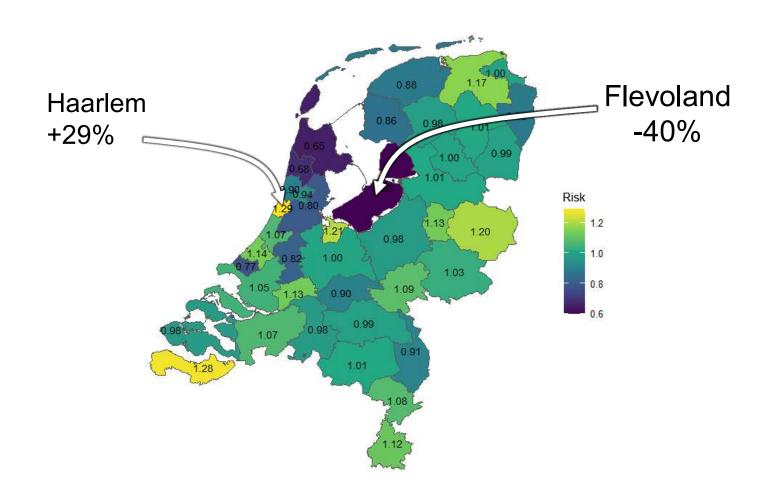
Where you live matters for dementia risk



Dementia is now a leading cause of death in the Netherlands, but mortality is not the same everywhere. Why?

How I Investigated Regional Differences



Data

Mortality, environmental, socio-economic & weather data for 40 Dutch regions, 2014–2022



Q

Analysis

Reduced 16 pollutants into composite indices (PCA)





Models

Used advanced
Bayesian spatial
models to link
risk factors to
dementia deaths

Pollution, urban living, and climate shape dementia deaths



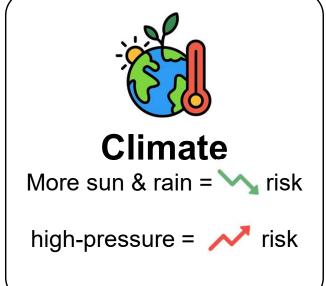
Pollution Mix

2.3% higher dementia mortality per SD increase (ozone, cadmium, ammonia)



Urban Density

5.4% higher mortality per SD increase in population density (ca. 600 people/km²)



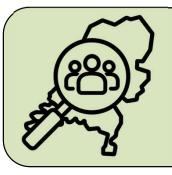
In The Hague:

13% higher dementia mortality for each SD increase in heavy metals/combustion pollution



We need region-specific policies!

From Regional Patterns to Targeted Solutions



Link regional patterns to individual health records



Incorporate healthcare system, social, and psychological factors



Test interventions (cleaner air, greenspace, low-emission zones)

Supporting policymakers in designing region-specific strategies for healthy ageing