

# Report suggests nearly half of dementia cases could be prevented or delayed by tackling 14 risk factors

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Addressing 14 modifiable risk factors, starting in childhood and continuing throughout life, could prevent or delay nearly half of dementia cases, according to a new report led by UCL researchers.

The third [Lancet Commission on dementia prevention, intervention, and care](#), led by UCL Professor Gill Livingston was presented at the [Alzheimer's Association International Conference](#) (AAIC 2024).

Even as people around the world live longer and the number of people with [dementia](#) is set to rise dramatically in all countries, the potential to prevent and better manage dementia is high if action is taken to tackle these risk factors, even in people with high genetic risk for dementia.

Based on the latest available evidence, the new report adds two new risk factors that are associated with 9% of all dementia cases —with an estimated 7% of cases attributable to high [low-density lipoprotein](#) (LDL) or "bad" cholesterol in midlife from around age 40 years, and 2% of cases attributable to untreated vision loss in later life.

These new risk factors are in addition to 12 risk factors previously identified by The Lancet Commission in 2020 (lower levels of education, hearing impairment, high blood pressure, smoking, obesity, depression, physical inactivity, diabetes, excessive alcohol consumption, traumatic brain injury, [air pollution](#) and [social isolation](#)), which are linked with 40% of all dementia cases.

The new report estimates that the risk factors associated with the greatest proportion of people developing dementia in the global population are hearing impairment and high LDL cholesterol (7% each), along with less education in [early life](#) and social isolation in later life (5% each).

The Commission, authored by 27 world-leading dementia experts, calls

for governments and individuals to be ambitious about tackling risks across the [life course](#) for dementia, arguing that the earlier we can address and reduce risk factor levels, the better. The report outlines a new set of policy and lifestyle changes to help prevent and better manage dementia.

## **More action needed worldwide to reduce dementia risks**

Because of the rapidly aging population around the world, the number of people living with dementia is expected to almost triple by 2050, rising from 57 million in 2019 to 153 million. Increasing life expectancy is also driving a surge in people with dementia in low-income countries. Global health and social costs related to dementia are estimated at over \$1 trillion every year.

However, in some high-income countries, including the U.S. and UK, the proportion of older people with dementia has fallen, particularly among those in socio-economically advantaged areas.

The report authors say that this decline in people developing dementia is probably in part due to building cognitive and physical resilience over the life course and less vascular damage as a result of improvements in health care and lifestyle changes, demonstrating the importance of implementing prevention approaches as early as possible.

Nevertheless, most national dementia plans do not make specific recommendations about diversity, equity, or inclusion of people from underserved cultures and ethnicities who are disproportionately affected by dementia risks.

Lead author Professor Gill Livingston (UCL Psychiatry) said, "Our new

report reveals that there is much more that can and should be done to reduce the risk of dementia. It's never too early or too late to take action, with opportunities to make an impact at any stage of life.

"We now have stronger evidence that longer exposure to risk has a greater effect and that risks act more strongly in people who are vulnerable. That's why it is vital that we redouble preventive efforts towards those who need them most, including those in low- and middle-income countries and socio-economically disadvantaged groups. Governments must reduce risk inequalities by making healthy lifestyles as achievable as possible for everyone."

To reduce dementia risk throughout life, the Commission outlines 13 recommendations to be adopted by governments and individuals, including:

- Provide all children with good quality education and be cognitively active in midlife.
- Make hearing aids available for all those with hearing loss and reduce harmful noise exposure.
- Detect and treat high LDL cholesterol in midlife from around age 40 years.
- Make screening and treatment for vision impairment accessible for all.
- Treat depression effectively.
- Wear helmets and head protection in contact sports and on bikes.
- Prioritize supportive community environments and housing to increase social contact.
- Reduce exposure to air pollution through strict clean air policies.
- Expand measures to reduce smoking, such as price control, raising the minimum age of purchase, and smoking bans.
- Reduce sugar and salt content in food sold in stores and restaurants.

These actions are especially important given new evidence which shows that reducing the risk of dementia not only increases years of healthy life but also reduces the time people who develop dementia spend in ill health.

Professor Livingston added, "Healthy lifestyles that involve regular exercise, not smoking, cognitive activity in midlife (including outside formal education) and avoiding excess alcohol can not only lower dementia risk but may also push back dementia onset. So, if people do develop dementia, they are likely to live less years with it. This has huge quality of life implications for individuals as well as cost-saving benefits for societies."

## **England could achieve cost savings of around £4 billion**

In a separate study published in [The Lancet Healthy Longevity](#) journal alongside the Commission, Professor Livingston, lead author Dr. Naaheed Mukadam (UCL Psychiatry), and co-authors modeled the economic impact of implementing some of these recommendations, using England as an example.

The study's findings suggest that using population-level interventions of known effectiveness to tackle dementia risk factors could achieve cost savings of up to £4 billion.

Commission co-author Dr. Mukadam commented, "Prioritizing population-level approaches that improve primary prevention (eg, reducing salt and sugar intake) and effective health care for conditions like obesity and [high blood pressure](#), restricting smoking and air pollution, and enabling all children to gain a good education, could have a profound effect on dementia prevalence and inequalities, as well as

significant cost savings."

## **Prioritizing advances in research and support for people living with dementia**

The report also discusses the hopeful advances in blood biomarkers and the anti-amyloid  $\beta$  antibodies for Alzheimer's disease. The authors explain that blood biomarkers are a significant move forward for people with dementia, potentially increasing scalability and decreasing the intrusiveness and the cost of testing for accurate diagnosis.

While there are promising clinical trials, the report authors caution that anti-amyloid  $\beta$  antibody treatments are new, without long-term data available, and they call for more research and expanded transparency about the short and long-term side effects.

Finally, the report calls for more support for people living with dementia and their families. The authors stress that in many countries, effective interventions known to benefit people with dementia are still not available or a priority, including activity interventions that provide enjoyment and reduce neuropsychiatric symptoms and cholinesterase inhibitors for slowing cognitive decline in Alzheimer's.

Similarly, many caregivers' needs are unevaluated and unmet. They recommend providing multi-component coping interventions for family caregivers who are at risk of depression and anxiety, including providing emotional support, planning for the future, and information on medical and community-based resources.

The authors note that while nearly all the evidence for dementia still comes from high-income countries, there is now more evidence and interventions from LMICs, but interventions usually need to be modified



to best support different cultures, beliefs, and environments.

They also point out that the prevention estimates assume there is a causal relationship between risk factors and dementia, and while they were careful to only include risk factors with convincing evidence, they note that some associations may only be partly causal. For example, while unremitting depression in midlife may be causal, depression in late life may be caused by dementia.

Finally, they note that this risk modification affects the population, and does not guarantee that any individual will avoid dementia.

**More information:** The Lancet Commission on Dementia prevention, intervention, and care 2024: [www.thelancet.com/commissions/ ... on-intervention-care](http://www.thelancet.com/commissions/...on-intervention-care)

Naaheed Mukadam et al, Benefits of population-level interventions for dementia risk factors: an economic modelling study for England, *The Lancet Healthy Longevity* (2024). [DOI: 10.1016/S2666-7568\(24\)00117-X](https://doi.org/10.1016/S2666-7568(24)00117-X)

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