



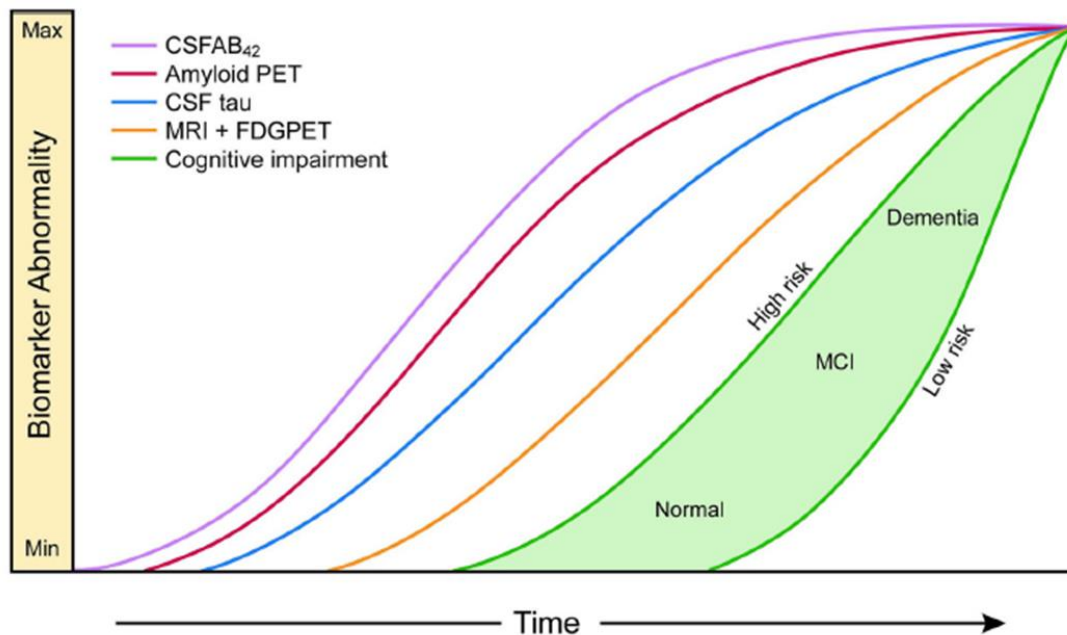
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Mild cognitive impairment as a pre-dementia stage - An analysis of German nationwide ambulatory claims data

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Background

- Mild cognitive impairment (MCI)
 - noticeable decline in cognitive functioning beyond normal changes due to age
 - Assumed to signal pre-dementia stage



AD pathological cascade model
by Jack C et al. Lancet Neurol
2013;12:207-16

- No clear treatment for MCI, focus on therapies to decrease risk of progression to dementia
- Prevalence of MCI 3% to 42%, rate of conversion to dementia 23% to 47%

Study questions

- What is the prevalence and incidence of MCI in German population of statutory health care insurees ($\approx 90\%$ of entire German population) ?
- To what extent is incident MCI associated with risk of developing dementia?
- Is there variation by region?

Methods

- Data source
 - German nationwide claims data on ambulatory physician services
- Study population
 - All statutory health care insurees aged 40+ years in 2010 (baseline)
 - Free of dementia in 2009 and 2010, free of MCI in 2009
 - Exposure: newly diagnosed MCI in 2010
 - Outcome: Dementia diagnosis until end of 2014 (follow-up)
- Statistical analysis
 - Incidence rates of MCI across ASHIP-regions (Associations of Statutory Health Insurance Physicians)
 - Cox's Proportional Hazards model

Results

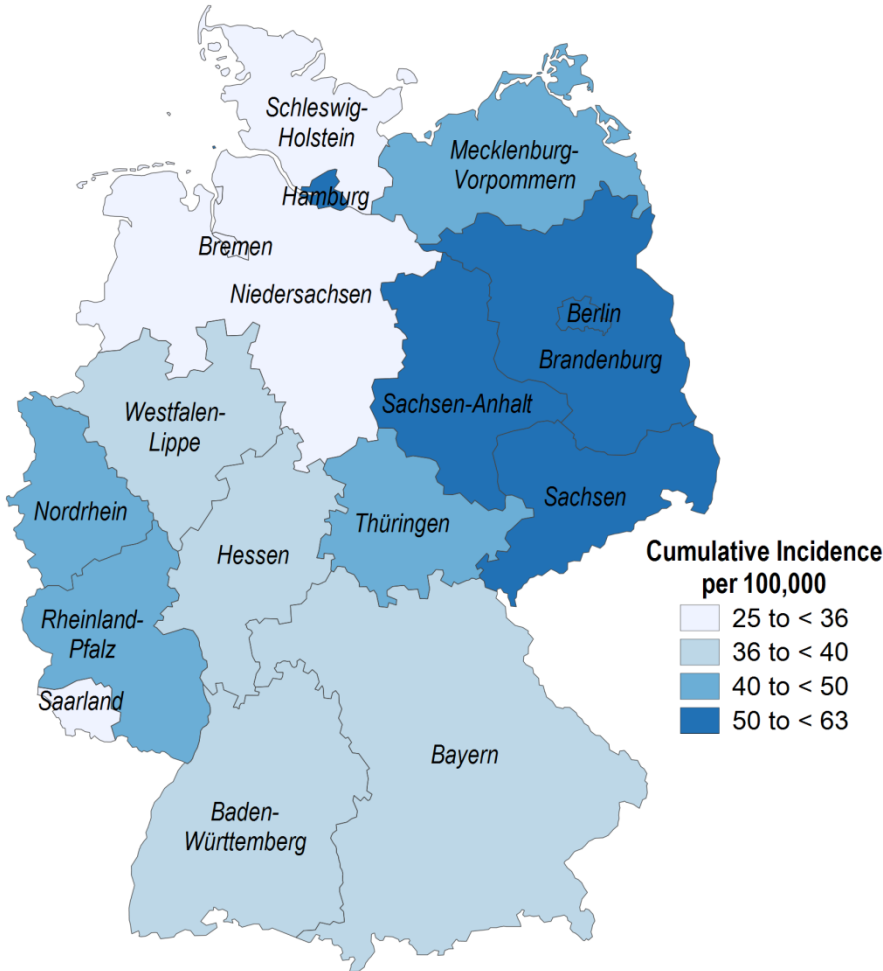
General description of the study population

- 1-year prevalence of MCI: 0.2%
- 1-year cumulative incidence of MCI: 0.04% or 44 per 100,000
- 4-year progression toward dementia: 22%

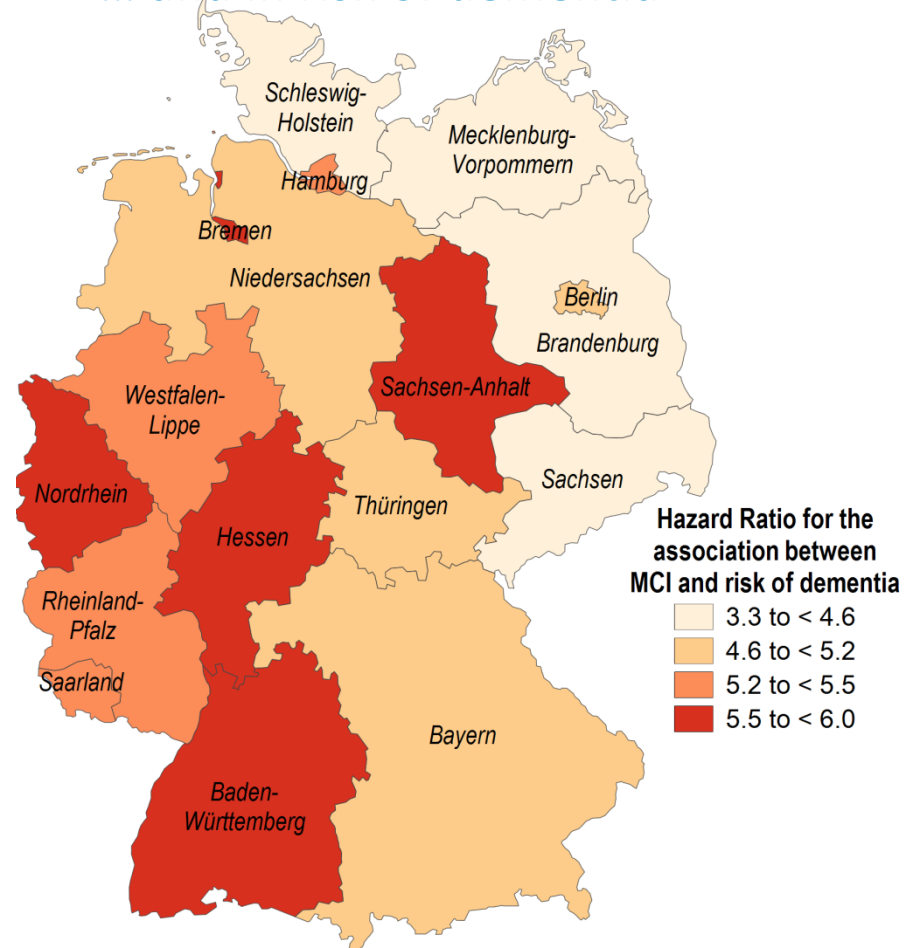
Variation by region?

Results

Regional variation in cumulative incidence of MCI

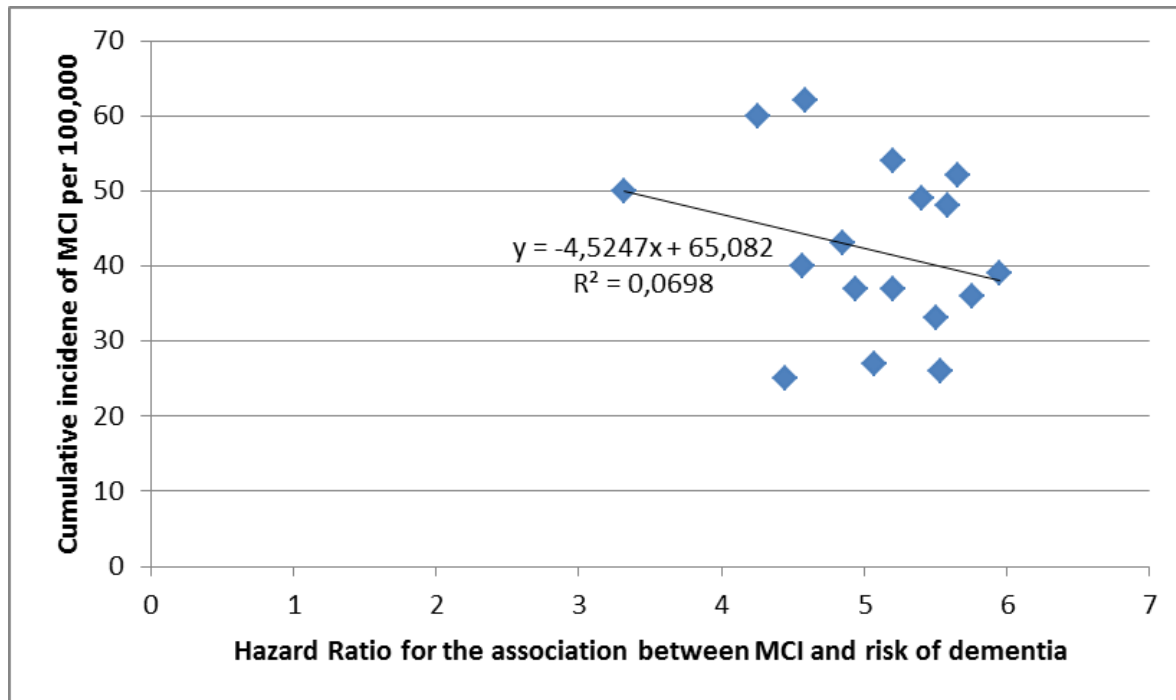


... and in risk of dementia



Results

Scatter plot of cumulative incidence of MCI and risk of dementia of the 17 ASHIP-regions



Summary and outlook

- Compared to field studies, prevalence and incidence derived from ambulatory claims data is rather low and probably underestimates the true disease occurrence. Thus, we cannot rule out selective coding of specific MCI cases (more severe cases, younger cases, ...)
- In concordance with other study results, MCI is a strong risk factor for subsequent dementia (conversion rate of about 20-25%)
- Geographical variation in MCI incidence and subsequent dementia risk gives first insights into the possible benefit of early detection. However, quantifying this benefit warrants future research, e. g. distribution of diagnostic processes or therapy of vascular risk factors.

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**Thank you
for your attention**

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