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## **Loneliness in the elderly and disease development in European welfare regions: a longitudinal study**

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Healthy ageing research has brought a recent focus on the association between loneliness and disease. Regional differences on loneliness prevalence in the elderly across welfare systems, and its association with varying mortality rates, have recently been demonstrated. We hypothesise loneliness affects disease development in the elderly, impacted by socio-economic policies that characterise welfare systems in the EU. We use logistic regression models to assess the association between loneliness (R-UCLA scale) and onset of new chronic disease and disease events, in a European sample of people aged >50 (n = 40840), using the SHARE database, during 2013 - 22 (waves 5 to 9). Preliminary results from two subsequent waves (2015-17, n = 11870) show a statistically significant effect of persistent loneliness on disease onset (increase in new disease events), when adjusting for sex, age, previous illness, and other socio-economic covariates (AOR 1.22, 95%CI 1.08-1.39, p < 0.01). Notably, comparing to the Scandinavian welfare group, only Eastern European countries show higher odds of disease development (AOR 1.52, 95%CI 1.32-1.77, p < 0.001), while also having the highest incidence of new disease in our sample. Age and welfare group show the strongest association with the outcome of interest, followed by change in occupation (no longer employed). Our current analyses span a larger period (2013-22), and we are exploring additional mediators of this effect, such as behavioural and social activity-related variables. Additional analyses to control for unrelated disease (low biological plausibility) and a social isolation index, described in the literature, are added. Furthermore, we analyse the longitudinal association between loneliness and healthcare use, such as polypharmacy and consults. With this study, we aim to contribute decision-making in health in all policies, by increasing integration between health and social sectors, while considering different regional and welfare policies.

### **Key messages:**

- Understanding socio-economic and welfare mechanisms which impact health in the elderly allows for better cross-sector policy design, promoting healthier ageing.
- Persistent feelings of loneliness affect disease development in the elderly, which appear to be worsened in some EU welfare groups, independently of socio-economic status.