Aging in spurts, declining in spurts? Nonlinear associations between age and health

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Introduction

- Ageing is a complex process that weakens the body's defenses overtime.

- Understanding its progression is critical for identifying periods where intervention might be most beneficial.

Study aim

To explore whether health and health preventive behaviours increase linearly or nonlinearly with increasing age.

Methods

Participants

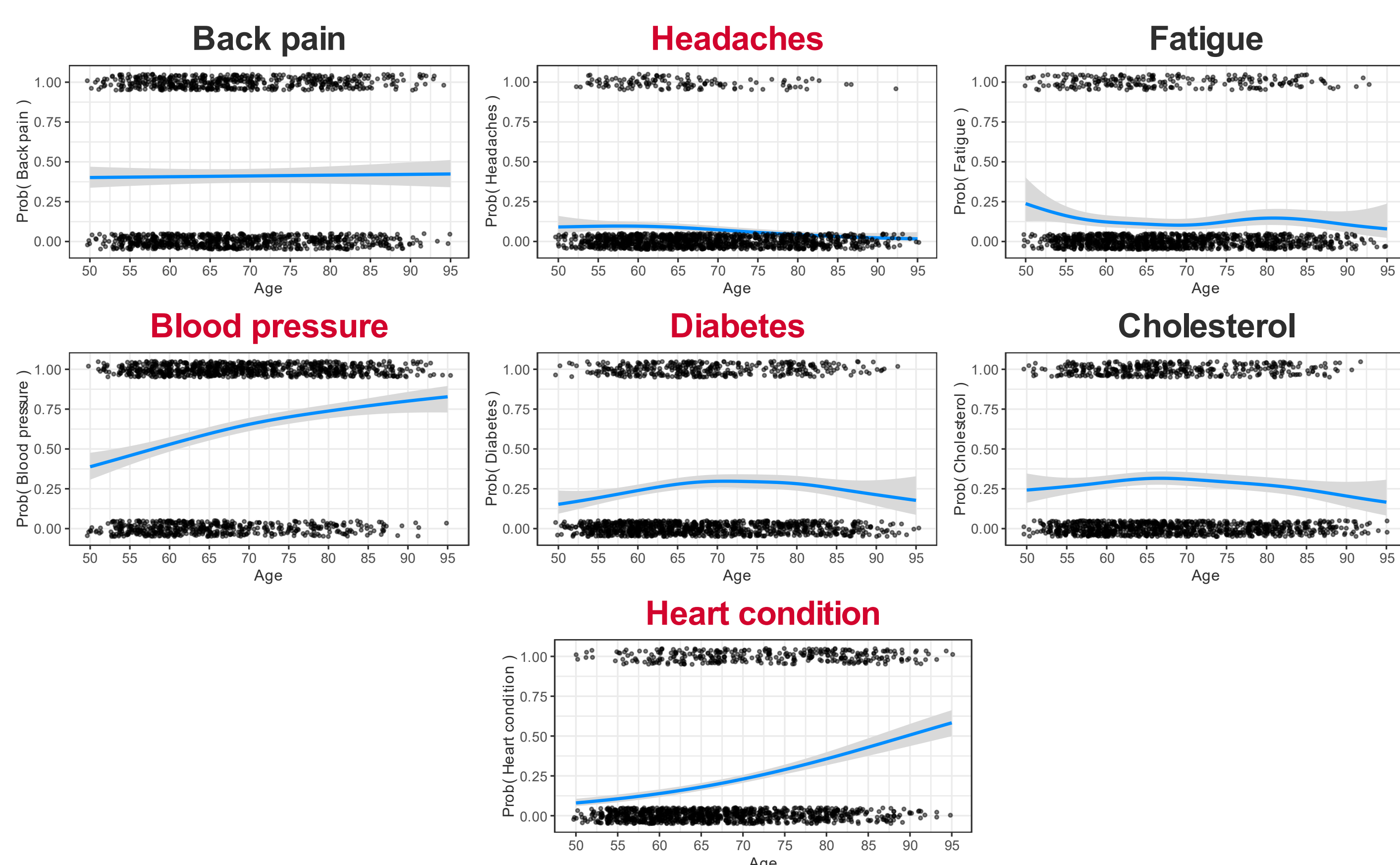- 1,338 older American adults from the 2020 wave of the HRS.

Measures

- Health problems from the HRS physical health section.

- Health preventive behaviours from the HRS health services section.

Data Analysis

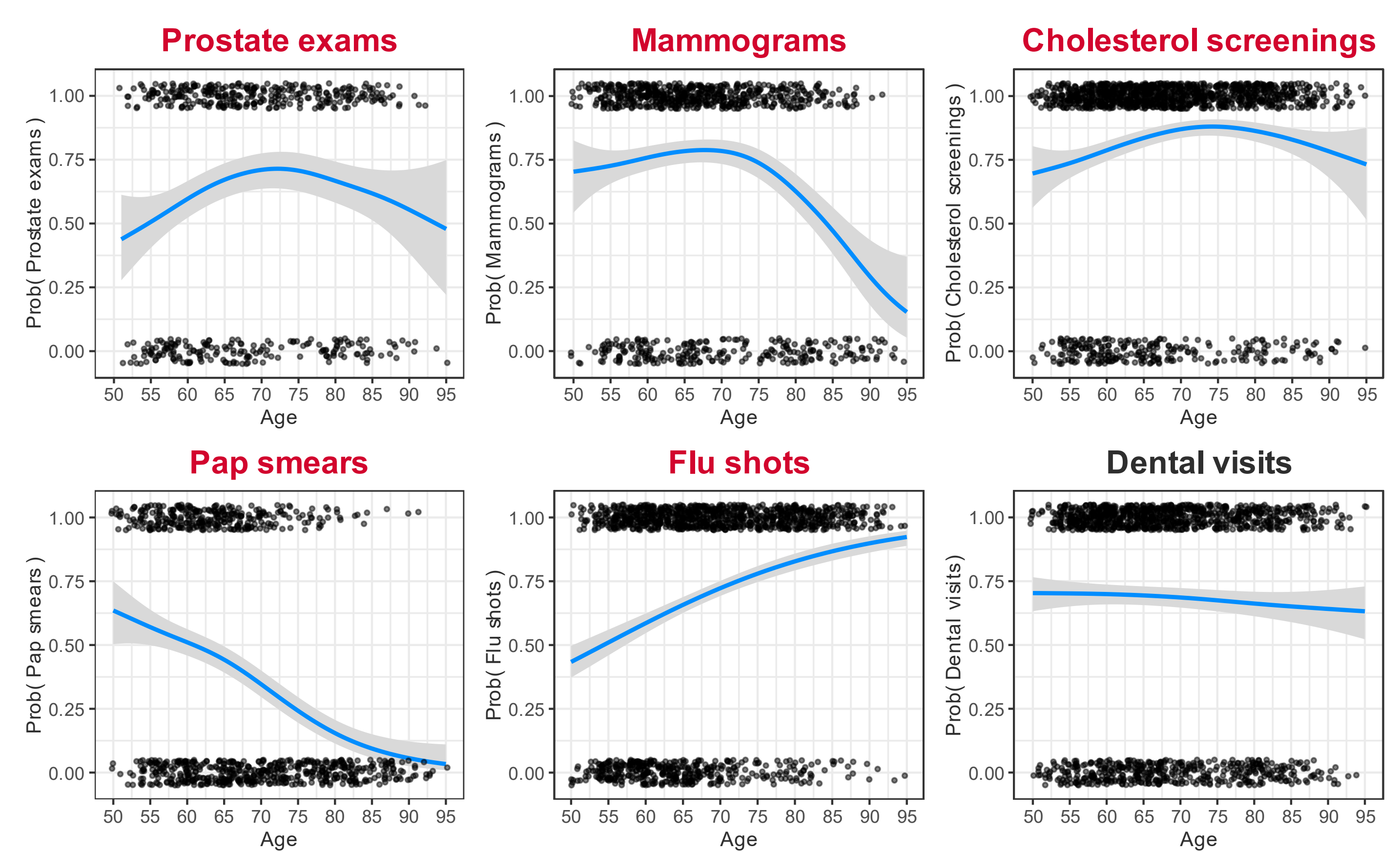- Binomial generalized additive models assessed associations between age and each response variable.

Results

Relationship between health and age

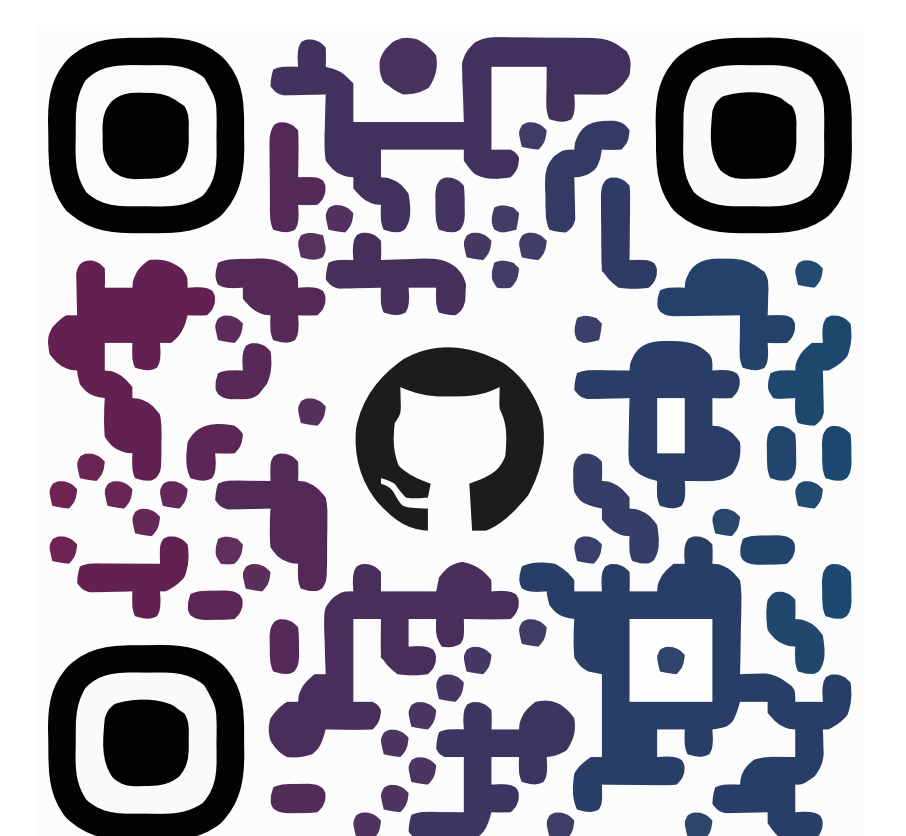*Note*. Health problems marked in red indicate significance at the 5% level.

Relationship between health prevention and age

Note. Health preventive behaviours marked in red indicate significance at the 5% level.

Conclusion

- The probability of developing health problems or adopting health protective behaviours do not always consistently change with age in a linear fashion - rather, it fluctuates, with periods of increased risk[1].

- Such non-linearity may stem from policy decisions, but it also involves factors like weakened immunity, healthcare access, personal beliefs, and changing perceptions of risk over time.

- Given that life expectancy is increasing, policies need to be reassessed to better cater to the dynamic health needs of the aging population, ensuring timely interventions and equitable access to healthcare resources.

My Website

Literature Cited

[1] Shen, X., Wang, C., Zhou, X., Zhou, W., Hornburg, D., Wu, S., & Snyder, M. P. (2024). Nonlinear dynamics of multi-omics profiles during human aging. *Nature Aging*, 1-16. https://doi.org/10.1038/s43587-024-00692-2