

ALZHEIMER'S DISEASE AND BRAIN HEALTH

Fact Sheet

Among the 5 million
Americans diagnosed with
Alzheimer's, **TWO THIRDS**
are women.

[Alzheimer's Association]



A traumatic **BRAIN INJURY** is most
likely to result in death when it
affects a person over the age of 65.

[CDC]

Exposure to **AIR POLLUTION** has
been linked to an increased risk of
Alzheimer's and related dementia.

[USC]



RESOURCES

USC Emotion and Cognition Lab

The USC Emotion and Cognition Lab, led by Professor Mara Mather, studies the cognitive neuroscience of emotion, decision making and memory during aging. matherlab.usc.edu

USC AirPollBrain Group

The USC AirPollBrain Group, led by Professor Caleb Finch, is an interdisciplinary group of researchers studying the effects of air pollution on brain health, including the links between pollution and dementia. gero.usc.edu/airpollbrain-group

USC Alzheimer's Disease Research Center

The USC Alzheimer's Disease Research Center, founded by Professor Caleb Finch, reaches out to the multi-ethnic communities in the greater Los Angeles area to study cognitive changes related to aging, Alzheimer's disease and cardiovascular disease. adrc.usc.edu

EXPERTS



Caleb Finch, PhD

Alzheimer's disease, biological causes of aging, molecular neurogerontology, neurochemistry, neuroendocrinology

cefinch@usc.edu



Christian Pike, PhD

Alzheimer's disease and gender, brain aging, hormone therapy, estrogen, progesterone and women's health, testosterone and men's health

cjpike@usc.edu



Elizabeth Zelinski, PhD

Technology and aging, neuroscience, cognition, memory, brain training, language

zelinski@usc.edu



Mara Mather, PhD

Brain aging and cognition, emotion's effects on memory, stress and memory

mara.mather@usc.edu



Teal Eich, PhD

Memory and aging, neuroimaging, cognitive neuroscience, Alzheimer's disease

teich@usc.edu



Andrei Irimia, PhD

Neuroimaging, effects of brain trauma and injury, connectomics (the mapping and study of connections in the brain)

irimia@usc.edu

CAREGIVING AND ELDER ABUSE

Fact Sheet

CAREGIVING IN THE U.S.

About 34.2 million Americans had provided unpaid care to an adult age 50 or older in the last 12 months.

[National Alliance for Caregiving; AARP]

At **\$470 BILLION** in 2013, the value of unpaid caregiving exceeded the value of paid home care and total Medicaid spending in the same year.

[AARP]



STRESS

in caregivers may lead to harmful behavior toward their care recipient, drug and alcohol abuse, physical and mental health problems, and earlier death.

[Family Caregiver Alliance]



WHAT IS ELDER ABUSE?

- physical abuse
- emotional abuse
- sexual abuse
- financial abuse
- exploitation
- neglect
- abandonment



ONE IN 10

Americans age 60+ have experienced some form of elder abuse.

[National Council on Aging]



Perpetrators of elder abuse can include children, other family members, and spouses—as well as staff at nursing homes, assisted living and other facilities.

EXPERTS



Kathleen Wilber, PhD

Elder abuse, financial security, caregiving, long-term supports and services

wilber@usc.edu



Donna Benton, PhD

Caregiving, caregiver supports, elder abuse

benton@usc.edu



Laura Mosqueda, MD

Elder abuse, neglect, geriatric medicine, medical education

lauraamo@usc.edu

USC RESOURCES

National Center on Elder Abuse

A U.S. Administration on Aging-funded resource center that provides the latest information regarding research, training, best practices, news and resources on elder abuse, neglect and exploitation to professionals and the public.

USC Family Caregiver Support Center

Provides support across the continuum of caregiving. Services include information, assessment, individual consultations, respite, education and training.

Los Angeles County Elder Abuse Forensic Center

A multidisciplinary team of professionals that provide expert case examination, documentation, consultation, and prosecution of elder and dependent adult abuse cases.

AGE-FRIENDLY HOMES AND COMMUNITIES

Fact Sheet

The environments in which people are **born, live, learn, work, play, worship** and **age** affect a wide range of health, functioning, and quality-of-life outcomes and risks, according to the U.S. Department of Health and Human Services.

FALLS

#1 CAUSE OF



USC FALL PREVENTION CENTER

A national resource center for fall prevention education and expertise.
stopfalls.org



PURPOSEFUL AGING LA:

The USC Leonard Davis School, the City of Los Angeles and other key partners launched Purposeful Aging Los Angeles – an initiative to make the Los Angeles region the most age-friendly in the world.

AT HOME

- Nearly **90 PERCENT** of people over age 65 want to stay in their home for as long as possible, and 80 percent believe their current residence is where they will always live. *[AARP]*
- Risks for falls can be **REDUCED** with balance and mobility training, medical management, home modifications, and first responder assessment programs. *[USC]*
- USC's **LIFETIME HOME** resource (lifetimehome.org) features a room-by-room exploration of common safety issues and universal design solutions.

IN THE COMMUNITY

VOLUNTEERING:

Working with young people can give older adults a positive perception of how they are helping the next generation, which can improve well-being. *[USC]*

TECH FOR SOCIAL ISOLATION:

Ride-sharing services are increasingly providing alternatives to driving. Robotic companions, including virtual pets, are increasingly being studied and deployed to combat loneliness.

AGE-FRIENDLY USC:

USC is the first university in California to join the Age-Friendly University Global Network, which provides guiding principles for ensuring age-friendly policies and programs in research, teaching and practice.

EXPERTS



Jon Pynoos, PhD

Director of the Fall Prevention Center and national expert on fall prevention and universal design

pynoos@usc.edu



Kathleen Wilber, PhD

Caregiving, long-term supports and services, purposeful aging, age-friendly communities

wilber@usc.edu



Caroline Cicero, PhD, MSW, MPL

Policies, practices and planning for age-friendly homes and communities

cicero@usc.edu



Paul Nash, PhD

Ageism and discrimination, aging in developing countries, dementia and cognition in aging

pnash@usc.edu



Paul Irving

USC Davis School Distinguished Scholar in Residence; Chair, Milken Institute Center for the Future of Aging

pirving@usc.edu



GLOBAL AGING AND POPULATION TRENDS

Fact Sheet



GLOBAL AGING BY THE NUMBERS

By 2050, the number of people over 65 will be about 1.5 billion worldwide, representing **16 PERCENT** of the world's population. More than 80 million Americans will be 65 or older.

Between 2010 and 2050, the number of older people in less developed countries is projected to increase more than **250 PERCENT**, compared with a 71 percent increase in developed countries—with enormous impacts on healthcare, national economies, infrastructure and more.

[National Institute on Aging]

USC LEONARD DAVIS SCHOOL RESEARCH: ARE WE ADDING LIFE TO YEARS?

USC Leonard Davis School researchers study trends and strategies for **COMPRESSION OF MORBIDITY**—a decrease in the portion of an individual's life spent with disease while increasing healthy years. Some recent findings:

- From 1970 to 2010, the average life span for men **INCREASED BY 9.2 YEARS** to 76.2 years. On average, 4.7 of those added years were spent with a disability.
- During the same time, women's average lifespan **INCREASED BY 6.4 YEARS** to 81 years. More than half of the additional lifespan, 3.6 years, was spent with a disability.
- Excess **HEART DISEASE** in men appears to be the biggest reason why women outlive them. Both sexes have enjoyed lower death rates and longer lives following public health advancements of the 20th century, but women's death rates have decreased 70 percent faster than men's.

EXPERTS



Eileen Crimmins, PhD

Demography of aging, health and mortality, socioeconomic differences in health, biological risk

crimmin@usc.edu



Jennifer Ailshire, PhD

Social determinants of health, health disparities, social demography, aging and the life course

ailshire@usc.edu



Jessica Ho, PhD

Demography, social determinants of health, global health, sociology of aging and the life course

jessica.y.ho@usc.edu

RESOURCES

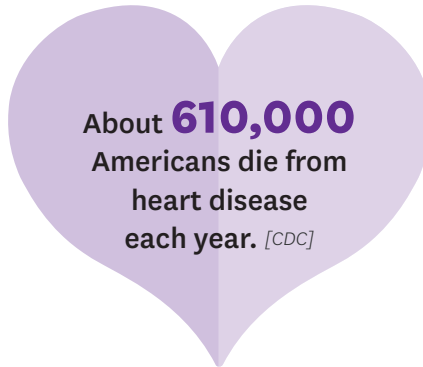
The **USC Center for Global Aging**, directed by Professor Eileen Crimmins, explores how aging can vary around the world because of social and economic contexts, changes in health, and policies and programs to support aging people. gero.usc.edu/cga

The **USC-UCLA Center for Biodemography and Population Health**, co-directed by Professor Eileen Crimmins, studies how social, behavioral, biological, and medical factors affect population health, the causes of health disparities, and potential health trends in the aging population. gero.usc.edu/CBPH

BIOLOGY OF AGING & AGE-RELATED DISEASES

Fact Sheet

OLDER AGE is a key risk factor for heart disease, cancer, diabetes and many other diseases. USC Davis School researchers work to understand how the mechanisms behind aging influence disease risk in hopes of lengthening **HEALTHSPAN**—the number of disease-free years in an individual's lifespan.



Cancer is the second leading cause of death in the United States, exceeded only by heart disease. **ONE OF EVERY FOUR DEATHS** in the United States is due to cancer. [CDC]



RESOURCES

The **Ney Center for Healthspan Science** is a hub of multidisciplinary exploration into the biological, demographic and psychosocial aspects of aging. It leverages the school's uniquely wide-ranging expertise in investigating the science of aging and implementing innovations to help people live with purpose, safety and security into their golden years.

The **USC Ensuring Lifespan Health Initiative** brings together a cross-disciplinary team of leaders at USC working to address challenges presented by an aging society, including preventing disease, improving policy and harnessing technology to improve health and well-being across the lifespan.

In the U.S., **30.3 MILLION** people—9.4 percent of the population—have diabetes. 7.2 million of those individuals **have not been diagnosed**. [CDC]

EXPERTS



Pinchas Cohen, MD

Personalized aging, disease prevention, technology for healthy aging, diabetes, mitochondria and mitochondrial peptides

hassy@usc.edu



David Lee, PhD

Diabetes, cancer, exercise, obesity and diet, mitochondria and mitochondrial peptides

changhan.lee@usc.edu



Valter Longo, PhD

Mechanisms and genetics of aging; biochemistry of age-related diseases; role of nutrients and fasting in longevity

vlongo@usc.edu



Bérénice Benayoun, PhD

Epigenetics and genomic regulation, sex differences in aging, vertebrate models of aging

bbenayou@usc.edu



Caleb Finch, PhD

Biological causes of aging, Alzheimer's, neurobiology, neurochemistry, neuroendocrinology, heart disease

cefinch@usc.edu



Marc Vermulst, PhD

DNA repair and mutagenesis, genetic transcription errors and disease, mitochondrial mutations

vermulst@usc.edu



NUTRIGENOMICS:

*the study of the interactions
between diet and genes*



Current USC Leonard Davis School research suggests diet plays big roles in longevity and disease prevention and treatment. The goal: enable patients to determine exactly which kind of diet will be healthiest for them using their unique genetic information.



Nutritional needs change with age.

Older adults have specific dietary requirements, including getting more calcium and vitamin D for bone health and increasing potassium and lowering sodium to address high blood pressure.

[Academy of Nutrition and Dietetics]

Research led by USC Davis Professor Valter Longo suggests **periodically fasting or eating a diet that mimics fasting** could promote stem cell regeneration and reduce risk factors for cancer, diabetes, heart disease and other age-related diseases.



Video: tinyurl.com/FMDvideo

RESOURCES

The **USC Longevity Institute**, led by Professor Valter Longo, unites multidisciplinary aging research approaches in order to maximize the healthy life span.
longevityinstitute.usc.edu

The **USC Leonard Davis School Master of Science in Nutrition, Healthspan, and Longevity** program, directed by Dr. Carin Kreutzer, is an innovative program for students pursuing a career in nutrition and dietetics. The program promotes health and longevity based on scientific evidence, integrating academic study with professional practice experience.

EXPERTS



Valter Longo, PhD

Nutrition and healthy aging, role of glucose/nutrients in the regulation of longevity, fasting

vlongo@usc.edu



Carin Kreutzer, EdD, MPH, RD

Healthy aging, nutrition and dietetics, obesity

kreutzer@usc.edu



Pinchas Cohen, MD

Longevity, healthspan, personalized aging, nutrigenomics, diabetes, disease prevention

hassy@usc.edu



Sean Curran, PhD

Aging and longevity, genetics and diet, stress adaptation, metabolism

spcurran@usc.edu

The nation's health care system will need to undergo **FUNDAMENTAL CHANGES** as the proportion of older adults in the U.S. grows. *[Institute of Medicine]*

EXPERTS



Susan Enguidanos, PhD, MPH

Health care, palliative care, hospice care, end of life decisions, death and dying

enguidan@usc.edu



Mireille Jacobson, PhD

Health economics and policy, illicit drug policy, economics of aging, applied microeconomics

mireillj@usc.edu



Edward Schneider, MD

Healthy aging, polypharmacy, alternative medicine, costs of long-term care, nursing care, assisted living, home health care

eschneid@usc.edu



Reginald Tucker-Seeley, ScD

Social determinants of health, financial well-being, neighborhood environments and health

tuckerse@usc.edu

ADVANCED DIRECTIVE: Also known as a living will, an advance directive documents a person's wishes regarding medical treatment in the event they can't communicate their wishes themselves.

- Only about **ONE THIRD** of adults have an advance directive expressing their wishes for end-of-life care. *[AARP]*
- A 2011 Time/CNN poll found that **70 PERCENT** of Americans want to die at home— however, **70 PERCENT** of the population is dying in hospitals, nursing homes or long-term care facilities. *[CDC]*



PALLIATIVE CARE: Specialized medical care for people with serious illness that focuses on providing relief from the symptoms and stress of that illness and improve quality of life.

- Unlike hospice care, which aims to provide symptom relief and comfort during end of life, **PALLIATIVE CARE IS APPROPRIATE AT ANY STAGE** in a serious illness and can be provided alongside disease treatment.
- Upon learning what palliative care is, **97 PERCENT** of individuals state that they would want to receive it in the event of a serious illness. *[Time/CNN]*



FINANCIAL WELL-BEING:

How an individual's financial situation affects their physical and mental health and behaviors.

- Financial well-being takes into account three domains: **MATERIAL**, or the resources one has; **PSYCHOSOCIAL**, or how one feels about those resources; and **BEHAVIORAL**, or how an individual uses those resources.
- Even after adjusting for other socioeconomic factors, individuals who reported experiencing poor financial well-being had **WORSE SELF-REPORTED HEALTH** than others. *[Annals of Epidemiology]*



POLYPHARMACY:

The simultaneous use of multiple medications.

- The chance of an adverse drug reaction is **90 PERCENT** in patients taking more than eight prescriptions. *[American Academy of Family Physicians]*
- More than **ONE THIRD** of prescription drugs in the U.S. are taken by older adults. The average elderly individual is taking more than **FIVE** prescription medications; a nursing home patient is taking **SEVEN** medications on average. *[AAFP]*

