

One in three cases of Alzheimer's worldwide potentially preventable, new estimate suggests

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A third of Alzheimer's disease cases worldwide can be attributed to risk factors that can be potentially modified, such as lack of education and physical inactivity, according to NIHR-funded research published in *The Lancet Neurology* today.

The estimate is lower than the previous estimate of one in two cases as it takes into account the fact some of the risk factors used in previous studies are related. For example, three of the risk factors (diabetes, hypertension and obesity) are linked with physical inactivity and all of these are related to educational level.

Current estimates suggest that by 2050, more than 106 million people will be living with Alzheimer's disease, a huge increase on the 30 million people affected by the disease in 2010. Alzheimer's disease is caused by a complex interplay of genetic and [lifestyle factors](#). Amongst the greatest lifestyle factors are lack of exercise, smoking, poor [educational attainment](#) and depression, all of which can be targeted to reduce the risk.

A study published in 2011 suggested that as many

as one in two cases of Alzheimer's could potentially be prevented by modifying lifestyle factors. However, this study treated the risk factors as being independent of one another. In today's study, led by Professor Carol Brayne from the Cambridge Institute of Public Health at the University of Cambridge and involving co-authors from the 2011 study, this estimate has been lowered to one in three cases.

The seven key risk factors for which there is consistent evidence of an association with the disease are diabetes, midlife hypertension, midlife obesity, physical inactivity, depression, smoking, and low educational attainment. The researchers estimate that by reducing the relative risk from each of these [risk factors](#) by 10%, it will be possible to reduce the prevalence of Alzheimer's in 2050 by 8.5%, preventing 9 million cases.

Dr Deborah Barnes from the University of California, San Francisco and the San Francisco VA Medical Center, who led the 2011 study and is a co-author on this new study, says: "It's important that we have as accurate an estimate of the projected prevalence of Alzheimer's as possible, as well as accurate estimates of the potential impact of lifestyle changes at a societal level. Alzheimer's disease is placing an ever increasing burden on health services worldwide as well as on both patients and their carers. Our hope is that these estimates will help public health professionals and health policy makers design effective strategies to prevent and manage this disease."

Professor Brayne adds: "Although there is no single way to prevent dementia, we may be able to take steps to reduce our risk of developing dementia at older ages. We know what many of these factors are, and that they are often linked. Simply tackling [physical inactivity](#), for example, will reduce levels of

obesity, hypertension and diabetes, and prevent some people from developing dementia as well as allowing a healthier old age in general – it's a win-win situation."

More information: "Potential for primary prevention of Alzheimer's disease: an analysis of population-based data." Sam Norton PhD, Fiona E Matthews PhD, Deborah E Barnes PhD, Prof Kristine Yaffe MD, Prof Carol Brayne MD. *The Lancet Neurology* - 1 August 2014 (Vol. 13, Issue 8, Pages 788-794) [DOI: 10.1016/S1474-4422\(14\)70136-X](https://doi.org/10.1016/S1474-4422(14)70136-X)

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