisson model				
Intercept	-0.92***	0.59***	0.73***	0.78***
Linear term	0.16***	0.09***	0.08***	0.10***
Model fit statistics				
Bayesian information criterion	-15574.2			

MMSE, Mini-Mental State Examination.

* $P < .05$, ** $P < .01$, and *** $P < .001$.

Appendix 3

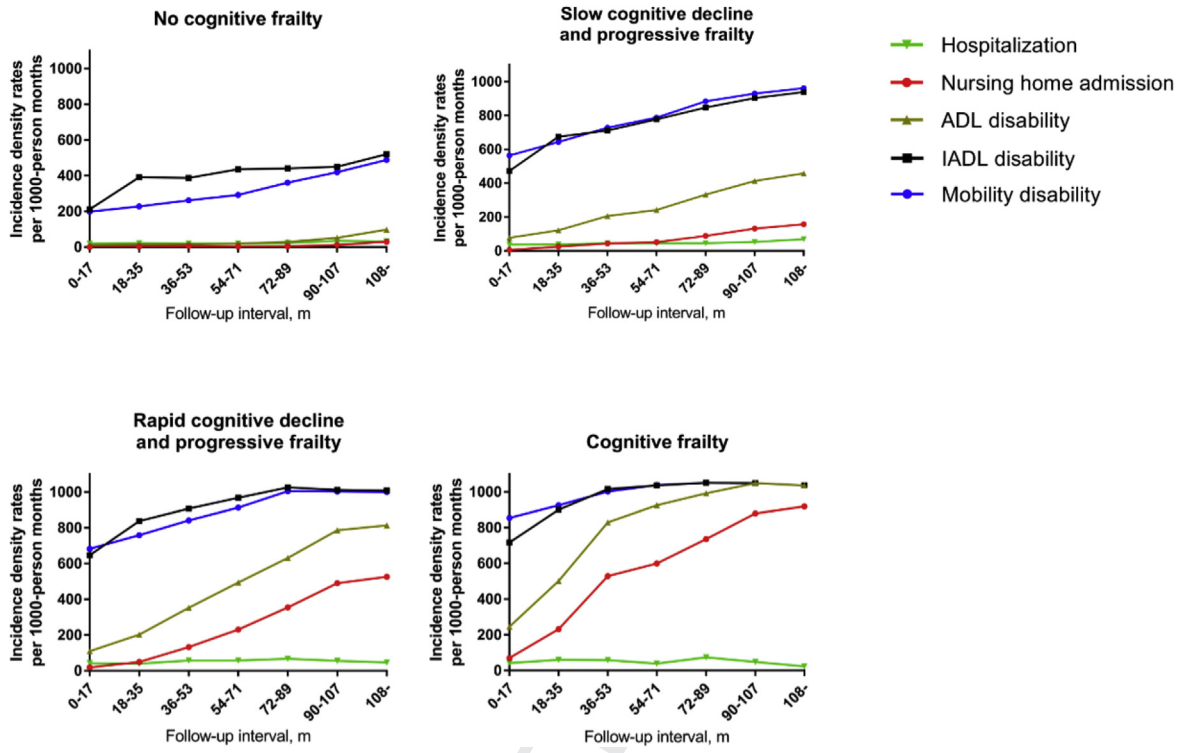


Figure S1. Observed incidence density rates of hospitalization, nursing home admission, and disability over seven 18-month intervals by the joint trajectories. Values represent observed number of events per 1000 person-months for each patient-reported outcome. ADL, activities of daily living; IADL, instrumental activities of daily living.

Appendix 4: Supplementary Material

Adjusted Rate Ratios for the Cumulative Burden of Hospitalization, Nursing Home Admissions, and Disability for 3 Joint Trajectories versus No Cognitive Frailty (Reference Group)

Based on the GEE models adjusting for the covariates age, sex, race, education, living alone, number of chronic conditions, and depression symptoms, the adjusted rate ratios (aRRs) for hospitalization were 1.9

(95% confidence interval [CI]: 1.6-2.3) for slow cognitive decline and progressive frailty, 2.1 (1.8-2.6) for rapid cognitive decline and progressive frailty, and 2.1 (1.6-2.9) for cognitive frailty, respectively. The corresponding aRRs (95% CI) for the other 3 trajectories were 7.2 (4.4-11.8), 23.5 (14.4-38.4), and 50.7 (30.5-84.1) for nursing home admission; 7.2 (5.4-9.5), 12.6 (9.5-16.7), and 20.6 (15.7-26.9) for ADL disability; 1.8 (1.6-2.0), 2.2 (2.0-2.5), and 2.3 (2.1-2.6) for IADL disability; and 2.4 (2.1-2.8), 2.7 (2.3-3.2), and 3.1 (2.6-3.6) for mobility disability.