

Twenty-seven-year time trends in dementia incidence in Europe and the United States

The Alzheimer Cohorts Consortium

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Study objective

This study examined changes in dementia incidence rates in Europe and the US.

What is known and what this paper adds

Recent analyses of data from North America and Europe have suggested that dementia incidence rates declined over the past 40 years. This investigation builds off of the previous findings, bringing together multiple cohorts, and expands the evidence of decreasing incidence rates for dementia.

Participants and setting

These analyses included data from 49,202 individuals with baseline ages ≥ 65 years who participated in 7 population cohort studies linked to the Alzheimer Cohorts Consortium. These 7 studies followed residents of France, the Netherlands, the US, Sweden, the UK, and Iceland and had starting dates between 1948 and 1999.

Design, size, and duration

The individual cohort studies collected follow-up data on diagnoses of all-cause dementia from 1988 onwards. The present study's investigators used Poisson regression to calculate cohort-specific 5-year incidence rates of dementia with stratification by age and sex. They then used Cox proportional hazard regression models to calculate hazard ratios per 10-year changes in calendar time and conducted a meta-analysis to determine overall trends.

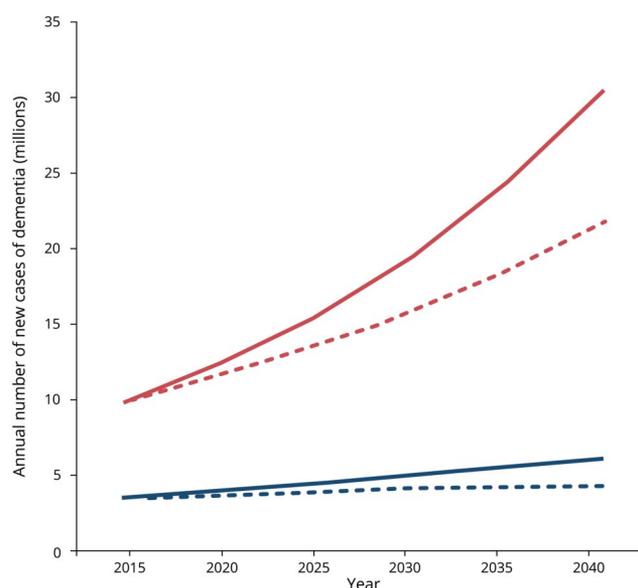
Primary outcome measures

The primary outcomes were per-decade changes in dementia incidence rates.

Main results and the role of chance

Over 256,805 person-years, 4,253 participants in the cohort studies received dementia diagnoses, with similar incidence rates for women and men across strata of age. Between 1988 and 2015, dementia incidence rates declined, on average, by 13% per calendar decade (95% confidence interval [CI], 7%–19%). The per-decade declines were somewhat more pronounced for women than for men (24% [95% CI, 14%–32%] vs 8% [95% CI, 0%–15%]).

Figure Projected future incidence of dementia globally (red) and in Europe and the US (blue) with (dotted lines) and without (solid lines) considering declining incidence rates



Bias, confounding, and other reasons for caution

The cohorts had varying attrition rates. The criteria for cohort inclusion might have biased the samples in favor of healthier individuals.

Generalizability to other populations

The present study's reliance on data from the US and Europe may limit generalizability to dissimilar parts of the world.

Study funding/potential competing interests

This study was funded by the Janssen Prevention Center (Leiden, the Netherlands). Some authors report being employees of Janssen Pharmaceuticals and GlaxoSmithKline; owning shares in healthcare companies; and receiving personal fees and funding from the Swedish government and healthcare companies, including Janssen Pharmaceuticals. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The corresponding author(s) of the full-length article and the journal editors edited and approved the final version.

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