

A Nationwide Claims-based Framework To Study Sex Differences In Mild Cognitive Impairment And Progression To Dementia In Germany

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INTRODUCTION AND BACKGROUND

- Sex and gender influence dementia risk, clinical presentation, disease progression, and treatment response
- Despite growing evidence, many studies do not stratify analyses by sex, limiting the identification of sex-specific risk profiles and differences in care pathways
- This gap is particularly relevant in early cognitive decline, where timely diagnosis and intervention may alter disease trajectories
- In Germany, the absence of a national dementia registry limits population-level research
- **Aim:** Develop a nationwide claims-based framework to investigate sex differences in incidence of MCI and dementia and progression from MCI to dementia

METHODS

DATA SOURCE AND COHORT

German nationwide claims data from the Federal Data Center for Health (FDZ)

Dynamic nationwide cohort with delayed entry design
Adults aged ≥55 years
Continuous follow-up



CASE DEFINITION

MCI: ICD-10 F06.7
Dementia: ICD-10 F00–F03, G30, G31.0, G31.82



STATISTICAL ANALYSIS

Sex differences in incidence of MCI, dementia and progression of MCI to dementia using longitudinal modeling approaches

Analyses account for person-time at risk, time-varying follow-up, and demographic and healthcare-related covariates

CURRENT STATUS

- Feasibility of large-scale longitudinal analyses successfully assessed using the FDZ Public Use File
- Study design, cohort definition, case identification strategy, and analytical workflow fully specified
- **Working hypothesis:** Higher MCI incidence in men; faster progression from MCI to dementia in women

DISCUSSION

- First nationwide study investigating sex differences in early cognitive decline in Germany
- Findings may identify sex-specific diagnostic and care disparities
- Results could inform future risk stratification, prevention strategies, and personalized dementia care