



New Age Thinking

We're living longer than ever, and the population of elderly is about to double. But Stanford researchers say our approach to aging is stuck in a time warp.

BY KEVIN COOL

SIDEBARS

- ◆ [How it feels to get old](#)
- ◆ [Obesity among the young](#)

- ◆ [FEATURES](#)
- ◆ [RED ALL OVER](#)
- ◆ [FARM REPORT](#)
- ◆ [News](#)
- ◆ [Sports](#)
- ◆ [DEPARTMENTS](#)
- ◆ [CLASS NOTES](#)
- ◆ [SHOWCASE](#)
- ◆ [COLUMNS](#)
- ◆ [CLASSIFIEDS](#)
- ◆ [CONTACT US](#)
- ◆ [BACK ISSUES](#)



Illustration by Dugald Stermer

FOR MOST OF human history, dying young has been a given. From the time the earliest modern humans crawled out of caves until the middle of the 18th century, average life expectancy hovered around 27 years. Those lucky enough to grow up and have children watched most of them die. If disease, hunger or killer infections didn't get you, marauding neighbors probably did.

By 1900, improved nutrition and basic medicine had increased life expectancy in the United States to 47. Still, infant death was common; great-grandparents were not.

Then came antibiotics, sanitation, pediatric immunizations and universal health education. In a little more than a century, life expectancy increased 30 years—more years, Stanford researcher Laura Carstensen points out, than were gained “in all previous millennia

combined.” A child born in the United States today can expect to reach age 77 or more. Soon, living to 100 will be no big deal.

And that's a problem.

Combined with the bulging numbers of baby boomers, the first of whom reach age 65 seven years from now, longer lives create a double whammy on a health care system already struggling to serve everybody who needs it. Absent radical changes, the United States could face a situation in which people currently in their 20s and 30s—a group that some studies say may be less healthy than their parents (see [sidebar](#), page 54)—will one day be expected to provide for large numbers of both children and the aged.

Census Bureau statistics illustrate the magnitude of the demographic shift under way. In 2002, the U.S. population 65 years of age and older was 35.6 million. By 2030, it will be twice that. All the nation's centenarians living today could fit comfortably in 85,000-seat Stanford Stadium. By 2050, it will take 15 stadiums to hold them all. Health care costs, currently about 15 percent of gross domestic product, could exceed 40 percent by the middle of this century. At the same time,

the number of working Americans—defined as persons aged 18 to 65—is expected to plummet. That means fewer people will be paying Social Security and Medicare taxes when those benefit programs need the money most.

Carstensen is one of a number of Stanford scholars analyzing how best to avoid the grim scenarios of forecasters. They come from economics, medicine, public policy and, in Carstensen's case, psychology. Director of the Life-span Development Laboratory at Stanford, Carstensen believes that addressing the coming crisis requires a transformation of American society, based on the acknowledgment that longer lives have created a new reality. "Our society is still structured on assumptions that are 100 years old," she says. "We're living lives guided and scripted by social institutions that evolved around life expectancies half as long."

Social Security is a good example. Its eligibility rules are modeled on the world's first old-age pension plan, established in Germany in 1889. That program set the age of eligibility at 70 and later lowered it to 65. When the United States established Social Security in 1935, it settled on 65 as the age when benefits kicked in. Considering that life expectancy at the time was 61, you don't need an actuarial table to know that the program's finances weren't in jeopardy. Seventy years later, life expectancy has increased 16 years; Social Security's eligibility age hasn't moved. (Beginning in January 2005, it will increase incrementally for new retirees, topping out at 67 by 2021.)

If current trends persist, according to the 2004 Social Security trustees report, the program will begin running annual deficits in 2018. It will be out of money in 2042. The outlook for Medicare is even worse. The government predicts it could be broke in 15 years.

Alan Garber, a health economist and physician who directs Stanford's Center for Health Policy, fears society's response to the impending disaster is like a patient with a progressive disease. "The pain isn't too bad yet, so we don't pay much attention to it. But more pain is coming, and by then it may be too late."

Garber, MD '83, helps evaluate Medicare as a member of the program's coverage advisory committee. He worries that changes needed to keep Medicare financially sound aren't politically viable. "It's dangerous for politicians to suggest restricting benefits or raising the age of eligibility," he says. But without major reform to reduce either payouts or recipients, "Medicare won't succeed."

A similar problem vexes Social Security, according to economics professor John Shoven. His 1999 book *The Real Deal: The History and Future of Social Security*, written with Sylvester Schieber, describes the financial shortcomings of the program and complains that "elected officials have a tendency to focus on downstream issues within the context of two-year election cycles." "Whether we characterize Social Security's current financing prospects as a crisis or not is beside the point," Shoven asserts in *Real Deal*. "Public policymakers must change Social Security's course."

Carstensen looks at aging in the context of what she calls the "life course." She suggests we fundamentally change how we view age and reconfigure our lives accordingly. Rather than merely working to repair social programs, she asks, why not reinvent our notion of retirement? Does it make sense to retire at 65 if we're going to live to be 95? "What's happening is that we're just tacking years on at the end of our lives," she says. "Nobody said they had to come at the end."

Already, "retirement age" is more concept than reality for many people. Millions of older Americans continue full-time employment to pay their bills, and a recent survey of 45-year-olds by the American Association of Retired Persons revealed that almost 70 percent plan to keep working past retirement age. Economic worries, especially the cost of health insurance, were cited most often as the

reason.

Carstensen says, admittedly somewhat tongue-in-cheek, that society might be better served if people could “retire” earlier in their lives when the extra time would be more meaningful. Perhaps work part-time during the years when careers compete with child-rearing, then return to the workforce at, say, age 40. “When the kids are teenagers, you go back to work and work until you’re 80.”

She allows it’s a radical idea, but an example of how to change society to account for the new reality of longer lives. “How would we support people between age 20 and 40? Well, how do we support people between 70 and 90? You have a combination of government support and part-time work—things would have to change a lot. We can build any kind of society we want.”

Carstensen is quick to add that such hopeful imagining hinges on a currently unreliable assumption: that older people will be healthy. “The question we should be asking is, ‘How do we ensure that people come to old age mentally sharp and physically fit?’”

Technically speaking, if you’ve passed age 30, you’re already dying. That’s when cell death begins to outstrip cell replacement, but there are sufficient reserves in most major organs to keep us going decades longer. And thanks to medical advances, illnesses that once would have killed us are treatable, even at very old ages. We can live a long time, but how long can we live well?

Answering that question is the basis of Jim Fries’s research on “compression of morbidity,” a thesis, first presented in 1980, that says the right combination of medical and lifestyle advancements can shorten the period between the onset of infirmity and death, even as life expectancy rates continue upward. In other words, living longer doesn’t have to mean dying longer.

According to Fries, professor of immunology and rheumatology at the School of Medicine, chronic, age-related illnesses—diabetes, hypertension, heart problems—usually begin showing up at about 55. But there is ample evidence that simply taking care of oneself can extend one’s healthy years significantly.

Near the end of our lives, emotional satisfaction becomes more fulfilling than learning new skills.

Fries, ’60, has led a study of University of Pennsylvania alumni since 1986 in which he compares the onset of disability and the cumulative periods of disability for those who smoked, were obese and did not exercise with those who did not smoke, were lean and exercised regularly. He summarized the results recently in *Annals of Internal Medicine*. “Effects of good health on subsequent disability were extremely large,” he wrote. Persons in

the “unhealthy” group were four times as likely to suffer chronic illness as were those in the “healthy” group. Also, “the onset of initial disability was postponed by 7.75 years in the best one-third compared with the worst one-third.”

So, healthy living pays off. No surprise there. But what is surprising in Fries’s research is that the United States is keeping older people healthy longer without really trying. He points out that rates of disability among the elderly have declined steadily since the early 1980s, despite the lack of a systematic program for promoting good health. Although smoking decreased significantly during the past 20 years, he notes, the prevalence and degree of obesity increased “and a trend toward more sedentary lifestyles continued.” As a result, he attributes the health



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Linda Cicero/News Service

gains primarily to medical intervention. Combining improved medicine with health maintenance programs that reward good habits might yield further gains among elderly populations, he says.

Fries has worked to implement policies that make prevention a priority. Later this year, the federal government will launch the Senior Risk Reduction Program, a demonstration project aimed at determining whether preventive measures like nutritional counseling and health screening should be included as Medicare benefits. "The idea would be to tailor interventions for individual patients, and have that paid for by Medicare. Right now, Medicare can't pay for prevention and it can't pay for services other than doctors and hospitals," Fries says.

If such programs succeed broadly, Fries believes we might push back even further the age at which a typical American grows infirm. And "typical" is key, Carstensen says. Long retirements and high health care costs aren't an issue for the affluent, and Social Security or Medicare payments won't determine their quality of life. Easing the burden of an aging population requires developing and implementing programs that increase the health of "the average Joe and Jane," she says. "We need to recognize that class matters. If we don't bring everybody along, we're all going to go broke."

Education is a clear indicator of health status in older life. In a study published by the National Academies of Science, disability rates for persons 65 to 74 decreased at every level of educational attainment. Persons with college degrees were 30 to 60 percent less likely to be suffering from chronic illness. "College professors, as a group, age very well," notes Carstensen. "They read, they know the literature, they know how to take care of themselves. If we could give the average person the same advantages, we would have a much healthier population."

The good news is that educational attainment has been rising steadily and will spike when baby boomers reach retirement age. In 1970, fewer than 5 percent of persons 65 and over had college degrees. By 2010, that figure will be almost 30 percent.

But exercise and good diets won't be enough to solve the problem created by a doubling of the elderly population. Priorities in medicine also must change, say these Stanford researchers. Fries wants more emphasis on practices that promote quality of life rather than life extension. A hip replacement that allows a 90-year-old to remain ambulatory makes sense. An artificial heart to keep a frail 90-year-old alive might not. "Concentrate on interventions that improve how well people live," he says. At the top of the list: enhancements for vision, hearing and mobility. The latter may be most important because it is so closely tied to independence. Walter Bortz, a Palo Alto physician, author and advocate, and a former clinical professor of medicine at Stanford, claims that "the most important organ in older people is not their heart, lungs or kidneys, but their legs." Author of the bestselling *Dare to Be 100*, Bortz should know—at age 74, he still runs marathons.

Carstensen adds that medical research also should concentrate on quality-of-life issues by targeting diseases that degrade it most dramatically. Alzheimer's, for instance. "If we don't find a cure for Alzheimer's, we'll have many more people in the age range where dementia is prevalent, and we'll have serious problems."

A goal, she says, should be to keep older people healthy right up to the point where the natural life span ends, to minimize a painful, pronounced terminal phase. "These days most people are healthy at age 65. If we could make it so that people were as healthy at 85 as they are now at 65, we'd go a long way toward solving the health care burden."

Assuming we can keep them healthy, how will a senior citizenry comprised of tens of millions of baby boomers change America? Keep in mind that these folks have

been the center of attention all their lives, wooed by marketers, coveted by businesses, coddled by entitlements unprecedented in the history of the world. Don't expect them to "fade away," says Carstensen. They will demand—and probably get—personalized health care. And when the time comes to have full-time caregivers, they won't accept the conditions their parents did. Jokes Carstensen, "We might see Starbucks in nursing homes."

They may still be listening to the Grateful Dead at age 75, but boomers are likely to behave much like earlier generations of older people. Carstensen's research shows that our values change as we age and recognize that our future is constrained. In a series of studies across diverse cultures, including the United States and Hong Kong, her research team asked participants to imagine that they had 30 minutes of free time with no pressing commitments and to choose from among three potential social partners: an immediate family member, the author of a book they had read or an acquaintance with whom they seemed to have much in common. In every one of the studies, older adults showed a strong preference for spending time with family and friends. Younger study subjects did not. Yet when the context was altered, the results flip-flopped. Younger participants were asked to imagine they would be moving soon to a new area; older study subjects that a recent medical advance would ensure they would live an additional healthy 20 years. Suddenly, the older group acted "young" and desired more contact with people they didn't know, while the younger group acted "old" and was more likely to retreat to the familiar.

Carstensen maintains this is a uniquely human behavior, based on the fact that we can perceive time and sense that it is running out. Near the end of our lives, emotional satisfaction becomes more fulfilling than learning new skills. Family and friends trump career and achievement goals. She has tabbed this phenomenon socioemotional selectivity theory, and she believes it has profound implications for an aging society.

Simply put, older people are less self-centered than younger people. Instead of striving to compete, they enjoy sharing what they've learned. And while older people inevitably lose some of their cognitive and physical abilities, their emotional skills improve. "As they get older, humans seem to acquire advanced interpersonal skills that make them successful negotiators," noted Carstensen in a 2004 paper in *Annals*, published by the New York Academy of Sciences. "They are able to appreciate different perspectives, assess complex interpersonal implications, and decide which course of action is most promising."

History validates respect for what we might euphemistically call "experience." In many cultures, "elders" run the show. Aged, wise chiefs are revered in Native American tribes. Even in contemporary America, where material culture drives a marketing machine aimed at young people, septuagenarian Supreme Court justices and politicians hold sway.

Carstensen points out that evolutionary advantages have accrued over the eons when older people were around. Third- or fourth-generation family members can be important providers of social stability and childrearing help that improve the fitness of the species. One researcher dubbed this "the grandmother effect."

"If older people's competencies evolved to serve the specific needs of younger relatives, there are now many more people who fit this job description," Carstensen writes. "Older adults' social skills have not lost any of their relevance. In fact, social coherence may be needed more than ever."

Millions of older American workers, volunteers and mentors could be a powerful agent for cultural change, Carstensen says. "There might be an older person for every kid," she says.

She acknowledges that her vision only holds if older people are healthy. "This

pretty picture I'm painting won't happen unless we have major advances, major change."

But she is optimistic. Medicine may never defeat aging, but "eventually, we will figure out how to make people much healthier for much longer." In the meantime, she says, we need to fix our perspective about longer lives. She will make her case in a forthcoming book tentatively titled *The Unexpected Years*, a polemical work she began in 2003, when she received a Guggenheim fellowship.

"I want to change the conversation," Carstensen says. "Right now, the conversation is about coping, and it should be about opportunity. We should think about [the gains in life expectancy] as a gift. How are we going to use it?"

[RETURN TO TOP ↗](#)