

HEALTHY BRAIN

Dr Gordana Ninkovic-Chapman

Friends AGM 21st Oct 2026

Henfield Medical Centre | Dementia and population age

Comparison with the distribution of GP practices in England

15.6%

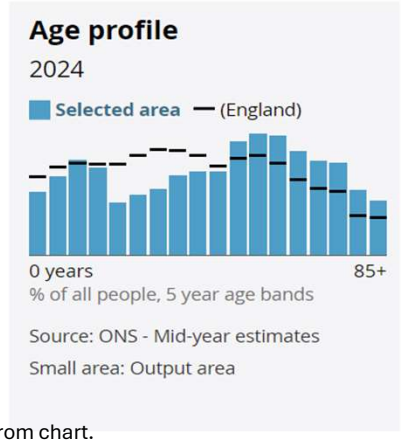
Patients aged 75+

Most English practices: approximately 3–7%

0.6%

Self-reported Alzheimer's or dementia

Most English practices: mostly 0–2%



Source: OHID Fingertips scatter plot supplied; approximate values read from chart.

Factors Linked to Dementia Risk

Risk factors across the life course

EARLY LIFE

- Quality of education

MID-LIFE

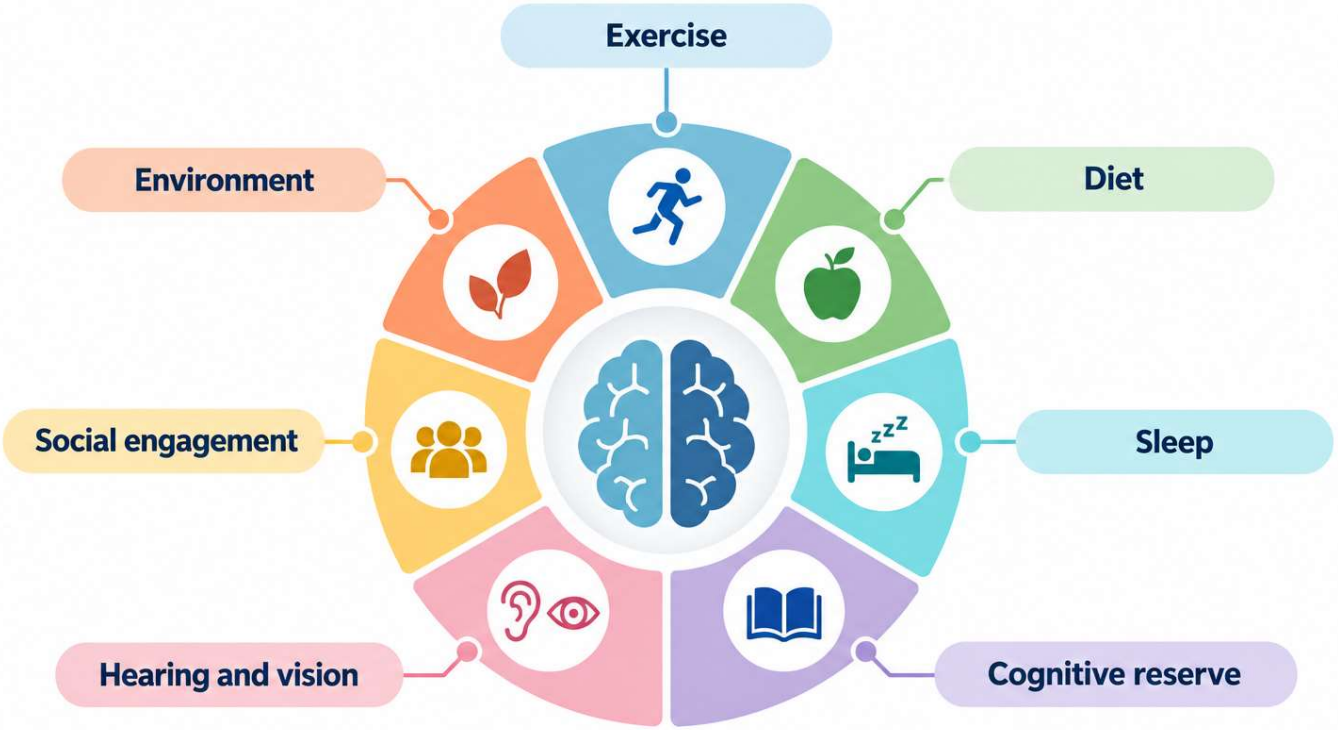
- Hearing loss
- High cholesterol
- Depression
- Traumatic brain injury
- Physical inactivity
- Type 2 diabetes
- Smoking
- High blood pressure
- Obesity
- Excessive alcohol

LATER LIFE

- Social isolation
- Air pollution
- Uncorrected vision and hearing

Adapted from the Lancet standing Commission on dementia prevention, intervention and care (2024).

Seven Ways to Support Brain Health



Physical Activity: One of the Strongest Recommendations

Move your body regularly

WHO strongly recommends physical activity for adults with normal cognition to reduce risk of cognitive decline.

- 150–300 min/week moderate-intensity activity
- OR 75–150 min/week vigorous activity
- Muscle-strengthening activity ≥2 days/week
- Brisk walking, cycling, swimming, dancing
- Resistance exercise

WHO. Risk reduction of cognitive decline and dementia: WHO guidelines, 2nd ed. 2026; WHO physical activity guidance.

Diet: Think Pattern, Not “Brain Food” Mediterranean Diet

A healthy dietary pattern is recommended

There is no single food that prevents dementia. The overall pattern matters more.

- Eat: vegetables, fruit and whole grains
- Eat: beans, lentils, nuts and seeds
- Choose fish and other healthy proteins
- Use unsaturated fats (olive oil) and minimally processed foods
- Limit excess saturated fat, salt and free sugars
- Limit highly processed foods

WHO. Risk reduction of cognitive decline and dementia: WHO guidelines, 2nd ed. 2026; WHO. Healthy diet. 2026.

Nutrition and Dementia Risk

Ultra-processed foods and saturated fat

Research suggests that diets high in ultra-processed foods may be linked to a higher risk of dementia.

Regularly eating too much sugar and saturated fat can increase the risk of heart disease, diabetes and dementia.

High fat and sugary snacks like sweets, biscuits and fizzy drinks should be an occasional treat and only consumed in small amounts.

Some foods including processed meats, butter, cheese and cakes, are high in saturated fat. Eating these often can raise cholesterol and increase the risk of other health problems.

Natural products and supplements

There is currently no conclusive evidence that ginkgo biloba, green tea or turmeric can prevent, or treat, dementia.

These natural products have mild anti-inflammatory properties, leading some to claim that they might protect the brain from inflammation linked to dementia.

Homocysteine and B vitamins

High blood levels of a chemical called homocysteine have been linked to an increased risk of Alzheimer's disease. Homocysteine is produced by the body and found in certain foods. Certain B vitamin deficiencies, such as vitamin B12 and folic acid, can cause high homocysteine levels if left untreated.

Supplements: More Is Not Better

Do supplements prevent dementia?

Food first. Correct genuine nutritional deficiencies when identified.

- Routine vitamin B supplements are not supported solely for prevention
- Nor is routine vitamin E
- Nor omega-3 supplements
- Nor multivitamin/mineral combinations
- This applies to people without a diagnosed deficiency
- Avoid taking multiple products marketed “for the brain”

WHO. Risk reduction of cognitive decline and dementia: WHO guidelines, 2nd ed. 2026.

Smoking & Alcohol

Reduce harmful exposures

Alcohol is not recommended as a brain-protection strategy.

- Stopping smoking is recommended
- Smoking raises cardiovascular and cerebrovascular risk
- Smoking is associated with dementia risk
- Avoid harmful or hazardous alcohol use
- If you smoke, seek help to stop
- Do not start drinking for supposed cognitive benefits

WHO. Risk reduction of cognitive decline and dementia: WHO guidelines. 2026.

Alcohol and Dementia Risk

How alcohol can affect brain health and what is recommended

Brain cells

Drinking too much alcohol over time can damage brain cells.

Brain shrinkage

Long-term heavy drinking is linked to faster brain shrinkage compared with normal ageing.

Blood vessels

Alcohol can damage blood vessels, reducing oxygen and nutrient delivery to the brain. Over time, this may contribute to brain cell death and increase dementia risk.

Recommendations for safer drinking

- No more than 14 UK units per week on a regular basis
- Spread drinking over three or more days if regularly drinking 14 units
- Have several alcohol-free days each week
- The less you drink, the lower the health risk

KEY MESSAGE Not drinking alcohol is the lowest-risk option for health.

UK Chief Medical Officers' low-risk drinking guidelines; original slide content retained.

Sleep, Brain Health & Dementia Risk

WHAT THE RESEARCH FOUND

30% higher risk

In the Whitehall II study, persistent sleep of 6 hours or less at ages 50, 60 and 70 was associated with a 30% higher dementia risk compared with 7 hours.

WHAT ELSE DO WE KNOW?

- Other observational studies link disrupted sleep and sleep apnoea with cognitive decline.
- Poor sleep can affect memory, mood and daytime functioning.
- A link does not prove that poor sleep causes dementia.

HEALTHY AGEING ACTION: Aim for regular, sufficient sleep; keep consistent routines and seek help for persistent insomnia, snoring or daytime sleepiness.

Sources: Sabia et al., Nature Communications (2021); Lancet Commission (2024). Evidence does not yet prove that improving sleep prevents dementia.

Social Connection and Dementia Risk

Loneliness and social isolation are linked to poorer memory and thinking skills.

• UK–China cohort study (Shen et al., 2022): social isolation was associated with lower brain volume and a 26% higher risk of dementia.

• Holt-Lunstad et al. (2010): meta-analysis of 148 studies (308,849 participants) found stronger social relationships associated with 50% higher odds of survival. The mortality association was comparable in magnitude to some established risks, including smoking.

• Other observational research links participation in social activities with lower dementia risk.

26%

Higher observed dementia risk among socially isolated people in the cited study

Healthy ageing action: Stay connected through friends, family, community groups, volunteering and shared activities.

Sources: Shen et al., Neurology (2022); Holt-Lunstad et al., PLOS Medicine (2010). Associations do not prove causation; smoking comparison is not a direct equivalence.

Keeping Your Brain Active: Building Cognitive Reserve

Mental stimulation supports resilience, independence and healthy ageing.

What is cognitive reserve?

The brain's ability to adapt and keep functioning despite age-related changes or disease.

Learning, reading, writing, games and mentally challenging hobbies may help build reserve.

Ways to keep your brain active

- Read, write or learn a language
- Play strategy games or puzzles
- Learn new skills or creative hobbies
- Join groups and social activities

KEY MESSAGE Challenge your brain regularly, at any age, and stay socially engaged.

RESEARCH EVIDENCE • US cohort (1,903 older adults): frequent cognitive activity was associated with Alzheimer's symptoms emerging about 5 years later among those who developed the condition. • UK cohort: higher cognitive reserve by age 69 was associated with slower cognitive decline. Observational associations do not prove prevention.

Keeping Your Brain Active: Building Cognitive Resilience

Learning and mental stimulation may strengthen cognitive reserve and support healthier ageing.

7%

Education

Lower dementia risk associated with each additional year of education.

23%

Cognitive leisure

Lower dementia incidence associated with mentally stimulating leisure activities.

25%

Targeted training

Lower dementia diagnosis hazard in an ACTIVE trial booster-training subgroup.

KEY MESSAGE Keep learning: read, play games, learn skills, join groups and stay socially engaged.

Evidence: education and leisure findings are observational associations, not proven individual risk reductions.

Sources: Education meta-analysis (2020); Su et al., Neurology (2022), doi:10.1212/WNL.0000000000200929; ACTIVE trial follow-up (2026), doi:10.1002/trc2.70197.

ACTIVE 25% result applies to a subgroup receiving booster sessions; the overall trial comparison was not significant.

Ways to challenge your brain

1. Puzzle yourself with the paper
2. Use your noodle – learn to cook something new
3. Learn an instrument (which one depends how much you like the neighbours)
4. Play cards, learn chess, it's your move
5. Learn a new language
6. Turn over a new leaf, get into books
7. See it, sketch it
8. Use your loaf, learn to bake
9. Darn it yourself – learn to knit, stitch and sew
10. Refresh your regular route
11. Add DIY to your brain health toolbox

Hearing, Vision & Brain Health

Sensory health matters

The 2026 WHO guideline includes hearing interventions within dementia risk-reduction strategies.

- Hearing and vision affect communication
- They can affect independence
- They influence social engagement
- They can affect cognitive function
- Have hearing problems assessed; use aids when indicated
- Assess and treat significant visual impairment

WHO. Risk reduction of cognitive decline and dementia: WHO guidelines, 2nd ed. 2026.

Hearing and Vision: Supporting a Healthy Brain

Looking after hearing and vision helps people stay connected, mentally stimulated and independent.

HEARING LOSS

- Linked to higher dementia risk
- May reduce social engagement and cognitive stimulation
- Hearing aids associated with ~19% lower long-term cognitive decline in observational research
- ACHIEVE trial: ~48% less cognitive decline in a higher-risk subgroup

VISION PROBLEMS

- Uncorrected vision loss linked to higher dementia risk
- May make social connection and mental stimulation harder
- Glasses, lenses and treatment such as cataract surgery can correct impairment
- Cataract surgery associated with ~29% lower dementia risk in an observational study

KEY MESSAGE Use hearing aids when needed and correct vision to support brain health, independence and quality of life.

Studies: Yeo et al. (2023); Lin et al., ACHIEVE (2023); Lee et al. (2022); Livingston et al., Lancet Commission (2024).

Environmental factors and dementia risk

What the evidence supports — and what remains uncertain

Air pollution (PM2.5)

Long-term exposure is associated with higher dementia risk.

Traffic noise

Possible association through sleep, stress and cardiovascular pathways; evidence less certain.

Agricultural pesticides

Occupational exposure is associated with poorer cognition, with strong link to other neurodegenerative disorders

Domestic wood smoke

A source of PM2.5. Dementia risk attributable specifically to wood burners. Wood burners account for 12% of PM2.5 vs road traffic 21%.

Evidence: Lancet Commission on dementia (2024); WHO air quality guidance (2021); observational studies.

Wood burning, noise and pesticides

Environmental exposures relevant to rural West Sussex

Wood burning / PM2.5

Selected local wards: estimated 19–32% of households have wood burners.

Wood smoke adds fine particles to indoor and outdoor air.

PM2.5–dementia association: strong evidence.

Traffic noise

Potential exposure beside busy village roads and junctions.

Long-term noise may disturb sleep and increase stress.

Dementia association: emerging evidence.

Pesticides / farming

Potential exposure in agricultural work and near treated land.

Some studies link occupational exposure with poorer cognition and other neurodegenerative disorders.

Dementia causation and residential risk: uncertain.

Take-home: Reduce avoidable smoke and pollution exposure

Sources: supplied environment.docx; Lancet Commission (2024). Wood-burner ownership is estimated, not measured exposure.

Air pollution: Henfield and Cowfold

Local monitoring figures supplied for this presentation

Henfield — roadside NO_2

2019: 20.9 µg/m^3

2023: 16.9 µg/m^3

Approximately 19% lower than 2019.

Cowfold — fine particles (PM2.5)

2025: 9.8 µg/m^3

Nearby Storrington: 8.5 µg/m^3

WHO annual PM2.5 guideline: 5 µg/m^3.

The figures are below relevant UK legal objectives, but exceed WHO health-based guidelines.

Traffic is one source; PM2.5 also comes from wood burning and regional pollution.

Source: supplied local summary citing Horsham District Council monitoring. Verify site/year figures before publication.

Take Home Message

Small, consistent habits can support brain health at every age.

MOVE & EAT WELL

Be physically active and choose a Mediterranean-style diet.

PROTECT YOUR HEART

Manage blood pressure, cholesterol and diabetes.

SLEEP & STAY CONNECTED

Prioritise sleep, friendships and social activities.

KEEP LEARNING

Challenge your brain with new skills and hobbies.

CARE FOR YOUR SENSES

Check your hearing and vision; use treatment when needed.

AVOID HARMFUL EXPOSURES

Do not smoke and limit alcohol. Avoid wood burning and pesticide exposure.

It is never too early or too late to look after your brain.

We cannot prevent every case of dementia, but we can take steps to reduce our risk.