



March 10, 2026 - Volume 8-1 Spring 2026

- **Medical Supplements.**
- **Office Updates**

"It is impossible for a man to learn what he thinks he already knows."

Epictetus

"Anyone who stops learning is old, at twenty or eighty."

Henry Ford

"Live as if you were to die tomorrow. Learn as if you were to live forever."

Mahatma Gandhi

Longevity, Supplements, and the Modern Health Narrative

As we have reviewed in previous "Medical Bits", public interest in supplements and longevity continues to increase. Books, podcasts, scientific papers, and social media discussions now routinely explore strategies to extend health span or improve lifespan.

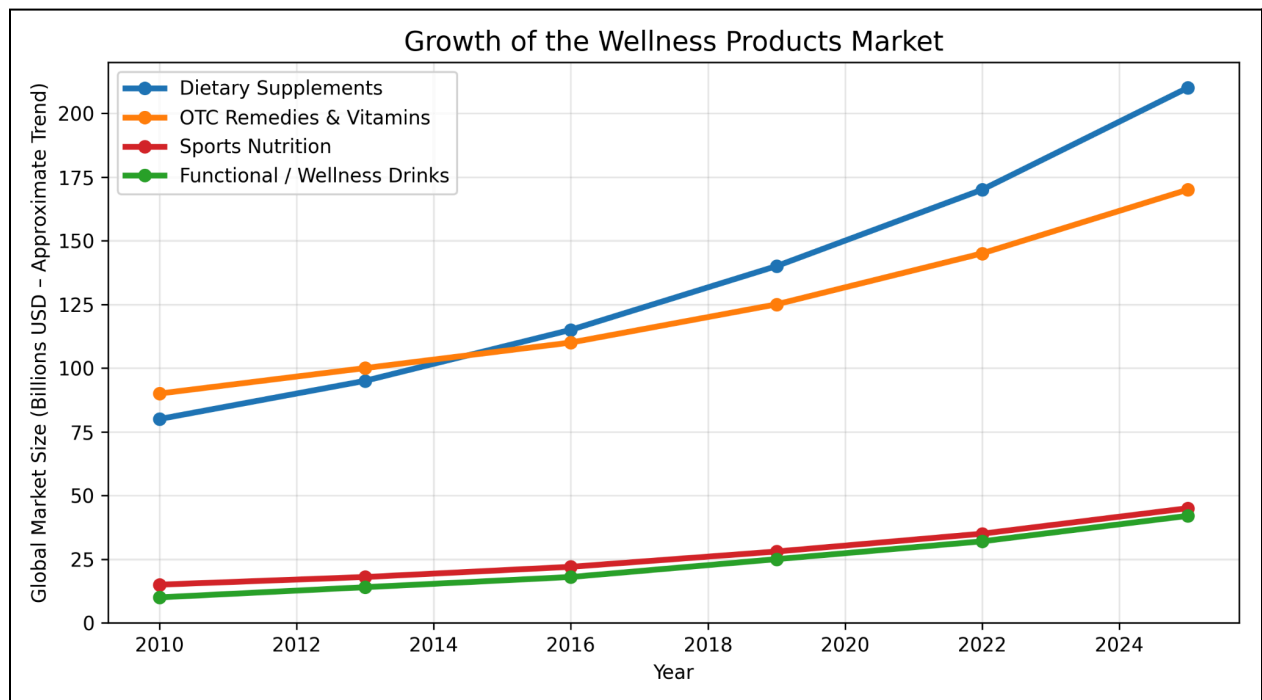
We are constantly "bombarded" with recommendations, and many fellow humans fall prey to the Supplement and Longevity "Industry" in part due to serious cases of FOMO (fear of missing out). Dietary supplements play a prominent role in this conversation. Products are marketed with promises of improved immunity, enhanced cognitive function, metabolic optimization, and even the possibility of slowing biological aging. These days, when real missiles and bombs are flying and hurting members of our species, you may need to ignore our "leaders" for embarking on unnecessary wars and spending blood and treasury in destruction and animosity towards fellow human beings. Many of us dream of days when humanity could concentrate its resources and ingenuity to help solve the species' many challenges instead.

You are very well aware that humans (and Americans in particular) love supplements. Almost 60% of adults take them regularly with vague hopes of becoming healthier or

more precise goals of helping their heart, joints, gut, brain, and more. This “healthy” optimism supports a big industry.

The Modern Supplement Industry: Booming and poorly regulated

The supplement industry has grown into a global enterprise exceeding \$150 billion annually. In the United States alone, consumer spending on supplements now exceeds \$60–70 billion per year. Thousands of formulations are marketed, including vitamins, minerals, herbal extracts, metabolic compounds, longevity molecules, probiotics, and specialized nutraceutical blends.



The global supplement industry has expanded rapidly. By some estimates, more than **85,000 supplement products** are available in the United States alone, and major pharmaceutical companies produce vitamins, probiotics, and other supplements, as they cannot “afford” to be left out of such a lucrative market.

“Vitamanía”, a book by Catherine Price, recounts the Nation’s craze for supplements from its early beginnings in the 1930s. Pills containing vitamins (chemicals that perform vital functions in the body, but are necessary in minute quantities) were seen as a way to boost soldiers and workers alike. Once vitamins could be synthesised in factories rather than extracted from nature, they became cheaper and more popular. In the 1960s, Linus Pauling (Chemistry Nobel Prize winner) argued that vitamin C could prevent colds and cure cancer (debunked MYTH).

Regulatory Environment

Strangely, regulations gave the industry its biggest boost!. In the 1990s, the FDA considered new regulations to limit Supplements' health claims. Of course, with billions of dollars at stake, the industry went on the offensive, splurging on lobbyists who framed the issue as one of "personal liberty" (every time you hear those words and epithets, your antennas should rise straight up, just like your cortisol levels). "The government and bureaucrats were taking away vitamins and the freedom of Americans to care for themselves".

We were rewarded with the **Dietary Supplement Health and Education Act (DSHEA) of 1994**, covering not just vitamins and minerals, but botanicals, amino acids, enzymes, metabolites, and pills made from animal organs. The 1994 law not only allowed companies to sell supplements without requiring the FDA's approval for safety or efficacy, but it also authorised firms to claim health benefits. They cannot say that their pills can prevent, treat, or cure a disease, but they may make vague claims that it "improves breathing" or "supports a healthy heart" or is "essential for strong bones", etc. Rather than restraining the industry, the law unleashed mayhem. There are now, more than 50 times as many supplements on the market as there were in 1994.

Under this law:

- Supplements **do not require FDA approval before marketing**.
- Manufacturers are responsible for ensuring safety.
- Products can make vague health claims such as "supports immune health."
- Manufacturers cannot claim to treat or cure disease.

This regulatory framework has allowed the industry to grow quickly, but has also raised concerns regarding **product quality, safety, and efficacy**.

Safety Issues

- Contamination with steroids.
- Mislabeled ingredients.
- Liver toxicity from diet pills.
- Contaminated probiotics.

Independent testing organizations have found that some supplements **do not contain the ingredients listed on their labels**, and large studies have shown that multivitamins **do not significantly reduce risks of heart disease, cancer, or mortality**.

Studies have found that some supplements contain incorrect ingredient quantities or undisclosed substances. In rare cases, contamination has led to serious health consequences, including liver disease or hospitalization. Despite skepticism among researchers, roughly **half of Americans regularly take supplements**, driven by marketing, perceived health benefits, and the desire for control over personal health.

Evidence Summary of Common Supplements

Supplement	Common Claim	Evidence Summary	Clinical Notes
Vitamin C	Prevents colds	Minimal benefit in general population	May slightly shorten colds in athletes or severe stress
Vitamin E	Heart protection	No cardiovascular benefit	High doses associated with increased mortality risk
Omega-3 fish oil	Cardiovascular protection	Mixed results	High-dose EPA helpful in specific cardiac populations
Probiotics	Gut health	Condition specific	Evidence for antibiotic-associated diarrhea and IBS
Collagen	Skin anti-aging	Limited evidence	Small cosmetic improvements reported
Ginkgo biloba	Memory improvement	No convincing benefit	Not recommended for dementia prevention
Turmeric / Curcumin	Antiinflammatory	Limited human trials	Bioavailability issues
Melatonin	Sleep aid	Effective in circadian rhythm disorders	Useful for jet lag and delayed sleep phase
Creatine	Athletic performance	Strong evidence	Also studied in neuromuscular disorders
Magnesium	Migraine prevention	Moderate evidence	Also useful for deficiency states

For most healthy individuals consuming a balanced diet, routine supplementation has not demonstrated significant benefits in preventing cardiovascular disease, cancer, or overall mortality. Evidence continues to support obtaining nutrients through whole foods whenever possible.

Supplements With Clear Medical Benefit

A small number of nutritional supplements have clear evidence supporting their clinical use. These supplements typically treat **specific deficiencies or well-defined medical conditions**, rather than providing general wellness benefits.

Folic acid is one of the most important examples. Supplementation before and during early pregnancy significantly reduces the risk of neural tube defects such as spina bifida. This preventive intervention represents one of the clearest successes of modern nutritional medicine.

Vitamin B12 supplementation is essential in patients with deficiency, particularly individuals with pernicious anemia, malabsorption syndromes, or strict vegan diets. An untreated deficiency can lead to irreversible neurological injury.

Iron supplementation remains the cornerstone therapy for iron-deficiency anemia, the most common nutritional deficiency worldwide.

Vitamin D supplementation may benefit individuals with documented deficiency or limited sun exposure, particularly older adults at risk for osteoporosis.

The **AREDS formulation** developed by the National Eye Institute has also demonstrated the ability to slow the progression of intermediate and advanced macular degeneration.

These examples highlight an important principle: Supplements are useful when treating a defined deficiency or disease, not as general health enhancers.

Supplement	Proven Medical Use	Evidence Strength	Notes
Folic Acid	Prevention of neural tube defects	Very strong	Standard prenatal recommendation
Vitamin B12	Treatment of deficiency	Very strong	Essential in pernicious anemia and vegan diets
Iron	Treatment of iron-deficiency anemia	Very strong	Requires monitoring

Vitamin D	Bone health in deficiency	Strong	Useful in osteoporosis prevention
AREDS formulation	Slows progression of macular degeneration	Strong	Does not prevent AMD
Creatine	Muscle energy metabolism	Strong	Evidence in sports medicine

Supplements With Little or No Proven Benefit

Large clinical trials have repeatedly shown that **routine multivitamin use does not reduce mortality or prevent cardiovascular disease in healthy adults.**

Similarly, **vitamin C supplementation** does not meaningfully prevent the common cold.

Vitamin E, once promoted as a powerful antioxidant, has failed to demonstrate cardiovascular benefit and may even increase mortality at high doses.

Herbal supplements such as **ginkgo biloba**, commonly marketed for memory enhancement, have not shown benefit in preventing or treating dementia.

The rapidly expanding market of **detox supplements, anti-aging blends, and longevity compounds** relies more on marketing narratives than rigorous clinical trials.

Supplement	Marketing Claim	Evidence Assessment
Multivitamins	Prevent chronic disease	No reduction in mortality
Vitamin C megadoses	Boost immunity	No strong evidence
Vitamin E high dose	Prevent heart disease	Potential harm



Detox supplements	Remove toxins	No scientific basis
Collagen drinks	Reverse aging	Cosmetic claims exaggerated
Ginkgo biloba	Prevent dementia	No convincing clinical evidence
Resveratrol	Anti-aging molecule	Animal evidence only

Other Supplements

Magnesium

Magnesium is an essential mineral involved in hundreds of physiological processes. It plays a key role in regulating heart rhythm, blood pressure, glucose metabolism, DNA synthesis, protein production, and neurotransmitter function, including serotonin production. Fortunately, magnesium is widely available in a balanced diet. Foods rich in magnesium include beans, nuts, leafy greens, bananas, milk, and whole grains. Nevertheless, magnesium supplementation has gained popularity, particularly on social media, where it is frequently promoted as a remedy for sleep problems, stress, depression, and cardiovascular disease. Although recent studies suggest possible benefits, most evidence comes from relatively small clinical trials.

Sleep: Recent trials investigating magnesium's impact on sleep have shown modest improvements. In a study published in *Nature and Science of Sleep* in 2025, 69 participants with poor sleep took a nightly magnesium compound. After four weeks, participants reported slightly better sleep than those in the placebo group, possibly because magnesium helps relax muscles and calm the nervous system. However, the improvements were limited and unlikely to treat insomnia fully. Another small trial involving 76 American adults tested magnesium L-threonate, a form believed to be more easily absorbed by the brain. After three weeks, those taking the supplement experienced improvements in deep and REM sleep. Participants also reported greater alertness, energy, productivity, and mood compared with those receiving a placebo.

Depression: Magnesium may also play a role in mood regulation. A 2023 review of seven randomized clinical trials involving 325 adults with depression found that participants receiving magnesium supplements experienced statistically significant reductions in depression scores. Researchers suggest that magnesium may reduce inflammation and inhibit certain enzymes associated with stress and mood disorders.

Migraines: Magnesium appears to have more consistent evidence in migraine prevention. A 2025 review of four randomized controlled trials found that daily magnesium supplements ranging from 122–600 mg reduced migraine severity and decreased attack frequency by about 2.5 episodes per month. These effects may result from magnesium's ability to dampen glutamate activity, a neurotransmitter linked to pain signalling in the brain.

Cardiovascular Effects: Evidence for cardiovascular benefits is less convincing. Some studies indicate that magnesium supplements can lower blood pressure, but mainly in individuals with hypertension or magnesium deficiency. Observational studies have also linked higher magnesium intake with lower stroke risk, though such findings may reflect broader dietary or lifestyle factors.

For most individuals, **dietary intake is sufficient** to meet magnesium requirements. However, magnesium supplementation may be useful for:

- People with documented deficiency
- Individuals with migraines
- Patients with poor sleep linked to magnesium deficiency

Keep in mind that our National Institutes of Health (still alive but on life support, after the well-known “War on Science” undertaken by the Trump “Administration”), notes that **nearly half of Americans consume less magnesium than recommended**, partly due to highly processed foods that strip minerals from the diet.

Testosterone in Men: Benefits and Risks

Testosterone therapy has long been used to treat **male hypogonadism**, a condition in which the body produces abnormally low levels of testosterone due to disorders of the testes, pituitary gland, or hypothalamus. In these medically defined situations, testosterone replacement therapy (TRT) can provide clear clinical benefits, including improvements in **sexual function, bone density, muscle mass, mood, and energy levels**. In recent years, however, testosterone therapy has expanded beyond its traditional medical indications. Increasing numbers of middle-aged and older men seek

testosterone treatment for symptoms often described as “**low T**”, including fatigue, reduced libido, diminished physical performance, and cognitive slowing. Some clinics and wellness programs now promote testosterone therapy as a strategy to restore vitality and counter aspects of aging.

Testosterone is the principal androgen hormone in men and plays a central role in:

- Sexual development and fertility
- Maintenance of muscle mass and strength
- Bone density
- Red blood cell production
- Mood and cognitive function

Testosterone levels typically peak during adolescence and early adulthood and gradually decline with age. On average, circulating testosterone levels decrease by **approximately 1% per year after the age of 30–40**. For many men this decline causes few symptoms, but in some cases it may contribute to fatigue, reduced libido, or decreased physical performance.

Indications for Testosterone Therapy

Clinical guidelines generally recommend testosterone therapy only when **both of the following criteria are met**:

1. **Consistently low testosterone levels confirmed by laboratory testing**, usually measured on two separate morning blood tests.
2. **Symptoms consistent with androgen deficiency**, such as reduced libido, erectile dysfunction, fatigue, loss of muscle mass, or decreased bone density.

Treatment is typically delivered through **topical gels, injections, patches, or long-acting implants**.

Testosterone, Aging, and Lifestyle Factors

One of the central questions surrounding testosterone therapy is whether it should be used to counter **age-related hormonal decline**. Some advocates argue that restoring testosterone levels to those seen in younger men may improve vitality, physical performance, and cognitive function. But the evidence supporting testosterone as an **anti-aging intervention** remains limited. Clinical trials have demonstrated modest improvements in **sexual function and bone density**, but less consistent effects on **energy levels, physical performance, or cognitive outcomes**. Several lifestyle

factors appear to influence testosterone levels. **Regular physical activity (resistance training) and maintaining healthy muscle mass are associated with higher testosterone levels and improved hormonal balance.** Exercise can also improve insulin sensitivity, reduce visceral fat, and enhance overall metabolic health, all of which may support healthier testosterone levels over time.

Conversely, sedentary behavior, obesity, chronic stress, and poor sleep are associated with **lower testosterone levels**. As a result, many clinicians emphasize **lifestyle interventions as the first-line approach** before considering hormone therapy in men with borderline or age-related declines in testosterone.

Potential Risks

- Acne or oily skin.
- Fluid retention.
- Breast enlargement (gynecomastia).
- Suppression of sperm production, which can affect fertility.

More serious concerns include:

- Elevated red blood cell counts (polycythemia) may increase the risk of clots.
- Worsening of untreated sleep apnea.
- Potential stimulation of prostate growth.

The relationship between testosterone therapy and **cardiovascular risk** remains debated. Some studies suggest increased risks in older men with existing cardiovascular disease, while others have found neutral or even beneficial effects. At present, most guidelines recommend **careful patient selection and monitoring**.

Men receiving testosterone therapy require periodic follow-up to monitor:

- Testosterone blood levels.
- Hematocrit (red blood cell concentration).
- Prostate-specific antigen (PSA).
- Metabolic and cardiovascular markers.
- Abrupt discontinuation may result in temporary symptoms of hormonal deficiency.

Practical Perspective

The rise of testosterone therapy mirrors the broader growth of the wellness and anti-aging industry. Direct-to-consumer advertising and specialized “low T clinics” have

made hormone testing and treatment widely accessible. Are we “medicalizing” normal aging? Probably. Supporters believe carefully managed therapy can improve the quality of life.

For men with **documented hypogonadism**, testosterone replacement therapy remains an important and well-established medical treatment. For otherwise healthy men experiencing gradual age-related hormonal decline, the benefits are less clear.

Lifestyle factors—including **regular exercise, maintenance of muscle mass, healthy sleep patterns, and weight management**—remain among the most effective ways to support healthy testosterone levels over time.

As with many therapies promoted for longevity or performance, the key challenge lies in distinguishing **clear medical indications from broader lifestyle expectations**.

Testosterone in Women: Social Media Trend?

Testosterone is commonly associated with male physiology, but it also plays a role in women’s health, contributing to **sexual desire, arousal, mood regulation, and energy levels** through its effects on the central nervous system. Historically, physicians prescribed testosterone for women experiencing low libido. However, concerns regarding hormone replacement therapy (HRT) in the early 2000s reduced the use of such treatments. In recent years, interest in testosterone therapy has returned. Since 2019, testosterone has increasingly been prescribed for **hypoactive sexual desire disorder (HSDD)**, with prescription rates doubling in the US and increasing by several fold in the UK between 2013 and 2023. Testosterone levels naturally decline with age. By menopause, levels fall to **approximately one quarter of those seen in a woman’s twenties**. Therapeutic approaches aim to restore levels to **pre-menopausal ranges**, typically using topical gels or creams. Some women with menopausal “brain fog” report improved concentration and reduced decision fatigue after testosterone therapy.

Potential Benefits

- Sexual desire - increased libido.
- Mood
- Cognitive clarity
- Energy levels

Safety Concerns

- Acne
- Unwanted body hair

- Mood instability
- Irreversible deepening of the voice

Injectable testosterone pellets may deliver excessively high hormone levels and are not recommended. Most importantly, **long-term safety data remain limited**. For younger women without clear medical indications, testosterone use as a performance enhancer remains controversial and largely unsupported by evidence.

Peptides

Peptides are short chains of 2-50 amino acids linked by chemical bonds, smaller versions of proteins that function as essential signaling molecules. There is a wide range of **peptides**, many of them marketed for muscle growth, recovery, cognition, and longevity, that can be bought with little oversight. Popular examples like **BPC-157** are widely promoted despite minimal human evidence. There is a broader movement toward **self-directed health optimization**, where users build a “folk pharmacology,” sharing dosing strategies and research online. Many see this as a way to bypass a medical system focused on treating disease rather than enhancing performance or well-being.

The risks are substantial. Product quality is unreliable, with studies showing **contamination and incorrect labeling**, and most peptides lack rigorous clinical testing. Potential harms include hormonal disruption, cardiovascular disease, cancer risk, and other unknown long-term effects.

GLP-1's (Glucagon-like Peptide type 1) receptor agonists are also well-studied peptides. We reviewed their many benefits in previous “Bits”. Despite the old science mantra “there is no panacea”, some researchers and enthusiasts wonder if this class of drugs used to treat type 2 diabetes and obesity benefits biological processes linked to aging. Semaglutide (Ozempic and Wegovy) and tirzepatide (GLP-1 and insulinotropic effect and commercially available as Mounjaro and Zepbound) are being studied for a wide range of conditions, from heart failure and addiction to neurodegenerative diseases. Results so far have been mixed. Interest in these drugs stems from research into the “hallmarks of aging,” a group of biological processes reviewed in prior “Bits”, that gradually damage tissues over time. Early studies, mainly in animal models, suggest that GLP-1 drugs influence several pathways, and appear to reduce chronic low-grade inflammation (“inflammaging”), improve cellular recycling by clearing damaged mitochondria and misfolded proteins, and modulate metabolic pathways that regulate how cells respond to nutrients. Some evidence also suggests they may stimulate stem cells involved in tissue repair.

Animal studies have shown that GLP-1 drugs may improve healthspan, but they have not been shown to extend overall lifespan. Despite the uncertainty, some individuals are already seeking GLP-1 drugs off-label as potential longevity treatments. Online communities of early adopters are now sharing experiences and monitoring outcomes, effectively conducting informal, uncontrolled experiments. Whether GLP-1 drugs ultimately prove to influence the biology of aging remains an open scientific question.

Hangover Supplements: Science or Marketing?

Despite an encouraging decline in worldwide alcohol consumption, hangovers are common: headaches, nausea, and difficulty concentrating, leading to a market for supplements claiming to prevent hangovers, such as **Myrkl, ZBiotics, and DrinkDefendly**. Alcohol metabolism involves two key enzymes:

1. **Alcohol dehydrogenase (ADH)** converts ethanol into acetaldehyde
2. **Acetaldehyde dehydrogenase (ALDH)** converts acetaldehyde into less harmful substances

Acetaldehyde is toxic and responsible for many hangover symptoms, including headaches and nausea. Most hangover supplements claim to **accelerate this metabolic process**. Evidence supporting these products is limited.

Some supplements contain **dihydromyricetin**, a plant extract believed to stimulate ADH activity. A 2022 review found modest reductions in hangover severity, but other studies showed **no measurable effect on alcohol metabolism**. Another product, developed by the company ZBiotics, uses genetically engineered bacteria designed to produce ALDH in the gut. Laboratory studies suggest this mechanism might work in theory, but **real-world clinical evidence is lacking**. Even if such supplements were effective, they could not prevent all hangover symptoms because alcohol produces additional toxic byproducts called **congeners**, including methanol derivatives.

Reliable strategy: **Drink less alcohol**.

Sunlight: Risks and Benefits

March 21st is our Spring equinox, announcing shorter nights and longer days. For decades, public-health guidance emphasized avoiding sunlight due to the risk of skin

cancer. Ultraviolet (UV) radiation can damage DNA and contribute to melanoma and other skin cancers. However, new research suggests that sunlight may also provide important cardiovascular and immune benefits beyond vitamin D activation.

Large observational studies have linked higher sunlight exposure to **lower mortality rates**. One study involving 360,000 individuals found that people exposed to more UV radiation had **12–15% lower risk of death**, even after accounting for increased skin-cancer risk. Another long-term study of 30,000 Swedish women found that those with the greatest sun exposure had **half the mortality rate** of those with the least.

Biological Mechanisms: Several mechanisms may explain these findings: sunlight triggers nitric oxide production **in the skin**, which can lower blood pressure by relaxing blood vessels. Because hypertension is a major risk factor for cardiovascular disease, this pathway may contribute to improved cardiovascular health. Sunlight may also influence immune function and reduce the risk of conditions such as **multiple sclerosis**, which is more common in regions farther from the equator.

Of course, UV radiation stimulates vitamin D production, essential for bone health. Research suggests that **sunlight's health effects may involve multiple biological pathways**, not just vitamin D.

Best: Moderate sunlight exposure without sunburn: Too little and too much UV exposure can be harmful.

Conclusion

The modern health landscape is filled with supplements, hormones, peptides, and lifestyle interventions promising improved health and longevity. Some may provide real benefits, but most products are marketed far beyond what scientific evidence supports.

Understanding the difference between **evidence-based medicine and marketing** is important. We need to be aware of the growing tension between **scientific evidence and consumer demand**.

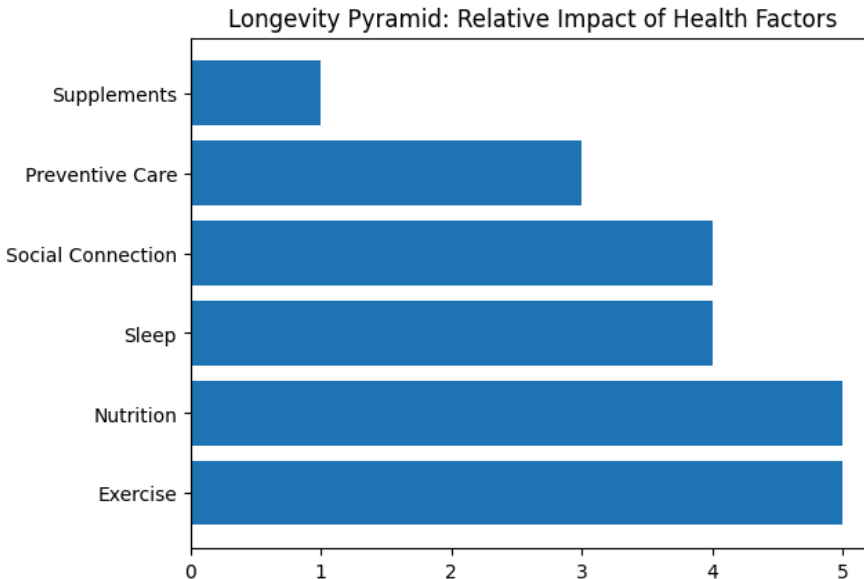
One of the larger concerns is at the top of our Government. We have a President and an Executive branch willing to embrace unscientific ideas, rewarding only loyalty and ideology, promoting sycophants and acolytes to positions of executive power with no scientific training. We cannot expect authoritative decisions from incompetent and poorly trained individuals who cannot grasp the nuances of science. They are undermining the authority of their respective branches of government. The Make America Healthy Again (oxymoron as most Trumpian slogans) is actively destroying our access to safe vaccines and stalling investment in future vaccine development. The

damage will likely be long-lasting. Sadly, while other nations (including China) are busy replicating and enhancing our government-university-industry virtuous biofeedback and the engine behind so much progress and discoveries, we are content destroying and trampling venerable institutions, persecuting scientists, and eliminating funding without proper analysis. You all realize that destruction has always been easier than creation.

In this environment, the illusion that **health can be optimized through pills** rather than through lifestyle change and effort is a greater risk. The supplement industry will continue to flourish, aided in part by regulatory gaps, social media, influencers, mixed scientific support, and the fact that some members of our species are willing to take advice from dangerous characters without knowledge or credentials.

The evidence highlights a recurring theme in modern health science: new interventions may offer potential benefits. But strong conclusions require larger, longer, and rigorous studies. Until then, moderation, healthy lifestyles, and evidence-based medical guidance remain the most reliable foundations of health. The strongest scientific evidence continues to support traditional interventions: Physical activity, healthy diet, adequate sleep, cardiovascular risk control, and social engagement.

These interventions are far more powerful than any supplement:



Degenerative Diseases of the Central Nervous System

As life expectancy increases worldwide, neurodegenerative diseases have emerged as one of the most significant challenges in modern medicine. These conditions are characterized by progressive neuronal loss and accumulation of abnormal proteins

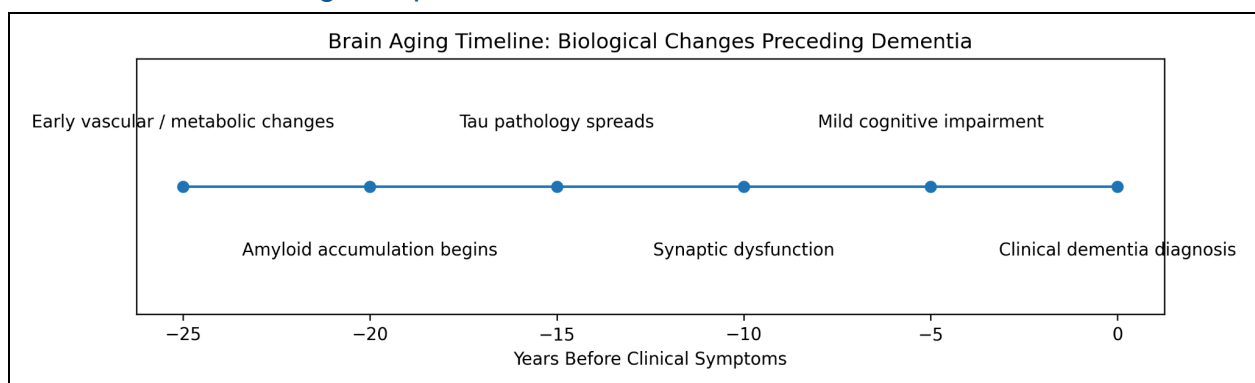
within the brain. Among the most important are Alzheimer's disease, Parkinson's disease, dementia with Lewy bodies, and frontotemporal dementia.

Alzheimer's was believed to be caused by accumulating amyloid plaques in the brain, but efforts to reduce those plaques have not reversed cognitive decline. Several other mechanisms may be implicated, including disruptions in normal brain fat metabolism. APOE4 is a mutation associated with abnormal lipid transport in the brain, leading to neuron accumulation of fat, damaging the fatty myelin of nerves, and slowing down nerve signaling.

Low-dose lithium, including subtherapeutic and trace levels, has shown potential benefits in slowing cognitive decline and modifying Alzheimer's disease biomarkers in patients with mild cognitive impairment (MCI), with systematic reviews supporting its safety and possible efficacy at tiny doses. Trace lithium, such as that found in drinking water or in very low-dose supplements such as lithium orotate at 1 mg daily, appears to be associated with reduced dementia rates. High-quality data at these very low doses is limited. Lithium orotate has demonstrated neuroprotection and prevention of cognitive decline in animal models, with one recent study showing it prevents pathological changes and memory loss in AD mouse models and aging wild-type mice.

Alzheimer's Disease and Dementia

Alzheimer's disease remains the most common cause of dementia worldwide and is characterized by the accumulation of beta-amyloid plaques and tau neurofibrillary tangles. These pathological changes begin decades before symptoms appear, and thus, by the time someone has neurologic symptoms and cognitive decline, it is usually too late to make a meaningful impact.



Progressive biological events occur years before dementia symptoms appear

There is no magic pill! Increasing longevity takes hard work and good luck!

1. Eat the right way and embrace a Mediterranean diet.
2. Avoid concentrated sweets and all sugary drinks (anything that tastes sweet is probably not good for you, as even artificial edulcorants trigger insulin release and precipitate a negative metabolic response).
3. Accept intermittent fasting as much as you can tolerate, striving to approximate 14 hours without much caloric intake (breakfasting with a few almonds or nuts and getting most of your nutrition at dinner time gets you close to the goal).
4. Exercise daily. Both aerobic and resistance exercises help.
5. Get “uncomfortable” by exercising and fasting daily.
6. Meditate.
7. Foster meaningful relationships with family, friends, and even strangers.

DEBUNKING MEDICAL MYTHS: Q & A

1. Are people with **Shellfish Allergy** intolerant of **IV Contrast**? Research has shown that the risk of contrast reactions is similar
2. Patients with **Atrial Fibrillation** for less than 48 hours do not need **anticoagulation**. Evidence suggests that anticoagulation should be considered to reduce the risk of thromboembolic events, regardless of the duration of atrial fibrillation
4. **β -blockers** should be avoided in patients with respiratory diseases such as **asthma or COPD**. Multiple studies demonstrated that β -blockers are safe and may reduce the risk of cardiac events.
5. Measles-mumps-rubella (**MMR**) vaccine causes **autism**. This has been thoroughly debunked despite our Secretary of HHS long-held beliefs. Extensive research has shown no link between the MMR vaccine and autism spectrum disorders.
6. **Fiber and Health**: Whole foods containing natural fiber are more beneficial than processed foods with added fiber.

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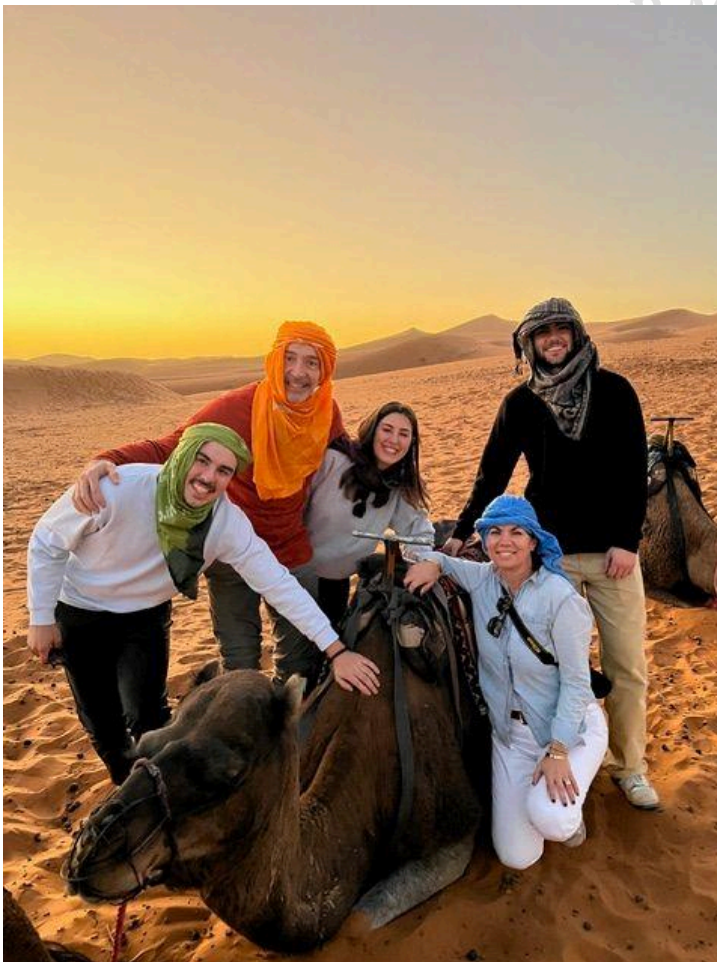
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Embrace fitness! Exercise is candy to our muscles, and they need daily intermittent activity to remain metabolically healthy!

The only certainty in life is death. The only fountains of youth are love, exercise, laughter, humor, and a positive attitude!

OFFICE NEWS AND REMINDERS

- **Parking** access is at the back of the building, and free valet parking is available.
- **Medication refills & clerical support:** Please, email my assistants:
 - Lexi Manning: Alexandra.Manning@premier-medicine.com
 - Olivia Dragovits: ODragovits@premier-medicine.com
- **Appointments:** please email Ashley Alvarez at AAlvarez@premier-medicine.com or call 301-637-5555.
- **Insurance & billing:** Brenda - Office Manager at BPerez@premier-medicine.com
- Irene Rieder, our wonderful Nurse Practitioner, at Irene.Burgos@premier-medicine.com.
- Dr. Picone: email cpicone@premier-medicine.com. If **urgent**, cell phone 301-943-5189.
- If you are hospitalized, please remind the admitting physician to notify me.
- When using email, please keep messages succinct and use bullet points.



VACATION: I will be away from March 26th through April 6th. My Nurse Practitioner and my colleagues, Drs. Vassallo, Talesnick, Fishman, and Shapiro will cover for me, but never too far from email or phone, as you know.

Have a wonderful Spring! Celebrate Nowruz (Persian New Year) in PEACE! Despite our politicians' myopia, humanity should rise above conflict, joining to solve our species' challenges. We need inspirational leaders and trust that the new generation will do better!