

Investment in research saves lives and money



facts about:

Osteoporosis & Hip Fractures

Osteoporosis makes bones porous, increasing the risk for a serious fracture.

"If you think research is expensive, try disease."

- Mary Lasker 1901-1994

Today:

- Approximately 10 million Americans suffer from osteoporosis, with an additional 44 million people at risk for developing the condition. *
- Nearly one quarter of Americans age 50 and older who suffer a hip fracture will die within a year of the injury. *
- Half of all women will, over the course of their lives, break a bone due to osteoporosis. *
- Total hip replacements among Americans ages 45 and over more than doubled over 10 years, increasing from 138,700 in 2000 to 310,800 in 2010. ^
- In Americans ages 50 and over, osteoporosis of the femur neck or lumbar spine is found in 4% of men and 16% of women. ^
- Half of all hip fracture patients never regain full function of the affected joint. *

SAVING LIVES
SAVING MONEY

HOW RESEARCH SAVES LIVES:

- Anti-osteoporotic therapy is intended to increase bone mineral density and slow or stop the loss of bone tissue. When used after an osteoporosis-related fracture, this type of treatment was found to reduce the incidence of subsequent fractures by an average of 40% for three-years following injury. *
- Zoledronic acid, an anti-osteoporotic therapy that is used in prevention and treatment of osteoporosis, was found to reduce the incidence of vertebral fractures by 70%, hip fractures by 41% and nonvertebral fractures by 25%. *

HOW RESEARCH SAVES MONEY:

- Fracture liaison service (FLS) is a program that was developed to prevent a second fracture following a patient's first osteoporosis-related fracture. It is estimated that nation-wide implementation of this evidence-based program would result in a cost savings of more than \$4.3 million per 10,000 patients. ^
- If all U.S. women over the age of 55 with diagnosed osteoporosis took the recommended calcium and Vitamin D supplements, it is estimated that our nation would save upwards of \$1.5 billion annually from avoided osteoporosis-related injuries. ^
- Researchers have found that early intervention surgery (within the first 6 hours following injury) for individuals with hip fractures results in an average savings of \$15,400 in health care costs per patient. ‡

The Cost:

- Osteoporosis-related bone breaks result in \$19 billion in direct and indirect costs annually. This cost is expected to rise to \$25.3 billion by 2025. *
- In 2014, the average per capita spending for Medicare beneficiaries with osteoporosis was an estimated 56% greater than the spending for beneficiaries without osteoporosis. ♦
- The total cost of hospital stays due to hip replacements in 2013 was \$8.8 billion in the U.S., with \$5.3 billion of the cost being covered by Medicare. ‡

* NATIONAL OSTEOPOROSIS FOUNDATION <WWW.NOF.ORG>

^ CENTERS FOR DISEASE CONTROL AND PREVENTION <WWW.CDC.GOV>

♦ CENTERS FOR MEDICARE AND MEDICAID SERVICES <WWW.CMS.GOV>

‡ HEALTHCARE COST AND UTILIZATION PROJECT, AGENCY FOR HEALTHCARE RESEARCH AND QUALITY <HCUPNET.AHRQ.GOV>

perspective:

NAME: Ray Morgan

AGE: 52

CONDITION: Osteoporosis



Ray Morgan had always lived a very active lifestyle, spending five years in the Navy and working in electrical engineering. At age 42, following a bad fall while roller blading with his son, Ray suffered two spinal fractures. Due to the nature of the fall, osteoporosis was not originally expected to have played a role in the fractures. Two years later, Ray experienced a third spinal fracture. However, this fracture was not due to an impact, which led Ray's doctors to explore further and diagnosed him with osteoporosis.

Following his diagnosis, Ray began treatment with bisphosphonates and scaled back his active lifestyle to avoid fractures. Over the next two years, Ray experienced two more spinal fractures. Ray and his doctor then decided to change his treatment to an antibody-based medication, leading to improved bone density. Since Ray's treatment was adjusted, he has not experienced another fracture. While Ray continues to be cautious and has experienced success with the new treatment, the previous fractures have left Ray permanently disabled, requiring a cane to walk.

Ray has become an active advocate with the National Osteoporosis Foundation (NOF), volunteering as an Online Community Moderator. Ray sees himself as a referee of information, helping to ensure that patients are receiving the information they need to live with osteoporosis. As Ray personally knows, having the right information to ensure you are on the right treatment can make all the difference.

* COSMAN, F. ET AL. OSTEOPOROS INT, 2014. 25(10): 2359-2381.

♦ BAWA, H.S. ET AL. J BONE JOINT SURG AM, 2015. 97(19): 1555-1562.

^ SOLOMON, D.H. ET AL. J BONE MINER RES, 2014. 29(7): 1667-1674

Δ FROST & SULLIVAN, 2013.

‡ JUDD, K.T. AND CHRISTIANSEN, E. IOWA ORTHOP J, 2015. 35: 62-64.

facts about: } Hip Fractures & Osteoporosis

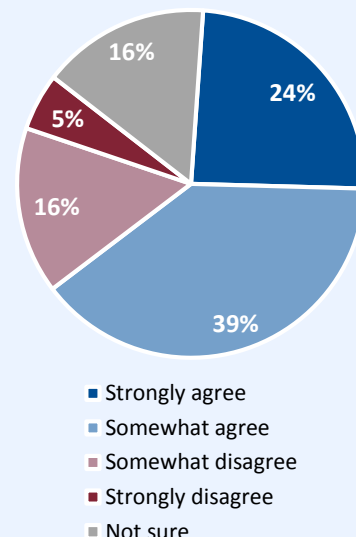
Hope for the Future:

- The insights researchers gained while studying brachydactyly, a genetic condition that results in shortened fingers and toes, are providing promising new pathways for treating osteoporosis. *
- Researchers at University of California, San Diego developed a method that uses a molecule naturally found in the body, adenosine, to stimulate human pluripotent stem cells to regenerate the bone. This discovery could lead to new regenerative treatments for individuals with osteoporosis and other bone-related concerns. ‡
- Researchers at Northwestern University recently developed a new material that can be used to 3D-print hyper-elastic bone that, once implanted, can gradually induce the growth of natural bone. Scientists believe that the new technology may be used to treat a multitude of skeletal problems, from hip fractures to spine repair. ^

National Poll Data: Majority Agree that Basic Research is Critical

Do you agree or disagree with the following statement? Even if it brings no immediate benefits, basic scientific research that advances the frontiers of knowledge is necessary and should be supported by the federal government.

A RESEARCH!AMERICA SURVEY OF U.S. ADULTS CONDUCTED IN PARTNERSHIP WITH ZOGBY ANALYTICS IN JANUARY 2017.

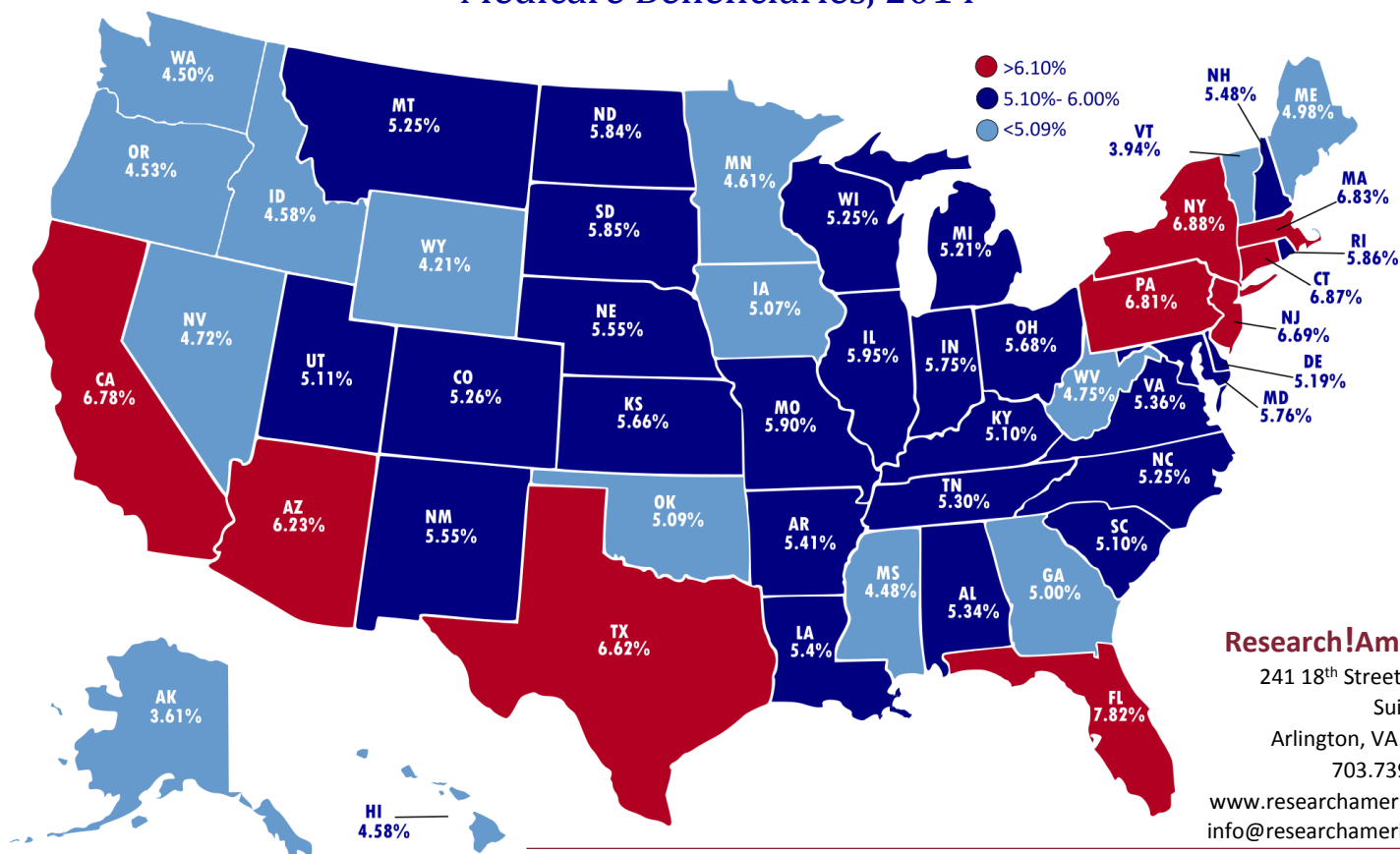


The Bottom Line:

Medical and health services research over the past 25 years has paved the way for cutting edge prevention and treatment techniques to reduce the incidence of hip fractures and osteoporosis-related injuries. By remaining committed to research and development, our nation can empower further progress against these debilitating health threats, saving dollars and lives.

*PENN STATE EBERLY COLLEGE OF SCIENCE <SCIENCE.PSU.EDU>
 ‡KANG, H. ET AL. SCIENCE ADVANCES, 2016. 2(8): E1600691
 ^JAKUS, A.E. ET AL. SCI TRANS MED, 2016. 8(358): 358RA127.

Prevalence of Osteoporosis among Medicare Beneficiaries, 2014



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SOURCE: Center for Medicare and Medicaid Services

The Albert and Mary Lasker Foundation is a founding partner in this series of fact sheets. www.laskerfoundation.org
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