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Alzheimer's Deaths Exceed Half a Million a Year in the US

Analysis by Dr. Joseph Mercola | January 05, 2024

STORY AT-A-GLANCE

- Between 1999 and 2014, the death rate from Alzheimer's increased by 55%, killing more than 93,500 Americans in 2014, according to a review of death certificates
- Research published in 2014 found Alzheimer's deaths were severely underreported on death certificates. Researchers estimate the annual death toll from Alzheimer's actually exceeds half a million
- Many lifestyle and environmental factors contribute to the rise in Alzheimer's, including inappropriate diet, inactivity, insulin resistance, prion infection, lack of sun exposure and overexposure to toxic chemicals and non-native electromagnetic fields

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Alzheimer's disease, which is the most serious form of dementia, eventually leads to the inability to carry out even the most basic of bodily functions, such as swallowing or walking. It is ultimately fatal, as conventional treatment options are few and universally ineffective.

Like autism among children, Alzheimer's among seniors has reached epidemic proportions, with no slowdown in sight. On the contrary, evidence suggests the trend is worsening. At present, Alzheimer's affects an estimated 5.4 million Americans.[1]

Projections suggest the disease will affect 1 in 4 Americans within the next two decades, and by 2050, Alzheimer's diagnoses are projected to triple.[2,3] Shocking statistics published in the journal Neurology in 2014 revealed Alzheimer's killed more

than 503,000 American seniors in 2010, making it the third leading cause of death, right behind heart disease and cancer.[4]

Now, data published in the U.S. Centers for Disease Control and Prevention's (CDC) Morbidity and Mortality Weekly Report reveals that between 1999 and 2014, the death rate from Alzheimer's increased by 55%,[5,6,7,8] — a rather radical increase in a mere 15 years.

The CDC report also noted the number of people dying from the disease at home, opposed to in a care facility, has increased from 14% to 25%. This means many Alzheimer's caretakers are unpaid family members and friends — a task known to be taxing from both an emotional and financial perspective. While these statistics sound dire enough, the reality may be even worse than that.

Alzheimer's Deaths Are Likely Severely Underreported

The CDC report used data collected from U.S. death certificates. However, the 2014 Neurology study revealed Alzheimer's deaths are grossly underreported on death certificates. In 2010, death certificates showed there were less than 84,000 deaths from Alzheimer's. Meanwhile, by ascertaining the cause of death based on evaluation of donated organs from the diseased, the actual death toll attributable to dementia came out to 503,400.

If such a trend of underreporting Alzheimer's disease as a cause of death holds true, the increase in Alzheimer's deaths over the past 15 years may in fact be far greater than 55%.

Indeed, the CDC claims Alzheimer's is the sixth leading cause of death, while the results from the 2014 study ranked it third. According to the CDC, Alzheimer's killed 93,541 Americans in 2014 — a far cry from the estimated annual death toll of 503,400, reported in the Neurology study. Whatever the case may be, what's clear is that severe, lethal dementia is rapidly rising, and the medical establishment is no closer to solving the riddle of causation than they were 30 years ago.

What's Causing Alzheimer's Disease?

It's often said that the underlying causes of Alzheimer's disease are unknown, but there's no shortage of theories. Based on the available science, here are several of the most prominent or likely culprits that can raise your risk of Alzheimer's disease:

Insulin resistance — Mounting research suggests Alzheimer's disease is intricately connected to insulin resistance; even mild elevation of blood sugar is associated with an elevated risk for dementia.[9] Diabetes and heart disease[10] are also known to elevate your risk, and both are rooted in insulin resistance. Neurologist David Perlmutter warns anything that promotes insulin resistance, like a processed food diet, will also raise your risk of Alzheimer's.

Research has strengthened the link between insulin resistance and dementia even further, particularly among those with existing heart disease.[11,12,13] Studies have also confirmed that the greater an individual's insulin resistance, the less sugar they have in key parts of their brain, and these areas typically correspond to the areas affected by Alzheimer's.[14,15]

Vitamin D deficiency — The Scotland Dementia Research Centre also noted there's a very clear link between vitamin D deficiency and dementia.[16] Indeed, studies have shown vitamin D plays a critical role in brain health, immune function, gene expression and inflammation — all of which influence Alzheimer's. A wide variety of brain tissue contains vitamin D receptors, and when they're activated by vitamin D, it facilitates nerve growth in your brain.

Researchers also believe optimal vitamin D levels boost levels of important brain chemicals, and protect brain cells by increasing the effectiveness of glial cells in nursing damaged neurons back to health. Considering an estimated 95% of seniors are at risk of vitamin D deficiency or insufficiency, vitamin D may be a very important factor for successful prevention among the general population.

Research also shows people living in northern latitudes have higher rates of death from Alzheimer's than those living in sunnier areas,[17] suggesting a link between sun exposure, vitamin D and brain health. In a 2014 study,[18] considered to be the most robust study of its kind at the time, those who were severely deficient in vitamin D had a 125% higher risk of developing some form of dementia compared to those with normal levels.

The findings also suggest there's a threshold level of circulating vitamin D, below which your risk for dementia increases. This threshold was found to be right around 20 nanograms per milliliter (ng/ml) or 50 nanomoles per liter (nmol/L) for Europeans.

Higher levels are associated with better brain health in general, and based on a broader view of the available science, 20 ng/ml is still far too low. The bulk of the research suggests a healthy range is between 40 to 60 ng/ml.

Lack of sun exposure — While vitamin D deficiency is directly attributable to lack of sensible sun exposure, vitamin D production is not the only way sun exposure can influence your dementia risk. Evidence suggests sunlight is a beneficial electromagnetic frequency (EMF) that is in fact essential and vital for your health in its own right.

About 40% of the rays in sunlight is infrared. The red and near-infrared frequencies interact with cytochrome c oxidase (CCO) — one of the proteins in the inner mitochondrial membrane and a member of the electron transport chain.

CCO is a chromophore, a molecule that attracts and absorbs light. In short, sunlight improves the generation of energy (ATP). The optimal wavelength for stimulating CCO lies in two regions, red at 630 to 660 nanometers (nm) and near-infrared at 810 to 850 nm.

Prion infection — In addition to viruses, bacteria and fungi, an infectious protein called TDP-43, which behaves like infectious proteins known as prions — responsible for the brain destruction that occurs in Mad Cow and Chronic Wasting Diseases — has been linked to Alzheimer's.

Research presented at the 2014 Alzheimer's Association International Conference revealed Alzheimer's patients with TDP-43 were 10 times more likely to have been cognitively impaired at death than those without.[19] Due to its similarities with mad cow disease, investigators have raised the possibility that Alzheimer's disease may be linked to eating meat from animals raised in **concentrated animal feeding operations** (CAFOs).

Environmental toxins — Experts at the Edinburgh University's Alzheimer Scotland Dementia Research Centre have compiled a list of top environmental risk factors thought to be contributing to the epidemic, based on a systematic review of the scientific literature.[20,21,22,23] As much as one-third of your dementia risk is thought to be linked to environmental factors such as air pollution, pesticide exposure and living close to power lines.

The risk factor with the most robust body of research behind it is air pollution. In fact, they couldn't find a single study that didn't show a link between exposure to air pollution and dementia. Particulate matter, nitric oxides, ozone and carbon monoxide have all been linked to an increased risk. Living close to power lines also has "limited yet robust" evidence suggesting it may influence your susceptibility to dementia.

Non-native or artificial electromagnetic fields (EMF) — Non-native EMFs contribute to Alzheimer's by poisoning your mitochondria, and this is not limited to living in close proximity to power lines. It also includes electromagnetic interference from the electric grid and microwave radiation from your cellphone, cellphone towers and Wi-Fi.

This is a very deep and important topic. Based on what I've found so far, I'm convinced enough now to never put my cellphone on my body unless it is in airplane mode, and will not hold my cellphone unless it is on a selfie stick.

Inactivity / lack of exercise — Exercise has been shown to protect your brain from Alzheimer's and other dementias, and also improves quality of life if you've already been diagnosed.[24]

In one study,[25] patients diagnosed with mild to moderate Alzheimer's who participated in a four-month-long supervised exercise program had significantly fewer neuropsychiatric symptoms associated with the disease (especially mental speed and attention) than the inactive control group.

Other studies[26] have shown aerobic exercise helps reduce tau levels in the brain. (Brain lesions known as tau tangles form when the protein tau collapses into twisted strands that end up killing your brain cells.) Cognitive function and memory[27] can also be improved through regular exercise, and this effect is in part related to the effect exercise has on neurogenesis and the regrowth of brain cells.

By targeting a gene pathway called brain-derived neurotrophic factor (BDNF), exercise actually promotes brain cell growth and connectivity. In one yearlong study, seniors who exercised grew and expanded their brain's memory center by as much as 2% per year, where typically that center shrinks with age.

Evidence also suggests exercise can trigger a change in the way the amyloid precursor protein is metabolized,[28] thus slowing the onset and progression of Alzheimer's. By increasing levels of the protein PGC-1alpha (which Alzheimer's patients have less of), brain cells produce less of the toxic amyloid protein associated with Alzheimer's.[29]

Hypertension and heart disease — Arterial stiffness (atherosclerosis) is associated with a hallmark process of Alzheimer's, namely the buildup of beta-amyloid plaque in your brain. The American Heart Association (AHA) warns there's a strong association between hypertension and brain diseases such as vascular cognitive impairment (loss of brain function caused by impaired blood flow to your brain) and dementia.[30]

Genetic predisposition — Several genes that predispose you to Alzheimer's have also been identified.[31] The most common gene associated with late onset Alzheimer's is the apolipoprotein E (APOE) gene. The APOE e2 form is thought to reduce your risk while the APOE e4 form increases it.

That said, some people never develop the disease even though they've inherited the APOE e4 gene from both their mother and father (giving them a double set), so while genetics can affect your risk, it is NOT a direct or inevitable cause.

Your risk for early onset familial Alzheimer's can also be ascertained through genetic testing.[32] In this case, by looking for mutation in the genes for presenilin 1 and presenilin 2. People with one or more genetic predispositions are at particularly high risk of developing Alzheimer's at a very young age. At just 31 years of age, Rebecca Doig is thought to be one of the youngest Alzheimer's cases presently known.

Early Alzheimer's Prevention Is Required to Stem the Tide of Dementia

There is no known cure and no effective conventional treatments for Alzheimer's, making prevention an overarching priority. Regardless of your age, now is the time to really start looking at which of these possible causes might be influencing your risk. If you're finding this information now and are in your 20s or 30s, consider yourself blessed with foresight.

You still have time to address most if not all of these possible factors. But don't dawdle too long. Early onset of Alzheimer's is also on the rise. Already, nearly 5% of Americans with the disease are younger than 65. The video above features the story of Amy Norton, who was diagnosed with Alzheimer's at the age of 43. As noted by the American Alzheimer's Association:[33]

> *"Many people with early onset are in their 40s and 50s. They have families, careers or are even caregivers themselves when Alzheimer's disease strikes. In the United States, it is estimated that approximately 200,000 people have early onset."*

The good news is that lifestyle choices such as diet, exercise and sleep can have a significant impact on your risk. As previously noted by Dr. Richard Lipton of the Albert

Einstein College of Medicine — where they study healthy aging — lifestyle changes "look more promising than the drug studies so far" when it comes to addressing Alzheimer's.[34]

Mitochondial Function Is Important

In recent years, I've become deeply interested in and familiar with the medical literature detailing the influence of mitochondrial function on health. It's become quite clear to me — and to many other experts in the field — that mitochondrial dysfunction is at the heart of virtually all chronic disease, including heart disease, cancer and Alzheimer's.

Mitochondria are tiny organelles found in most of your cells, responsible for production of energy in the form of adenosine triphosphate (ATP). Your mitochondria have a series of proteins in the electron transport chain, in which they pass electrons from the metabolic products of the food you eat to combine it with oxygen from the air you breathe and ultimately form water. This is called aerobic respiration.

The more mitochondria you have and the healthier they are, the more energy your body can generate and the lower your risk of chronic disease. Disturbingly, research suggests 50% of people under the age of 40 have early onset mitochondrial dysfunction. It's no wonder then that diseases historically known to affect the very old are now affecting people in middle age or even younger. Dementia is certainly one of those.

A fascinating paper that demonstrates the power of lifestyle modifications for the prevention and treatment of Alzheimer's is that of Dr. Dale Bredesen, a UCLA researcher who, by leveraging 36 different healthy lifestyle parameters was able to reverse Alzheimer's in 9 out of 10 patients. This included the use of:

Exercise	Eliminating processed foods
Optimizing vitamin D	Optimizing hormones
Increasing sleep	Meditation

His work was published in the journal Aging in 2014. You can **download the full-text case paper** online, which details the full program.[35] According to Bredesen, "The results … suggest that, at least early in the course, cognitive decline may be driven in large part by metabolic processes."

Lifestyle Strategies That Reduce Your Risk of Alzheimer's Disease

While genetics can raise your risk of Alzheimer's, even genetic predisposition does not mean dementia is your inevitable fate. On the other hand, you may have no genetic predisposition for dementia and still lose your mind. It's important to remember that your genetic expression is predicated on epigenetic factors such as your diet, exercise, sleep and environmental exposures.

You can, to a great degree, influence your genetic fate, no matter what you start out with. When it comes to preventing Alzheimer's, enhancing your mitochondrial function is paramount.

Optimize your gut flora — To do this, avoid processed foods, antibiotics and antibacterial products, fluoridated and chlorinated water, and be sure to eat traditionally fermented and cultured foods, along with a high-quality probiotic if needed.

If you enjoy black coffee, keep the habit — I personally don't drink coffee because I don't enjoy the taste but if you're a coffee drinker, there's good news. Caffeine triggers the release of BDNF that activates brain stem cells to convert into new neurons, thereby improving your brain health. High-quality coffee also has many beneficial polyphenols that can improve brain function.

In one study, people with mild cognitive impairment whose blood levels of caffeine were higher (due to coffee consumption) were less likely to progress to full-blown dementia compared to those who did not drink coffee.[36] In another study, older women whose coffee consumption was above average had a lower risk of dementia.[37] Just make sure your coffee is organic, as coffee tends to be heavily sprayed with pesticides.

Move regularly and consistently throughout the day

Optimize your magnesium levels — Preliminary research strongly suggests a decrease in Alzheimer symptoms with increased levels of magnesium in the brain. Magnesium threonate appears particularly useful as it has the ability to cross your blood brain barrier.

Get sensible sun exposure to optimize your vitamin D and reap other photobiomodulation benefits — Sufficient vitamin D is imperative for proper functioning of your immune system to combat inflammation associated with Alzheimer's. If you are unable to get sufficient amounts of sun exposure, make sure to take daily supplemental vitamin D3 to make your blood level at least 60 to 80 ng/ml. This is typically about 8,000 units of vitamin D for most adults.

That said, please do remember that sun exposure is also important for reasons unrelated to vitamin D. The near-infrared light in sunlight actually helps boost cognition and reduces symptoms of Alzheimer's via a process known as photobiomodulation.

Avoid and eliminate mercury from your body — Dental amalgam fillings are one of the major sources of heavy metal toxicity; however, you should be healthy prior to having them removed. Once you have adjusted to following the diet described in my optimized nutrition plan, you can follow the **mercury detox protocol** and then find a biological dentist to have your amalgams removed.

Avoid and eliminate aluminum from your body — Common sources of aluminum include antiperspirants, nonstick cookware and vaccine adjuvants. There is some suggestion that certain mineral waters high in silicic acid may help your body eliminate aluminum.

Avoid flu vaccinations — Most flu vaccines contain both mercury and aluminum.

Avoid statins and anticholinergic drugs — Drugs that block acetylcholine, a nervous system neurotransmitter, have been shown to increase your risk of dementia. These drugs include certain nighttime pain relievers, antihistamines, sleep aids, certain antidepressants, medications to control incontinence and certain narcotic pain relievers.

Statin drugs are particularly problematic because they suppress the synthesis of cholesterol, deplete your brain of coenzyme Q10, vitamin K2 and neurotransmitter precursors and prevent adequate delivery of essential fatty acids and fat-soluble antioxidants to your brain by inhibiting the production of the indispensable carrier biomolecule known as low-density lipoprotein.

Limit your exposure to non-native electromagnetic fields (cellphones, Wi-Fi routers and modems) — The primary pathology behind cellphone damage is not related specifically to brain tumors, or even to cancer. The real danger lies in damage from the reactive nitrogen species peroxynitrites.[38] Increased peroxynitrites from cellphone exposure will damage your mitochondria, and your brain is the most mitochondrial-dense organ in your body.

Increased peroxynitrite generation has also been associated with increased levels of systemic inflammation by triggering cytokine storms, autonomic hormonal dysfunction and mitochondrial dysfunction.

Peroxynitrite is an unstable structural ion produced in your body after nitric oxide is exposed to superoxide, and this complex chemical process begins with exposure to

low-frequency microwave radiation from your cellphone, Wi-Fi and cellphone towers.[39,40]

Get plenty of restorative sleep — Sleep is necessary for maintaining metabolic homeostasis in your brain. Wakefulness is associated with mitochondrial stress; without sufficient sleep, neuron degeneration sets in. While sleep problems are common in Alzheimer's patients, poor sleep may also be contributing to the disease by driving the buildup of amyloid plaques in your brain.

While you sleep, your brain flushes out waste materials, and if you don't sleep well, this natural detoxification and clean-out process will be severely hampered.

Challenge your mind daily — Mental stimulation, especially learning something new, such as learning to play an instrument or a new language, is associated with a decreased risk of dementia and Alzheimer's. Researchers suspect that mental challenge helps to build up your brain, making it less susceptible to the lesions associated with Alzheimer's disease.

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