Life Expectancy Gains Are Slowing. Your Choices Are More Important Than Ever

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Gains in life expectancy are slowing and that means gains in healthspan are all the more important.

For decades, the trajectory of human longevity felt predictable: each generation could expect to live longer than the last. That assumption has shaped everything from retirement planning to how we think about aging itself. Now, new research suggests that the upward pattern may no longer hold at the rate we've come to expect.

A **study** published in *Proceedings of the National Academy of Sciences* found that the pace of life expectancy gains is slowing across high-income countries — and could fall well short of the dramatic increases seen in the early 20th century.

This changes how we think about longevity. If **longer lives** are no longer guaranteed by default, the focus shifts from adding years to improving how those years are lived.

The End of Rapid Gains in Lifespan

The study, led by Dr. José Andrade and Dr. Héctor Pifarré i Arolas, takes a close look at generational life expectancy trends across high-income countries. Its conclusion: the dramatic life expectancy gains seen in the early 20th century are unlikely to repeat themselves for people born between 1939 and 2000.

"Life expectancy increased dramatically during the first half of the 20th century —

from 62 years for those born in 1900 to 80 years for those born in 1938," Dr. Andrade explains. "But our research shows that life expectancy improvements for these generations are slowing down, with the pace dropping by 37% to 52%."

Even more striking: "None of these generations are expected to live 100 years on average."

This doesn't mean people will stop living to 100. (According to the **Pew Research Center**, centenarians currently make up 0.03% of the overall U.S. population, and that number is expected to quadruple to a still modest 0.1% by 2054, driven largely by the size of the baby boomer generation aging into extreme old age, not by faster per-generation gains in life expectancy.) But it signals a shift at the population level. Where longevity gains were once rapidly compounding, the easy wins could very well be behind us.

What you choose to do with that information could still have a profound effect on your lifespan and wellbeing, experts say.

Why the Longevity Curve Is Flattening

Early gains in life expectancy were driven largely by reducing deaths at younger ages. Most of these gains came from falling infant mortality, improved treatments for infectious diseases, and fewer workplace hazards. Those gains are now largely exhausted in developed nations.

"We found that life expectancy gains slowed down because early-age mortality is already very low," Andrade says. "Further gains are limited, and older ages will not improve fast enough to make up the difference."

Even under optimistic scenarios — where survival in later life improves faster than expected — projections still fall short of the explosive gains of the past.

Aging as the Bottleneck

This is where the conversation shifts — from lifespan to the biology of aging itself. It's also where some of the greatest opportunity for sweeping progress lies.

"Aging is the dominant risk factor for virtually all major chronic diseases," says Dr. Luigi Ferrucci, geriatrician and epidemiologist. According to a **2022 review**, this includes diabetes, Alzheimer's, Parkinson's, cardiovascular disease, osteoporosis, cancer, and more.

"This has led to the geroscience hypothesis," says Dr. Ferrucci. "Instead of treating diseases one by one, targeting the biological processes of aging could delay multiple conditions simultaneously."

The idea of aging as a risk factor for **chronic disease** is reshaping how researchers think about longevity. If aging is a major underlying driver of disease, then slowing aging could extend not just years of life, but years of function.

Ferrucci is careful to frame this as a working theory, not a settled fact: "The emerging view is that aging biology has become the main bottleneck to further gains in lifespan, but this is still a hypothesis."

Still, it helps explain why traditional approaches — like better drugs and surgeries — may have diminishing returns at the population level. They treat the outcomes of aging, rather than its root causes.

AI and Tech Gains May Also Turn the Tides on Longevity

There's also some cause for optimism, thanks to technological advancements which could see exponential growth in the coming years. Artificial intelligence is poised to transform how we **detect, diagnose, and treat** the diseases most responsible for premature death.

Machine learning models trained on vast datasets of medical imaging, genomic sequences, and electronic health records are **already outperforming** some specialists in general medical knowledge, identifying early-stage cancers, predicting cardiovascular events, and flagging neurological decline before symptoms emerge.

As these systems grow more sophisticated, a shift from reactive to preventive medicine and from generalized to personalized treatments could become the two defining features of 21st-century healthcare — catching disease at the molecular level, years before it becomes life-threatening, and offering individually-tailored treatment plans to best address what comes.

But given the field's breaking nature, it's also hard to predict just how these factors could shape the future longevity curve. Some advise skepticism, especially to those who view upcoming tech as a silver-bullet solution.

"No one in history ever lost money promising everlasting life and everlasting health," said **orthopedic surgeon** Guillem Gonzalez-Lomas, MD, speaking on a longevity panel for NYU Langone Health in April. "That's just the story of medicine. We all mock turn-of-the-century snake oil. But we're almost entering a new period of the same. Where there's smoke, there's sometimes fire. There's truth to some of these claims. But they're part of a complex picture," he warned.

In other words, yes, we're likely to see fewer late-stage diagnoses, more targeted therapies, and better-managed chronic conditions. But adding healthier years to your lifespan still comes down to the tried and true basics, Dr. Gonzalez-Lomas emphasizes: diet, exercise, sleep, stress management, and a handful of other habits we've known about for decades.

The Midlife Opportunity for Improving Healthspan

Even if we *don't* see big gains in lifespan in the coming decades, there's still ample opportunity to improve healthspan. This is especially true in the United States, where

the difference between healthspan and lifespan is greatest. According to a 2024 *JAMA Network Open* **study**, Americans spend an average of 12.4 years in poor health — more than in any other nation on earth. Even as lifespan has increased over the past two decades in the U.S., healthspan has stayed relatively stable, creating a concerning gap.

"Midlife is a critical window," Ferrucci says. "A small set of modifiable factors repeatedly emerges as high-impact" when it comes to extending healthspan. These are the modifiable health factors Dr. Ferrucci recommends focusing on:

1. **Cardiometabolic health:** Avoiding hyperglycemia, overweight, and dyslipidemia strongly predicts "exceptional survival" (long life without disease or disability).
2. **Physical activity and fitness:** Higher functional capacity (e.g., strength, fitness) is one of the strongest predictors of healthy aging.
3. **Pulmonary function:** Poor lung function at midlife independently predicts later-life impairment.
4. **Smoking status:** Not smoking, along with diet and exercise, is consistently associated with remaining disease-free and high-functioning in older age.
5. **Mental health and social factors:** Socioeconomic position and psychosocial conditions strongly influence the probability of "successful aging."
6. **Overall pace of biological aging:** Individuals with faster biological aging in midlife already show early cognitive, sensory, and functional decline by their 40s. Diet, exercise, sleep, and stress management can all help slow biological aging.

What This Means for You

The research may at first read as pessimistic. On a population level, we may not add years to our lives at the rate of progress we're accustomed to.

But there's still plenty of cause for optimism. Population averages describe what happens when nothing changes, they've never set the ceiling for what's possible

individually. When the floor stops rising as quickly, the distance between average and exceptional widens. That's where personal agency gets its leverage.

Forecasts, Andrade reminds us, aren't destiny. Instead, the stats clarify where we should be putting our focus and our efforts.

"Events like pandemics, new medical treatments, or social changes can significantly impact actual lifespans," he says. "Life expectancy may not follow the trends we anticipate."

If the current data suggests we're unlikely to see another century of dramatic, across-the-board increases in lifespan, then *how* we age matters more than ever.

The future of longevity will most likely be shaped less by sweeping public health revolutions and more by targeted, personalized strategies: slowing biological aging, optimizing midlife health, and extending the years we remain active, engaged, and independent.

Ferrucci is careful to note that access to these factors isn't equally distributed, with socioeconomic position shaping who can act on them. That's the larger policy question underneath the science. The curve may be flattening. But the quality of the journey is still very much in our control.

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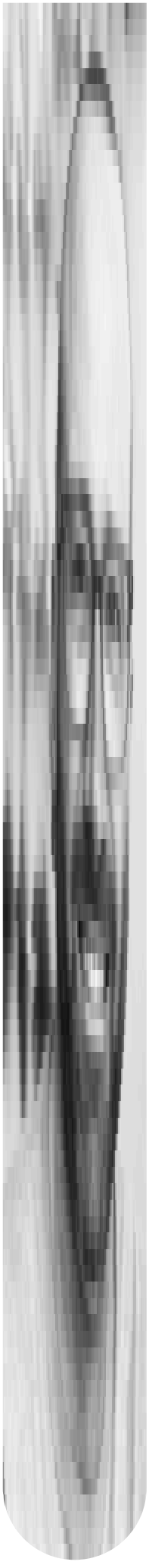

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