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# Frailty and multimorbidity are independent and additive prognostic factors

## Letter to the Editor

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In an important analysis, Schoenborn et al developed life expectancy estimates that incorporated comorbidities and frailty phenotype and nicely showed that both are independent in prognostication.[1]

These important results from a large database may be further reinforced by our 18-year follow-up of septuagenarian men (n=1365) of the Helsinki Businessmen Study.[2] At baseline, we defined frailty phenotypes according to the modified Cardiovascular Health Study frailty phenotype, and multimorbidity as the prevalence of $\geq 2$ clinically meaningful diseases (coronary artery disease, stroke, peripheral artery disease, heart failure, chronic pulmonary disease [including asthma and chronic obstructive pulmonary disease], diabetes, any cancer, and musculoskeletal disease; hypertension was not included, because it can be considered a risk factor rather than a disease).[2] Kaplan-Meier analysis for all-cause mortality in each possible multimorbidity-prefrailty-frailty combination during the 18-year follow-up is shown in the **Figure**.

These curves in males emphasize the value of frailty (and prefrailty) phenotype even more than the data in females in the study of Schoenborn et al.[1] With population aging, multimorbidity/comorbidity have received much interest in medicine during recent years.[3-5] New evidence suggests that the independent and additive value of frailty should also be actively propagated, maybe especially among non-geriatricians.

**References**

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**Legend to the Figure**

Kaplan-Meier curves for each possible combination of prefrailty, frailty and multimorbidity at baseline of septuagenarian home-living men. (data adapted from Strandberg et al. Eur Geriatr Med. 2021;12(5):953-961).

Number of deaths (%) during the 18-year follow-up were 241 (55.7), 339 (67.8), 67 (81.7), 61 (72.6), 156 (77.6), and 56 (86.2) in combinations 1,2,3,4,5, and 6, respectively.