

The Stanford Center on Longevity

Transforming the Culture of Aging

THE
STANFORD
CHALLENGE

Seeking Solutions, Educating Leaders

“In less than a century, life expectancy nearly doubled. Yet our lives are still scripted by social institutions that assume we live only half that long. ... Right now conversations about aging societies are about coping. They should be about opportunities.”

Laura L. Carstensen

DIRECTOR, STANFORD CENTER ON LONGEVITY

PROFESSOR OF PSYCHOLOGY

FAIRLEIGH S. DICKINSON, JR., PROFESSOR IN PUBLIC POLICY

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Transforming the Culture of Aging

In less than one century, life expectancy increased by an average of 30 years in the developed world. Combined with a reduction in fertility rates across the same period, this is causing an increase in the percentage of older people in the population—nationally and internationally—that is dramatic and unprecedented.

These added years of life can be a gift or a burden to humanity depending upon how they are used. To the extent that long-lived people are physically fit, mentally sharp, and financially secure, societies will thrive. To the extent that people grow frail, dependent, and impoverished as they age, everyone’s well-being will be diminished.

At the Stanford Center on Longevity, we believe that longevity can become one of the greatest advances in human history. By using science and technology—combined with swift, entrepreneurial action—we can bring about profound improvements in quality of life for people who are living longer, benefiting people of all ages.

Established in 2006 by Stanford professors led by psychologist Laura Carstensen and neurologist Thomas Rando, the center is the only organization of its kind. We link top scholars with government, business, and the media, and take a comprehensive approach to longevity. Our mission goes far beyond research. Our ultimate goal is to transform the nature of human aging.



STANFORD
CENTER ON
LONGEVITY



IF CURRENT TRENDS CONTINUE:

- By 2015, the number of Americans 60 and older is expected to surpass those under age 15, and by 2050 there will be only three workers for every retiree, down from five workers today.
- An epidemic of obesity in young people may erase recent health gains in older generations.
- By 2030, Social Security and Medicare will consume nearly half of all federal income tax dollars.

IF WE SEIZE OPPORTUNITIES:

- We can “redesign” our lives with longevity in mind: young parents can spend more time with children, and older people can contribute more to their families and communities.
- Scientists can begin to understand the causes of cognitive decline and develop interventions.
- Stem cell biologists can develop ways to speed recovery from injuries.
- Economists and psychologists can help people make sound financial decisions and plan for distant futures.

A COMPREHENSIVE APPROACH

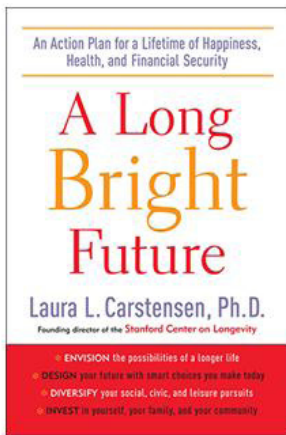
The Stanford Center on Longevity pursues research and action in three key divisions:

Mobility: A major impediment to productive longevity is mobility. Challenges for older adults range from daily functions such as rising from a chair or feeding oneself to finding reliable transportation for work and errands. When physical mobility is lost, older individuals and their communities face sweeping consequences. At the center, we are taking a “cells to cities” approach, conducting research on topics such as the basic biology of stem cells in muscle repair, assistive technologies including robots, and public transportation.

Mind: The potential loss of mental abilities is a serious concern for aging individuals. If rates of dementia remain unchanged, we will face a major public health crisis. As people age, even relatively benign and normal losses, like forgetting where you put something or having a word on the tip of your tongue, can generate considerable anxiety. Center faculty are researching early detection of mental decline that occurs with age, as well as medical and behavioral treatments that could help improve cognitive function across the life span.

Financial Security: During the same years that life expectancy has increased, individual savings rates in the United States have decreased. The Center on Longevity researches products, technologies, and financial programs that will help people better plan and save for their futures. Our research topics include psychological barriers to long-term planning and economic incentives for saving, in order to help people remain financially secure throughout life.

Falling is the leading cause of injury-related deaths in U.S. adults over age 65. Even minor falls can cause people to reduce physical activity, leading to serious health problems. Tom Andriacchi, professor of mechanical engineering and orthopedic surgery, may have a solution. He and his students focused on an often overlooked risk factor for falling: “gait asymmetry,” an uneven stride when walking. They placed sensors in otherwise ordinary shoes to provide visual and auditory feedback that trains the wearer to walk more evenly. A Center on Longevity seed grant enabled Dr. Andriacchi’s team to develop and test an advanced prototype, which could not only reduce falls, but also slow the progression of osteoarthritis. Proof of concept from this pilot project is a critical step toward federal funding of a larger study.



Many intelligent, otherwise rational people—even into their 40s and 50s—are so convinced that old age is a time of misery, they simply deny any other outcome and don’t plan their own destiny. In *A Long Bright Future*, center founding director Laura Carstensen seeks to shed myths and misconceptions. “You have the chance, starting now,” she writes, “to design for yourself an old age that is not only different, but better than any previous generations in human history.”

Listen to an interview with Professor Carstensen: longevity.stanford.edu/node/708

RESEARCH: CONNECTING DIFFERENT FIELDS OF STUDY

The challenges of aging are complex and interrelated. For example, new medical treatments we create will have limited impact if most people cannot afford them. Research on longevity must therefore encompass many different fields of study and encourage cooperation among experts who may not have worked together in the past.

Stanford has a distinct advantage in this respect: We bring together more top-rated programs within walking distance on a single campus than any other university. The Stanford Center on Longevity now connects more than 130 faculty affiliates in fields spanning biology, business, economics, education, engineering, law, medicine, and psychology. This enables us to coordinate scientists to find solutions for challenges that demand multidisciplinary efforts, such as improving vision, hearing, and mobility, and building cultural supports for work, parenting, and retirement.

The center supports research in the following programs:

Seed Grants: Traditional research funding, from sources such as federal agencies, tends to be limited to work within single academic disciplines. Because research on longevity often must span multiple fields, the center’s seed grants go to teams of Stanford faculty from different departments to support multidisciplinary projects.

Postdoctoral Fellowships: Accelerating longevity research also depends on supporting up-and-coming young scientists. Our fellows have studied such topics as the genetics of aging, bone loss, and the challenges global aging poses for the spread of contagious diseases.



Medicare could be insolvent by 2019 without significant changes, and broader health care reform efforts have challenged policy makers for decades. Many politicians believe that asking the public to grapple with these decisions is asking for trouble. The Stanford Center on Longevity has applied a unique approach to finding politically feasible solutions to this challenge. In 2009, the center convened experts from the academic and political worlds to map out serious options for health care reform. Using a novel system of focus groups and “deliberative” online surveys, the center tested policy options with a large sample of voters. The findings have credibility in both academic and political circles and were eagerly received by leaders in Washington, D.C. The center’s Politics, Scholars, and the Public series will apply this approach to additional major policy issues.

ACTION: BRINGING ADVANCES TO THE PUBLIC

Although science and technology can solve many of the problems of longevity, an even greater challenge is the typically glacial pace at which new discoveries become products and services that benefit the public. Also, many necessary cultural changes, such as new career and retirement patterns, run against deeply rooted social norms and long-standing political hurdles.

The Stanford Center on Longevity is determined to shape the national conversation on aging by interacting directly with the policy makers who write legislation and direct funding, the media and opinion leaders who influence perceptions of aging, and the public who must ultimately adopt both products and policies.

Here again, we have an advantage: a distinguished track record of both private entrepreneurship and public service on the part of faculty, joined with a unique campus culture that encourages cooperation with partners beyond the university.

The Center on Longevity uses a variety of innovative approaches to encourage and inform policy dialogue. They include:

Politics, Scholars, and the Public

Some of society’s most important challenges are best resolved through changes in public policy. But even policies based on the best research must be politically realistic. The center created the Politics, Scholars, and the Public program to create a meaningful dialogue among academic, political, and policy experts—with significant input from voters—about solutions to the various challenges of longevity.

This is a unique approach to collaborative policy making. Our premise is that sensible solutions come not only from experts, but also from a well-informed public. Here is how it works:

First, the center identifies a major issue related to longevity, such as health care reform (see sidebar). Then we convene a distinguished, bipartisan group of academic, policy, and political experts. This group meets repeatedly to define a set of policy options and spell out pros and cons in an even-handed way.



At a Consensus Conference on cognitive fitness, the Center on Longevity convened experts from many universities to focus on the questions “Can interventions improve cognitive fitness?” and “Which interventions work best?” As the summit revealed, many claims about quick fixes through “brain games” are misleading or blatantly false. But experts did agree that the prospect of modifying cognitive aging is quite promising. Meanwhile, the best documented means of improving cognitive fitness is physical exercise.



Millions of consumers fall prey each year to fake lotteries or other types of financial scams. Stopping the proliferation of fraud is essential to the financial well-being of many Americans. The center joined with the AARP Foundation on a Consensus Conference convening experts, from researchers to prosecutors, to examine questions about the conditions and psychological tendencies that make certain groups especially vulnerable and to begin to develop practical solutions.

Next, small groups of voters discuss this set of options in a series of focus groups, helping to refine them further. At this point, the center commissions an innovative online survey, using a sophisticated “deliberative” instrument to test the proposed policy solutions with a large, representative sample of voters.

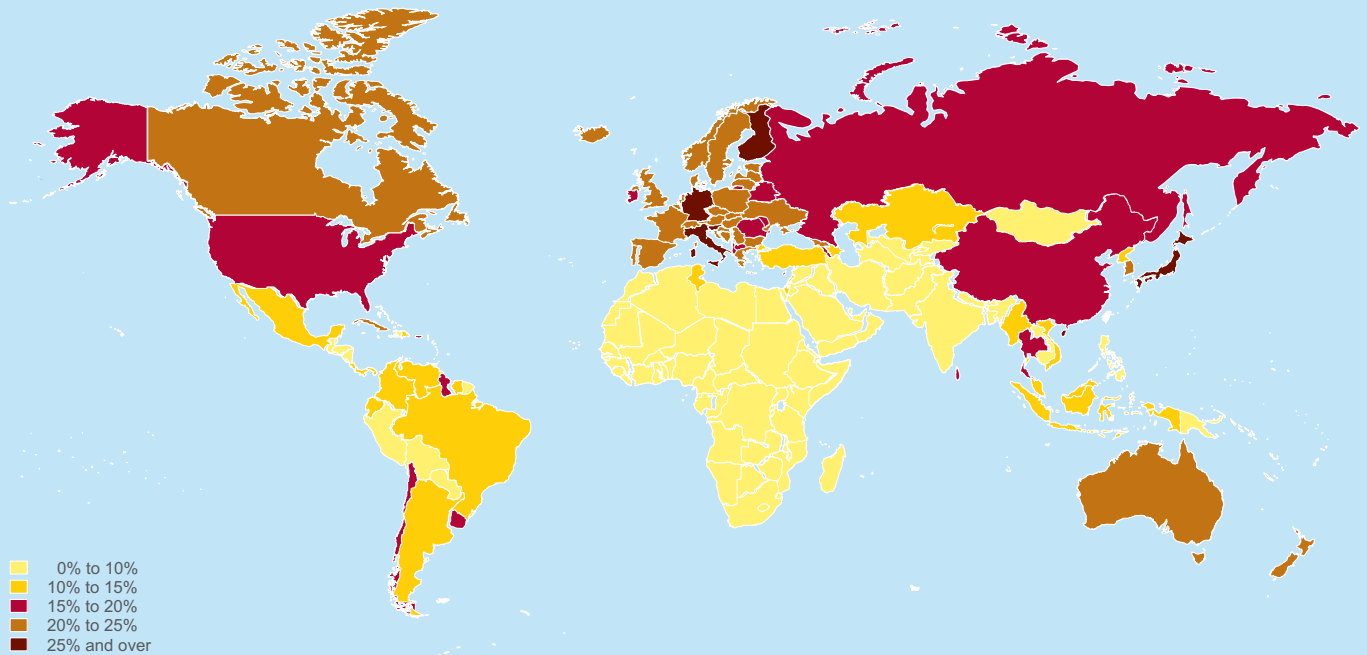
The resulting data are distributed widely to policy makers and the public, along with the survey instrument, which is designed for use in ongoing education and discussion. The ultimate aim is to provide policy makers with useful findings that help them break political logjams and advance viable, sorely needed reforms.

Consensus Conferences

Another way that the center accelerates research and shapes the national approach to longevity is by convening Consensus Conferences. Because the issues raised by longevity are so complex and interrelated—and because there is a brief window of time to get the solutions right—it is especially important that researchers, policy makers, and business leaders plan their efforts carefully. Our Consensus Conferences bring together leading experts from different fields for structured conversations that can help to assess what is working and clarify directions for further research.

The center’s Consensus Conference on mental fitness focused on the value of cognitive interventions to prevent declining mental function (see sidebar). Another summit addressed osteoarthritis, which affects more than 45 percent of adults. The center plans further summits on issues like these, which affect significant numbers of people and therefore present national and international challenges.

By 2030, all advanced economies will be old; the youngest countries will be in Africa and the Middle East.



Source: United Nations 2006 medium variant forecast

Global Aging Program

The mission of the Center on Longevity is driven by the massive demographic changes that are taking place all over the world. One of our core efforts is ongoing interpretation and dissemination of these patterns through the Global Aging Program.

Worldwide, demographic trends are shifting the distribution of younger and older populations. The changes in age structure differ dramatically across countries and across geographic regions. These differences pose risks and opportunities for global economics, environmental sustainability, and international security. It is essential that U.S. policy makers and the international community grasp the significance of these trends.

As part of this effort, the director of the Global Aging Program presented conclusions to the Senate Special Committee on Aging and has been meeting with elected officials and senior administration officials in Washington, D.C. In addition, the center worked with the National Institute on Aging to help plan the inaugural U.S. State Department Summit on Global Aging. In order to help identify best practices and policies, the center has contracted with the Population Reference Bureau to develop a composite index for cross-national comparisons of elderly well-being.

The Stanford Center on Longevity's Global Aging Program provides policy makers with crucial information on global demographic shifts. Some key trends: Most advanced economies will face shrinking workforces. Developing countries remain "young," but that will change in the next 10 years, and they will grow old at unprecedented speed. The potential for civil unrest is greatest in Africa and the Middle East, where economies are unable to support predominantly younger populations.



FUNDING: THE FUTURE OF THE CENTER ON LONGEVITY

In 2005, one benefactor—Stanford alumnus Richard Rainwater—provided generous seed funding to launch the Center on Longevity and pilot our first projects. With those efforts providing proof of concept, the center seeks an additional \$15 million from donors over the course of The Stanford Challenge to continue the center’s work and develop new projects.



CONTACT US

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GIVING OPPORTUNITIES

DIRECTOR’S DISCRETIONARY FUND \$10,000 OR MORE
Expendable funds may be established to enable the director of the Stanford Center on Longevity to meet changing needs and seize special opportunities.

DIVISION FUNDS \$100,000 OR MORE, EXPENDABLE
 \$250,000 OR MORE, ENDOWMENT
Expendable or endowed funds may be established to support activities within one of the center’s three divisions: Mobility, Mind, or Financial Security.

PROGRAM FUNDS \$100,000 OR MORE, EXPENDABLE
 \$250,000 OR MORE, ENDOWMENT
Expendable or endowed funds may be established to support activity within one of the center’s three core programs: Politics, Scholars, and the Public; Consensus Conferences; or Global Aging.

RESEARCH FUNDS \$100,000 OR MORE, EXPENDABLE
 \$250,000 OR MORE, ENDOWMENT
Expendable or endowed funds provide grants of up to \$50,000 to teams of Stanford faculty from throughout the university conducting multidisciplinary research on issues in longevity.