

# Investment in research saves lives and money



The American Society for  
Bone and Mineral Research

facts about:

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

— Mary Lasker 1901–1994

## Hip Fractures & Osteoporosis

### Today:

- Osteoporosis makes bones porous, affects more than 40 million Americans who either already have osteoporosis or are at high risk due to low bone mass, and increases the risk of sustaining a hip or other serious fracture.\*
- Each year, more than 281,000 older adults in the U.S. suffer hip fractures. More than 20% of hip fracture patients die within a year of their injury.\*\*
- Among women age 67 or older who had an osteoporosis-related fracture, only 20% had either a bone density test or a prescription for a drug to treat or prevent osteoporosis in the six months after the fracture.\*\*\*

\*SOURCE: LOOKER AC, ET AL. J BONE MINER RES. 2010. 25:64–71.

\*\*SOURCE: LEIBSON CL, ET AL. J AM GERIATR SOC. 2002. 50(10):1644–50.

\*\*\*SOURCE: NATIONAL COMMITTEE FOR QUALITY ASSURANCE, THE STATE OF HEALTH CARE QUALITY, 2010.

SAVING LIVES  
SAVING MONEY

### HOW RESEARCH SAVES LIVES:

- Research funded by the NIH has shown that osteoporosis can be treated to prevent hip and other fractures. Current research is focused on exploring the roles of genetics, hormones, calcium, vitamin D, drugs and exercise on bone mass to improve diagnosis and prevent the development of osteoporosis.\*
- Medical advances such as bisphosphonates and increased bone density screening are having a positive effect on bone health. Between 1995 and 2005, the age-adjusted hospitalization rate for hip fractures among older Americans decreased. For women aged 65 years or more, the rate decreased 24.5%. For men in the same age range, the rate decreased 19.2%.\*\*

\*SOURCE: NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES, NIH

\*\*SOURCE: BRAUER CA, ET AL. JAMA. 2009. 302(14): 1573–9.

### HOW RESEARCH SAVES MONEY:

- Inpatient hip fracture care costs \$26,000 per episode. Few patients regain their former level of independence after hip fractures, with a lifetime cost estimated at \$81,000 for skilled and long-term nursing care. By reducing the incidence of hip fracture, research is helping to address these staggering costs.\*
- Prevention programs such as the Kaiser Permanente "Healthy Bones" model of care have been shown to reduce hip fractures by 38% using a combination of improved screening and drug intervention after a first fracture. If implemented nationally, this model of care could save nearly \$3 billion per year.\*\*

\*SOURCE: LY TIN V, BEAUDOIN FL. CLIN INTERV AGING. 2011. 6: 61–65.

\*\*SOURCE: DELL R, ET AL. J BONE JOINT SURG. 2009. 91(SUPP. 6):188–94.

### The Cost:

- Osteoporosis was one of the 10 most costly chronic conditions to Medicare in 2010.\*
- The number of osteoporotic fractures annually currently exceeds the incidence of heart attack, stroke and breast cancer combined.\*\*
- Fractures from osteoporosis and low bone mass cost \$19 billion a year in the U.S. This is expected to rise to \$25.3 billion per year by 2025 as the elderly population nearly doubles.\*\*\*

\*SOURCE: BLUME SW, CURTIS JR. OSTEOPOROS INT. 2011. 22(6):1835–4.

\*\*SOURCE: BURGE R, ET AL. J BONE MINER RES. 2007. 22(3):465–75. ROGER VL, ET AL. CIRCULATION. 2012. 125(1):E2–E220. DESANTIS C, ET AL. CA CANCER J CLIN. 2011. 61(6):409–18.

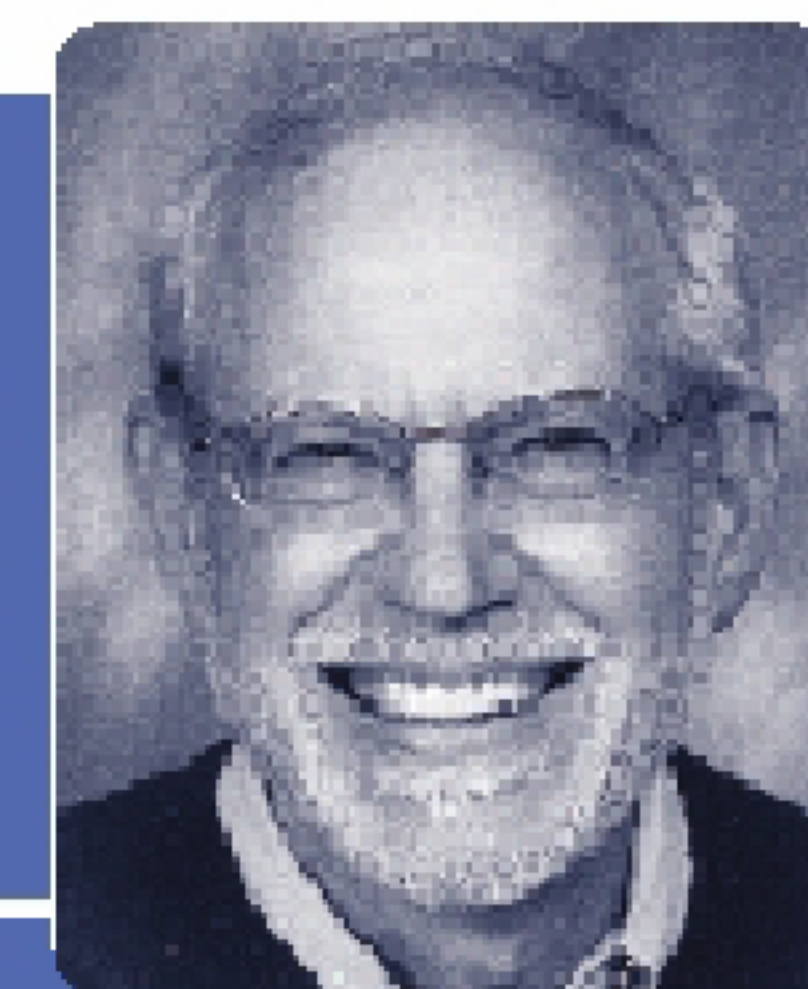
\*\*\*SOURCE: BURGE R, ET AL. J BONE MINER RES. 2007. 22(3):465–75.

### survivor:

NAME: BOB WHITE

AGE: 64

DISEASE: OSTEOPOROSIS



Bob White is a healthy guy by most standards. But around the holidays in 2010, Bob developed a really bad cough. The cough was so severe that it caused a fracture in one of the vertebrae in his back. Knowing his mother had osteoporosis, he decided to get a bone density test. The test revealed Bob has osteoporosis too.

Bob began taking a bisphosphonate to increase his bone density. He and his wife started walking several miles every day, which improved the lingering pain in his hips and back from the fractured vertebrae, and they began making a concerted effort to eat nutrient-rich foods and supplement that with calcium and vitamin D.

Bob's mother fractured her hip when she was 90 years old and died 11 days after hip surgery. Until a few months prior to the fracture, she had been able to maintain a high degree of independence. Bob looked at his own condition with new eyes, wondering if this is his future as well. He and his wife began attending a class on building bone strength and greater balance to prevent bone loss and falls.

Bob shared his story to remind others of the importance of getting tested for osteoporosis and caring for their health and bones. The best way to fight osteoporosis and hip fractures is to invest in research for new therapies and preventive strategies, which will prevent hip fractures and help patients like Bob live healthier, more productive lives.



# facts about: } Hip Fractures & Osteoporosis

## Hope for the Future:

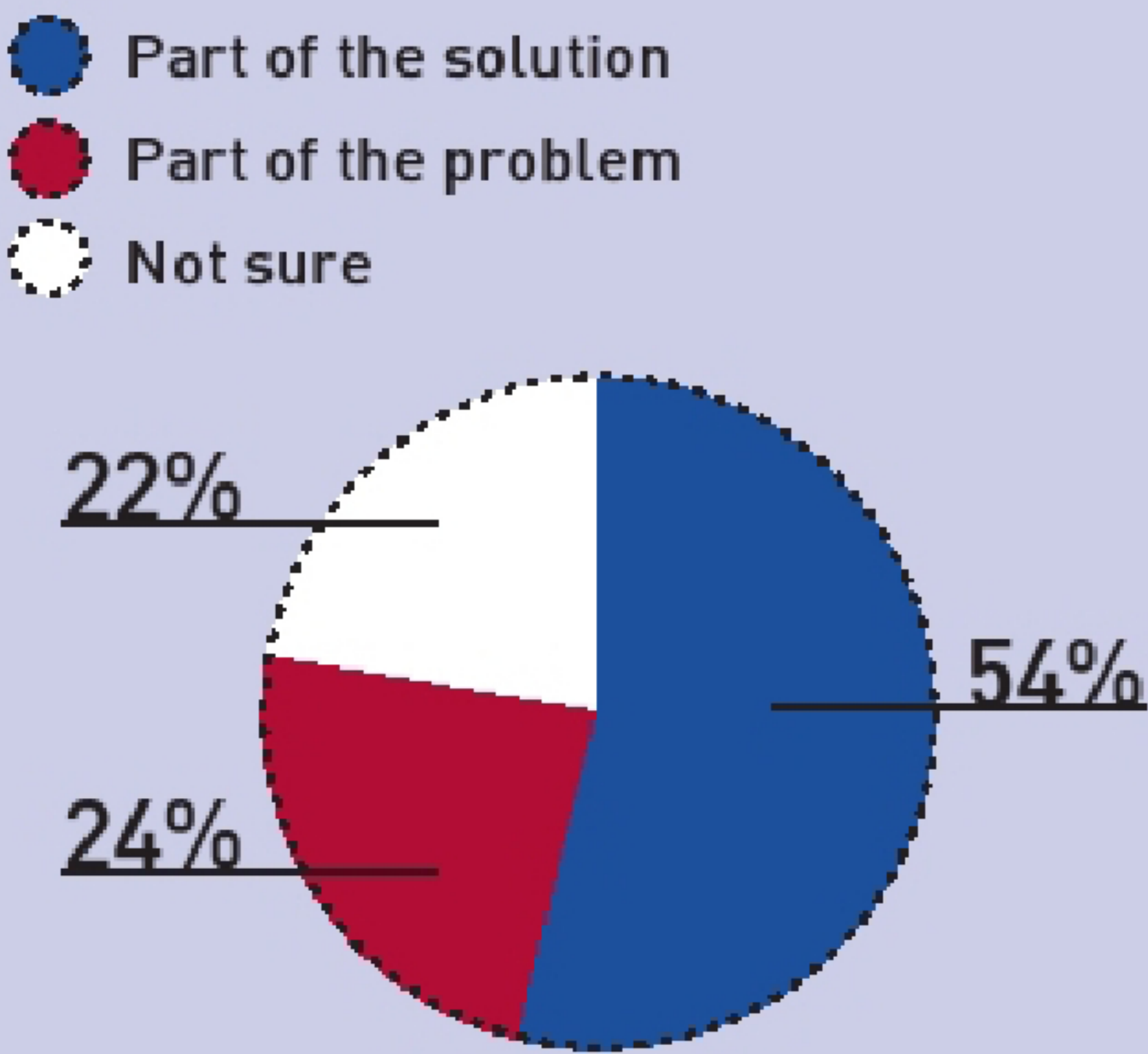
- By studying patients with high bone mass and investigating how bone cells communicate with one another, researchers have discovered new pathways of bone formation that hold promise for the development of new therapies for osteoporosis. Several anti-osteoporotic compounds based on this research are currently in clinical trials.\*
- With ongoing research, scientists hope that osteoporosis will come to be considered a curable disease. Research has enhanced our knowledge about how to maintain a healthy skeleton throughout life and has led to progress in understanding the causes, diagnosis, treatment and prevention of osteoporosis. Every research advance brings us closer to eliminating the pain, suffering and cost caused by this disease.\*\*

\*SOURCE: RACHNER TD, ET AL. LANCET. 2011. 377:1276-87.

\*\*SOURCE: NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES, NIH

## Research is Part of the Solution to Rising Health Care Costs

*When it comes to rising health care costs, would you say research to improve health is a part of the problem or part of the solution?*

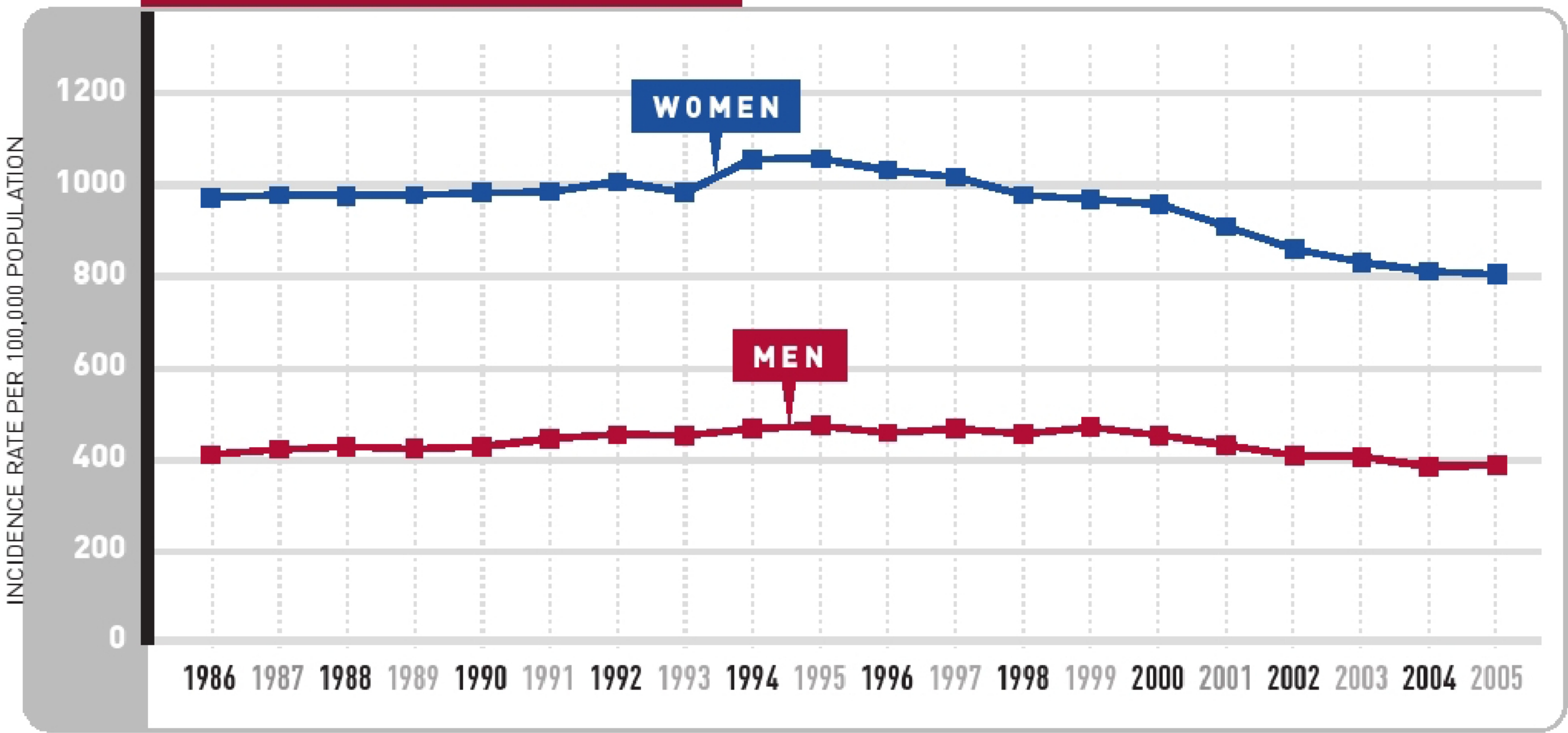


SOURCE: NATIONAL PUBLIC OPINION POLL, 2011  
JZ ANALYTICS FOR RESEARCH!AMERICA

## The Bottom Line:

*Twenty years ago, physicians had very few treatment options for osteoporosis. Today, many high quality clinical trials have established that bisphosphonates prevent most types of serious fractures and thus are of benefit to millions of patients in the U.S. and worldwide. These drugs are helping strengthen bones and decrease the risk of hip fracture, but there is still a need for better drugs and increased screening for at-risk populations.*

### Hip Fracture Incidence for Men and Women by Year



SOURCE: BRAUER CA, ET AL. JAMA. 2009. 302(14): 1573-9.

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