Osteoporosis and Osteoporotic Fracture Fact Sheet

Korean Society for Bone and Mineral Research
National Health Insurance Service
Joint research

KSBMR
Korean Society for Bone and Mineral Research

h·well
국민건강보험
National Health Insurance Service

Source of data

- The estimated percentage and the total number of people over the age 50 with osteoporotic fracture were determined using the information from the National Health Information Database from January 2008 through to December of 2013 made by National Health Insurance Service (NHIS)
- Korean National Health and Nutrition Examination Survey (KNHANES) data 2008-2011 from the Korea Centers for Disease Control & Prevention (KCDC) were also used to analyze the prevalence of osteoporosis
- Data was presented by age and sex standardization using the 2008 Census Korean population.

Definition of Osteoporosis and Osteoporotic fracture

- The World Health Organization (WHO) defines osteoporosis as a spinal or hip bone mineral density (BMD) of 2.5 standard deviations or more below the mean for healthy, young women (T-score of –2.5 or below) as measured by dual energy x-ray absorptiometry (DEXA)
- Osteopenia is defined as a spinal or hip BMD between 1 and 2.5 standard deviations below the mean

Each fracture code had to be accompanied by a physician's claim for site-specific fracture reduction or fixation (either open or closed) to enhance the specificity of the coding

ICD 10 code
hip [S72.0, S72.1]
spine [S22.0 , S22.1, S32.0, M48.4 , M48.5]
distal radius [S52.5, S52.6]
humerus [S42.2 and S42.3)]

Summary of Fact Sheet

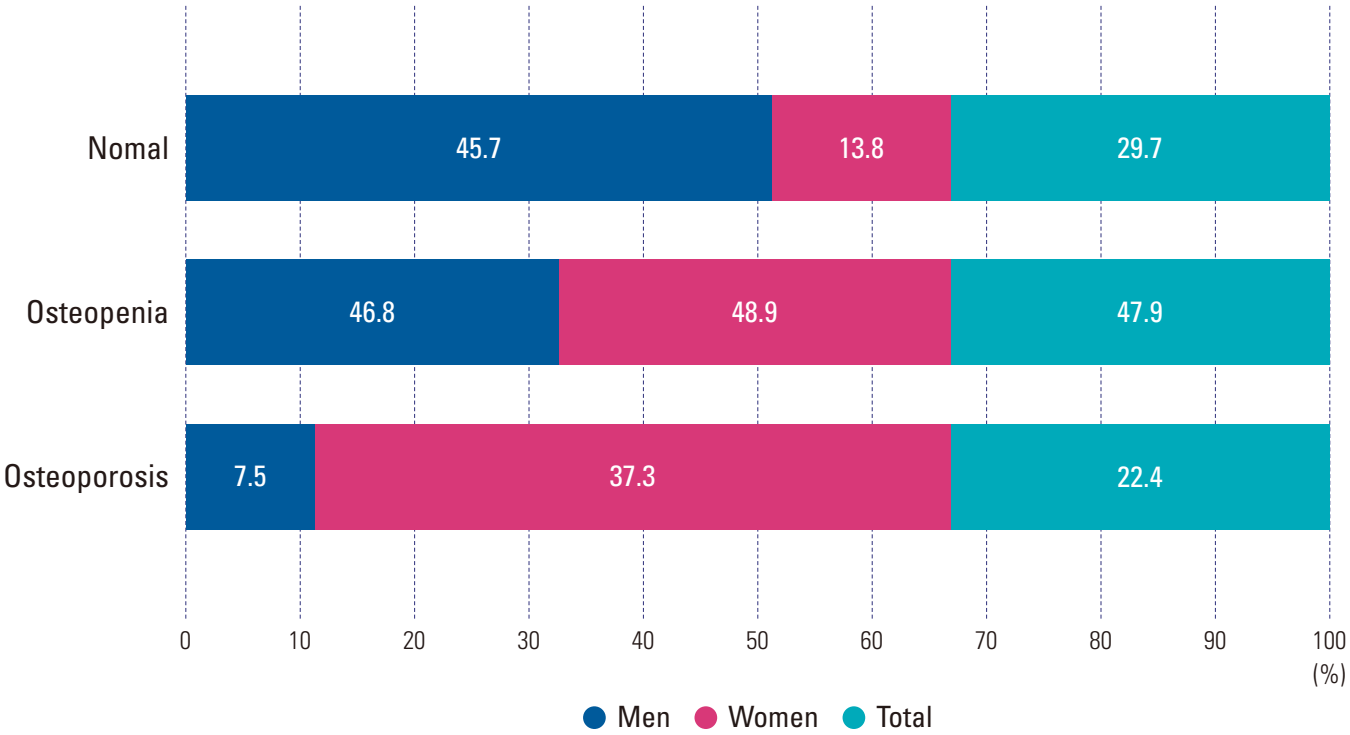
- The prevalence of osteoporosis among adults 50 years or older is 22.4%. Nearly 1 of 5 Korean adults have osteoporosis and 1 of 2 have osteopenia"
- In women, the prevalence of osteoporosis was increased by 2 times every 10 years
- The incidence of osteoporotic fracture increased by 4% per year
- Wrist fractures occur mainly in the 50`s, and the incidence of hip and vertebral fractures increase with age
- The overall mortality is about 17% in the first 12 months after hip fracture and is higher in men than women. The average SMR for hip fractures was higher for men (11.9) than for women (11.2)
- Less than 60% of patients with osteoporosis were estimated to access medical services due to osteoporosis
- The treatment gap was 66%. In relation to gender, drug treatment rate in women was about twice that of men
- 90% of osteoporosis patients were prescribed with bisphosphonates
- 54% of osteoporotic fracture patient had BMD test and 41% received pharmacological treatment for osteoporosis at 6 months after fracture
- Only 24% of patients who started anti-osteoporosis medication were persistent at the end of the first year after therapy initiation
- Total healthcare costs during the 12 months following the osteoporotic fracture increased over 4 years. Mean healthcare costs were highest for hip fractures, and followed by spine fractures, humerus fractures, and distal radius fractures

The prevalence of osteoporosis and osteopenia

(≧ 50 yrs old)

22%
Osteoporosis

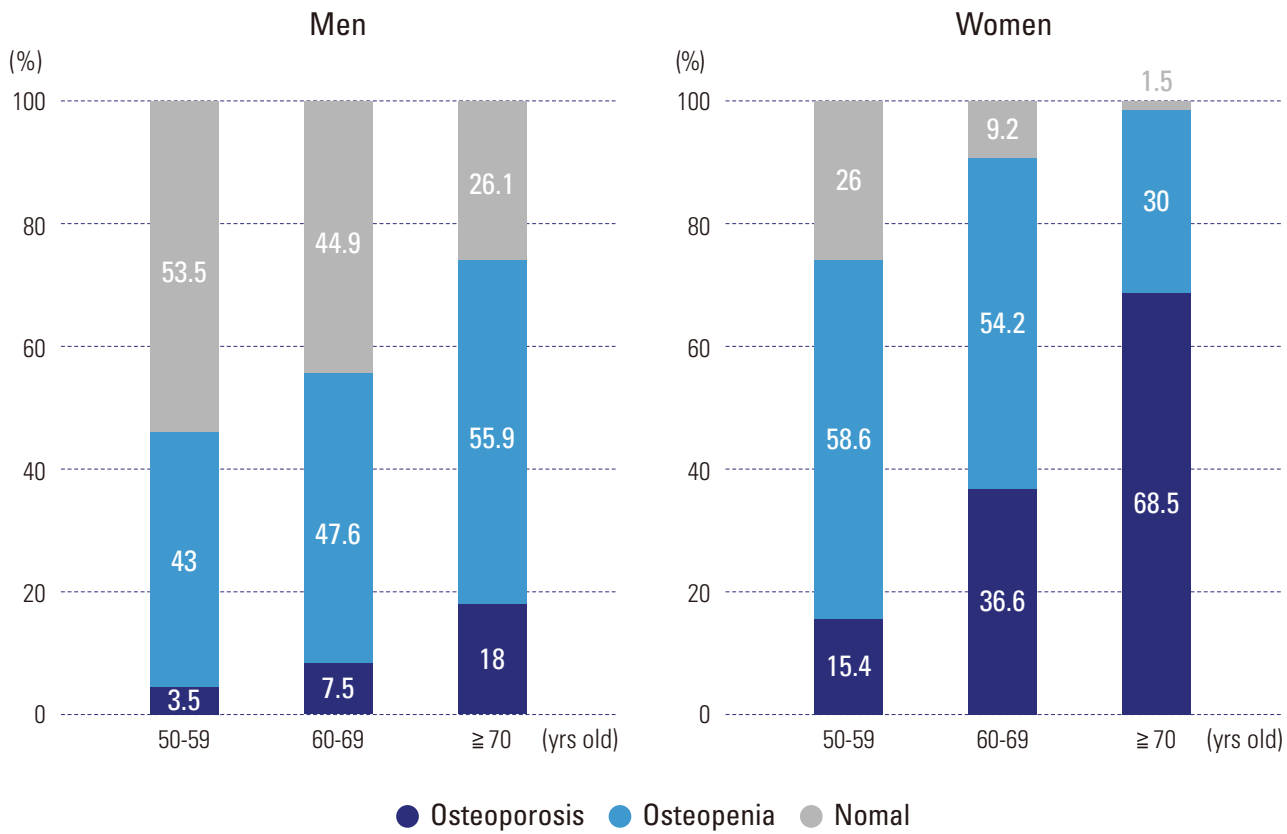
- The prevalence of osteoporosis among adults 50 years or older is 22.4%
- "Nearly 1 of 5 Korean adults have osteoporosis and 1 of 2 have osteopenia"
- The prevalence of osteoporosis in men is one fifth of women, but osteopenia is similar



Data derived from KNHANES 2008-2011 pooled-sample data
From Osteoporosis or Low Bone Mass in Adults Aged 50 years old and above in Republic of Korea, 2008-2011, KCDC

Prevalence of osteoporosis and osteopenia according to age (≧50 yrs old)

- More than 68.5% of women aged ≧70 years have osteoporosis
- In women, the prevalence of osteoporosis was increased by 2 times every 10 years



Data derived from KNHANES 2008-2011 pooled-sample data
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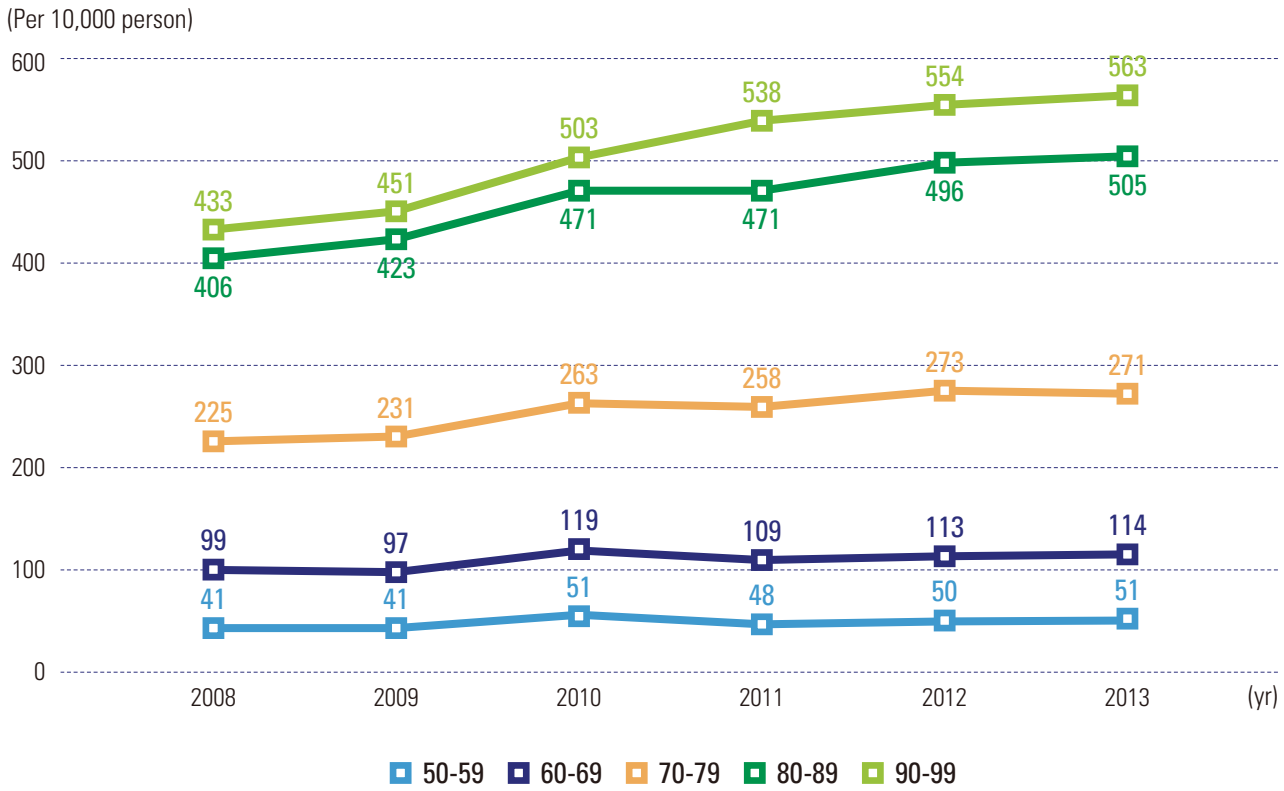
The incidence rate of osteoporotic fracture (≧ 50 yrs old)

• The incidence of osteoporotic fracture increased by 4% per year

Data derived from the NHIS data set : 2008-2013
Data was presented by age and sex standardization using the 2008 Census Korean population

The incidence rate of major osteoporotic fracture according to age

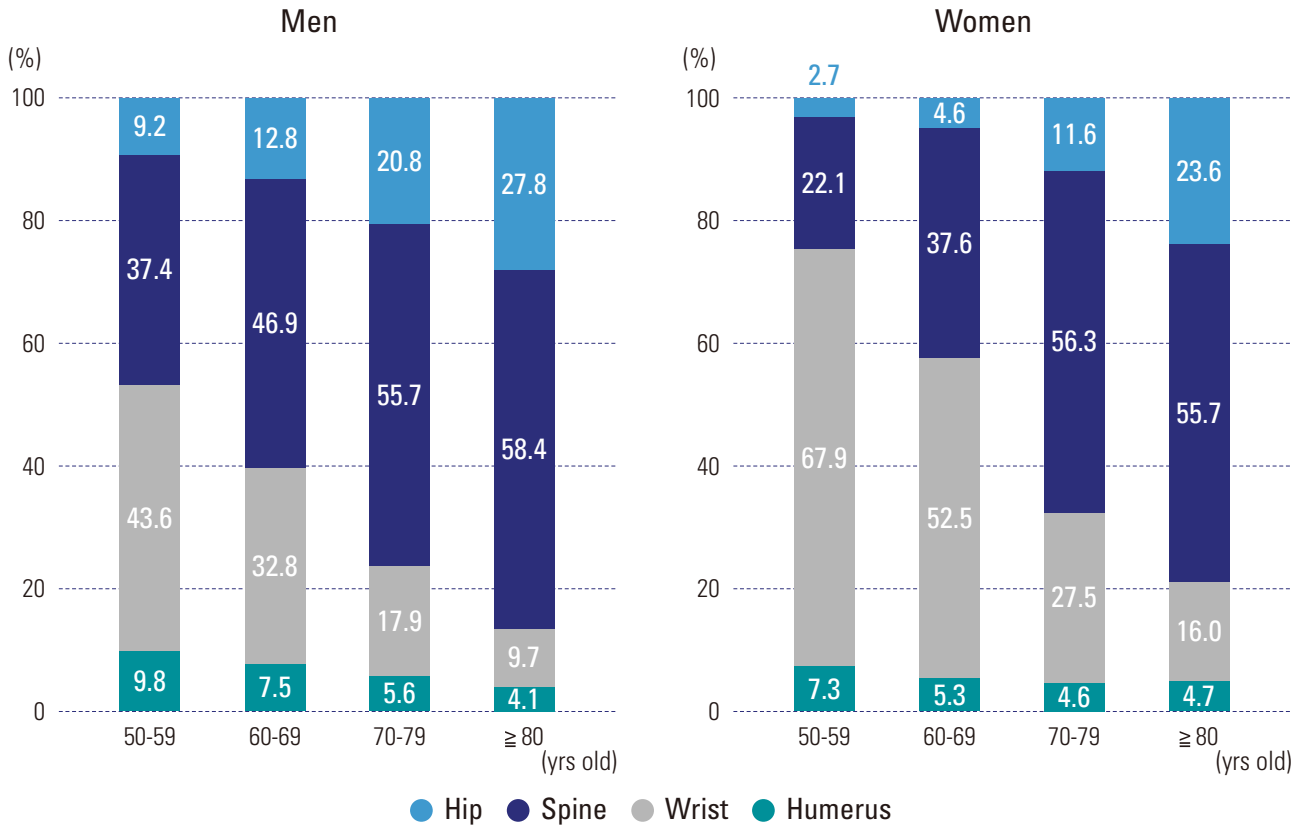
• The incidence rate has steadily increased in aged 80 years or older



Data derived from the NHIS data set : 2008-2013
Data was presented by age and sex standardization using the 2008 Census Korean population

Patterns of major osteoporotic fractures

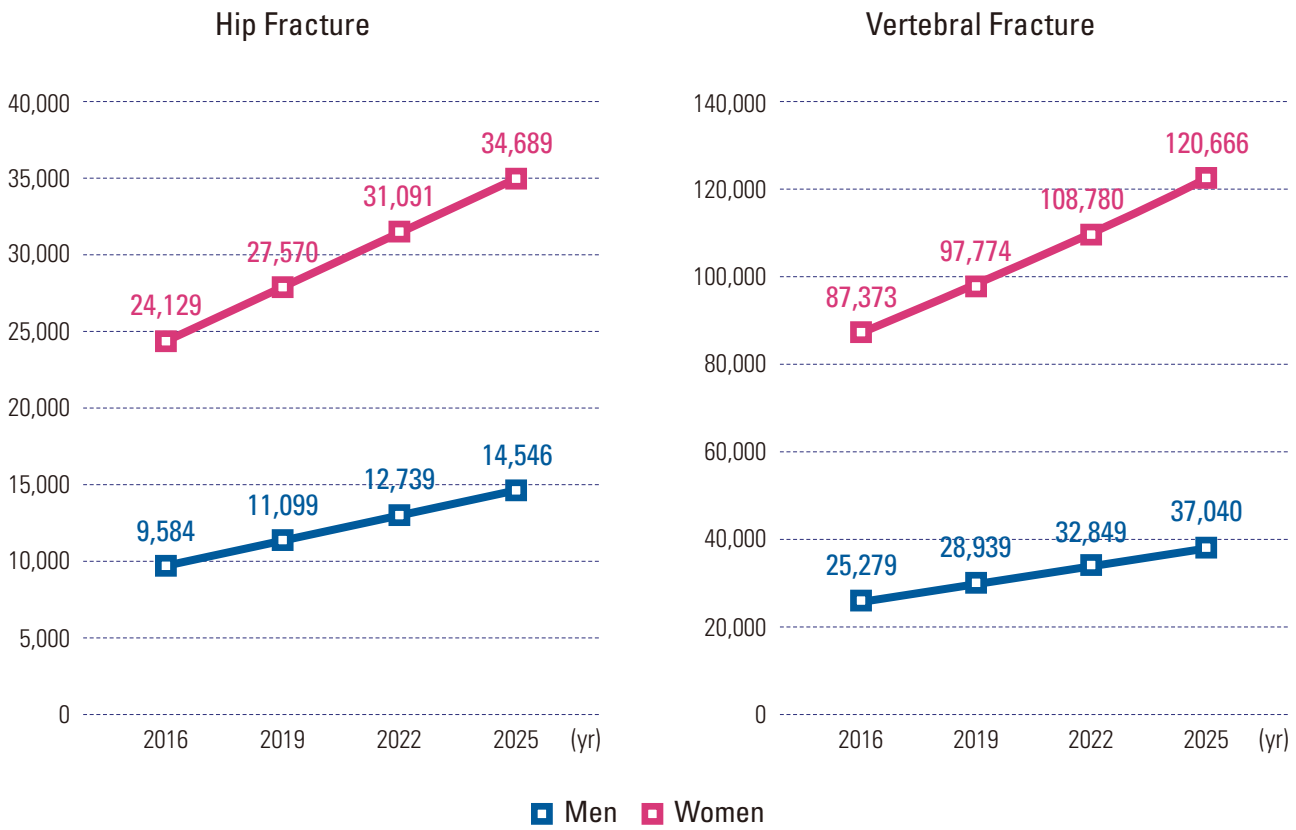
• Wrist fractures occur mainly in the 50`s, and the incidence of hip and vertebral fractures increase with age



Data derived from the NHIS data set : 2013

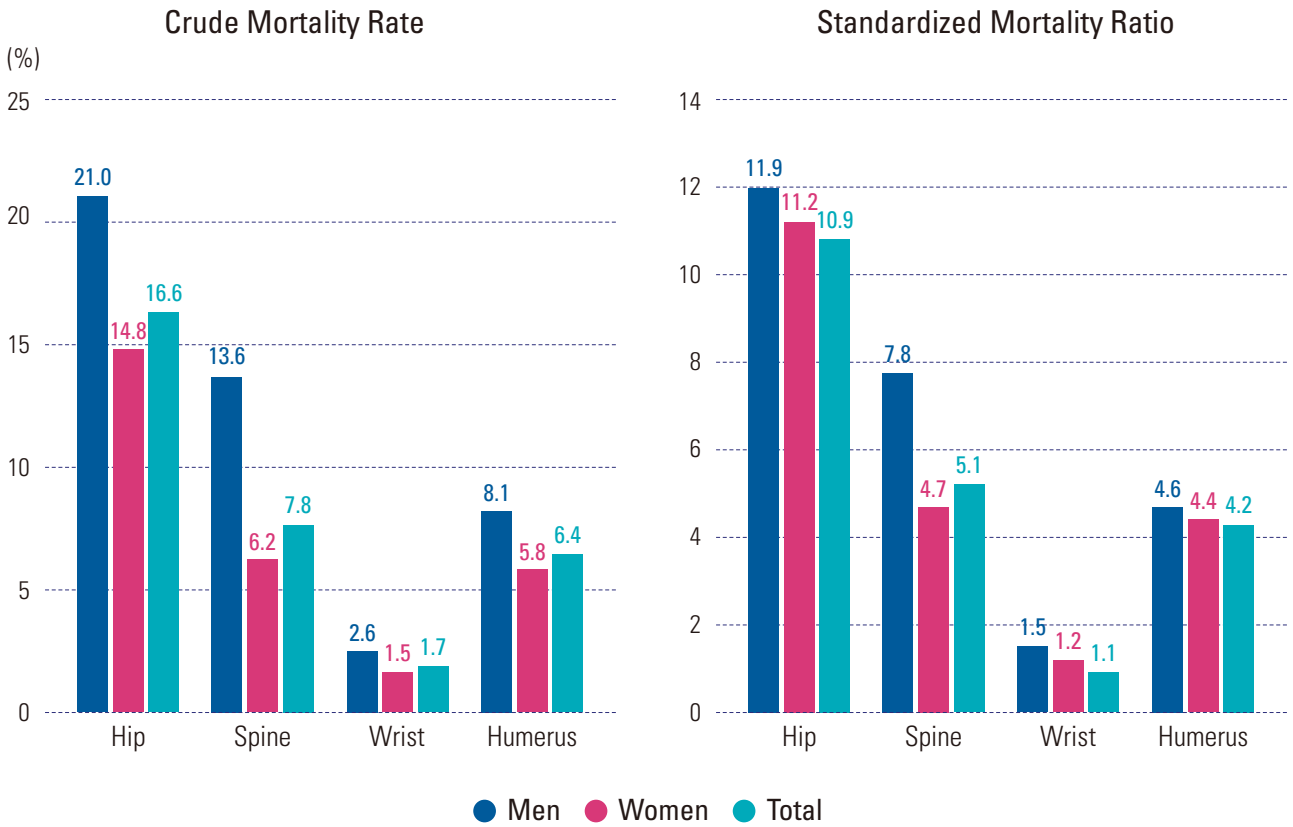
Future fracture population 2016-2025

• The number of hip fractures and vertebral fracture is estimated to increase by 1.4 times over the next 10 years



Post-fracture mortality

- The overall mortality is about 17% in the first 12 months after hip fracture and is higher in men than women
- The average SMR for hip fractures in those aged 50 years or more was higher for men than for women

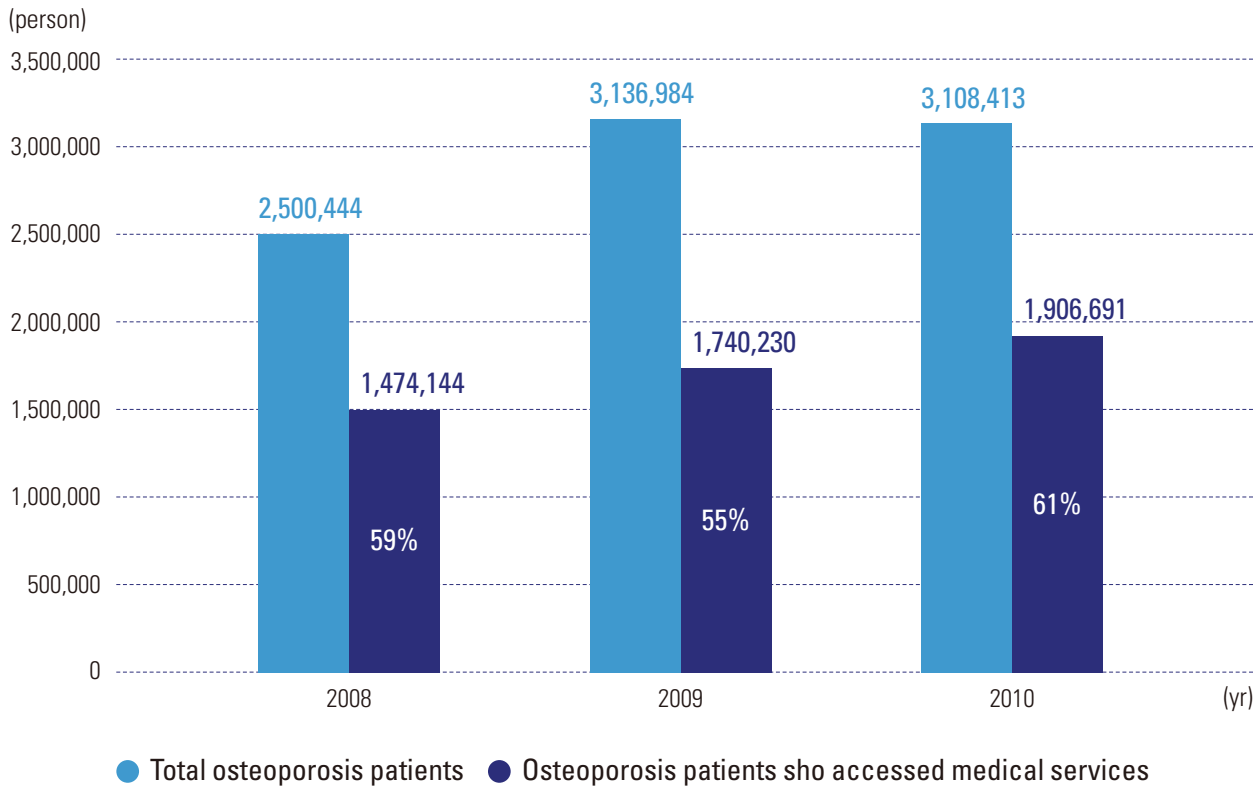


Data derived from the NHIS data set : 2008-2012
Standardized mortality ratio (SMR) : the ratio of observed deaths in the fracture group to expected deaths in the general population

Health service utilization rate in Korean osteoporosis patients (age ≧ 50 years)

60%

• Less than 60% of patients with osteoporosis were estimated to access medical services due to osteoporosis

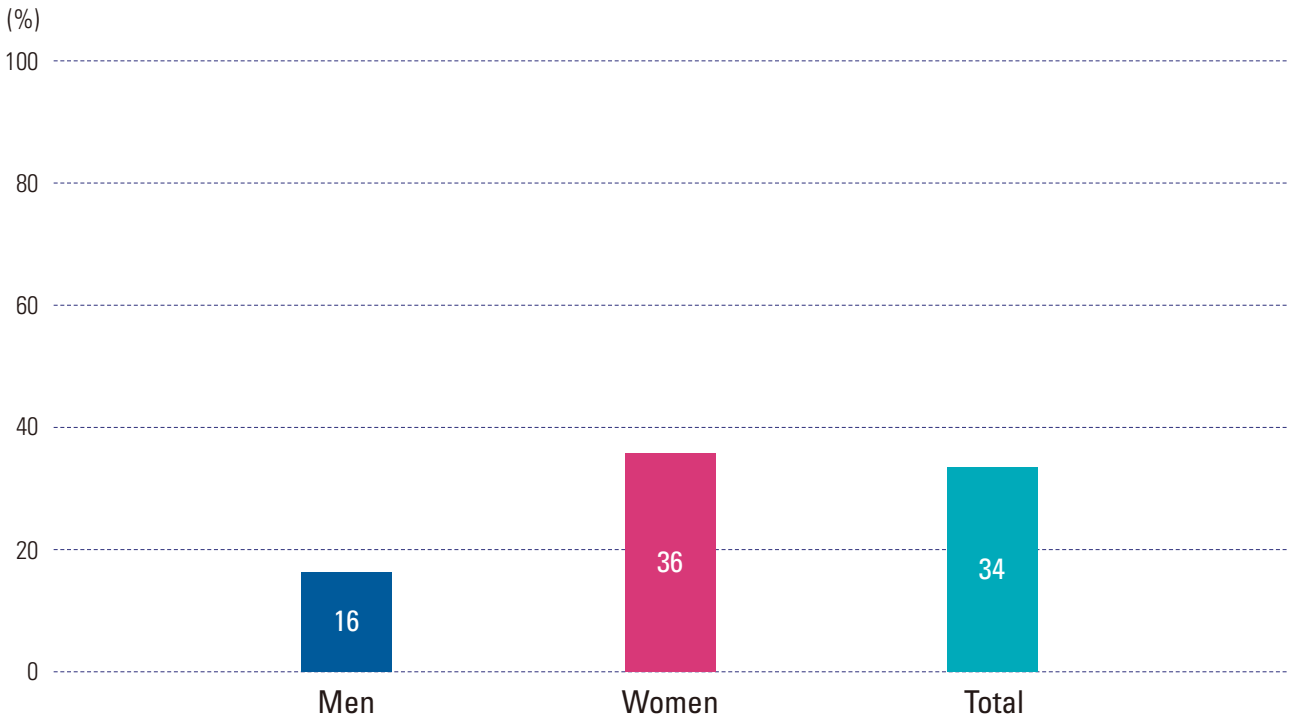


Health service utilization rate = [(the number of osteoporosis patients who accessed medical services]) / (Total number of osteoporosis patient)] x 100 (%)
Total number of osteoporosis patient = [the BMD based prevalence rate from KNHANES 2008-2010] x [estimated population from 2008, 2009, and 2010] (n)
Data derived from the NHIS data set : 2008-2012

Treatment gap

34%

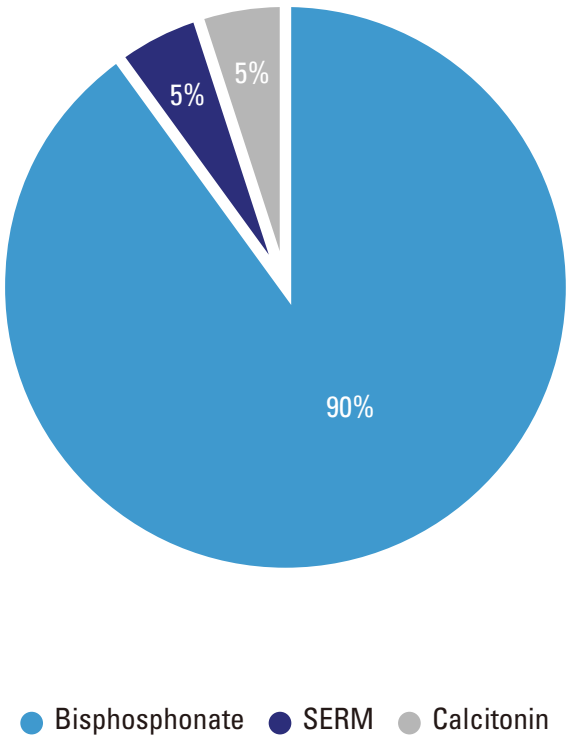
- The treatment gap was 66%
- In relation to gender, drug treatment rate in women was about twice that of men

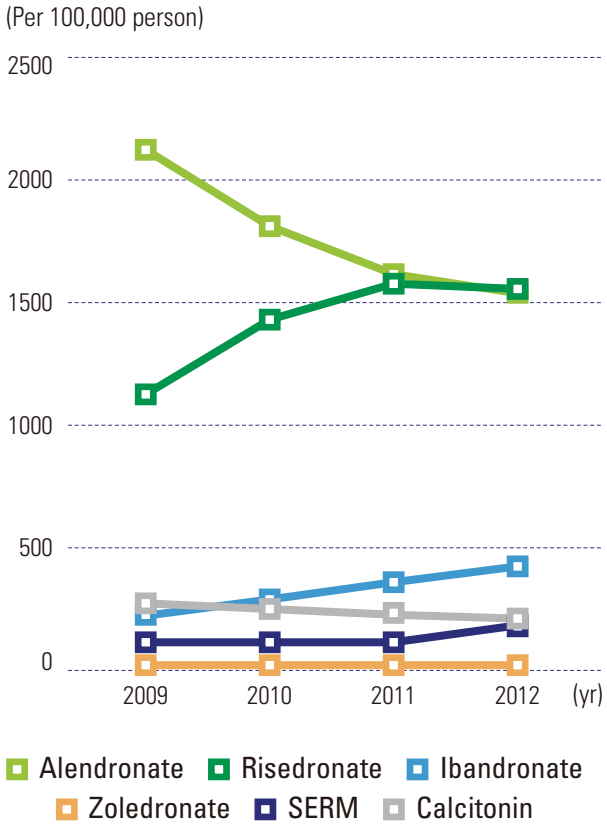


Data derived from the NHIS data set : 2010
Treatment rate = [(the number of subjects who received bisphosphonate, SERM or calcitonin) / (Total number of osteoporosis patient)] x100 (%)
Treatment Gap : the proportion of patients estimated to be eligible for treatment but not receiving treatment

Prescription pattern of osteoporosis treatment

• 90% of osteoporosis patients were prescribed with bisphosphonates



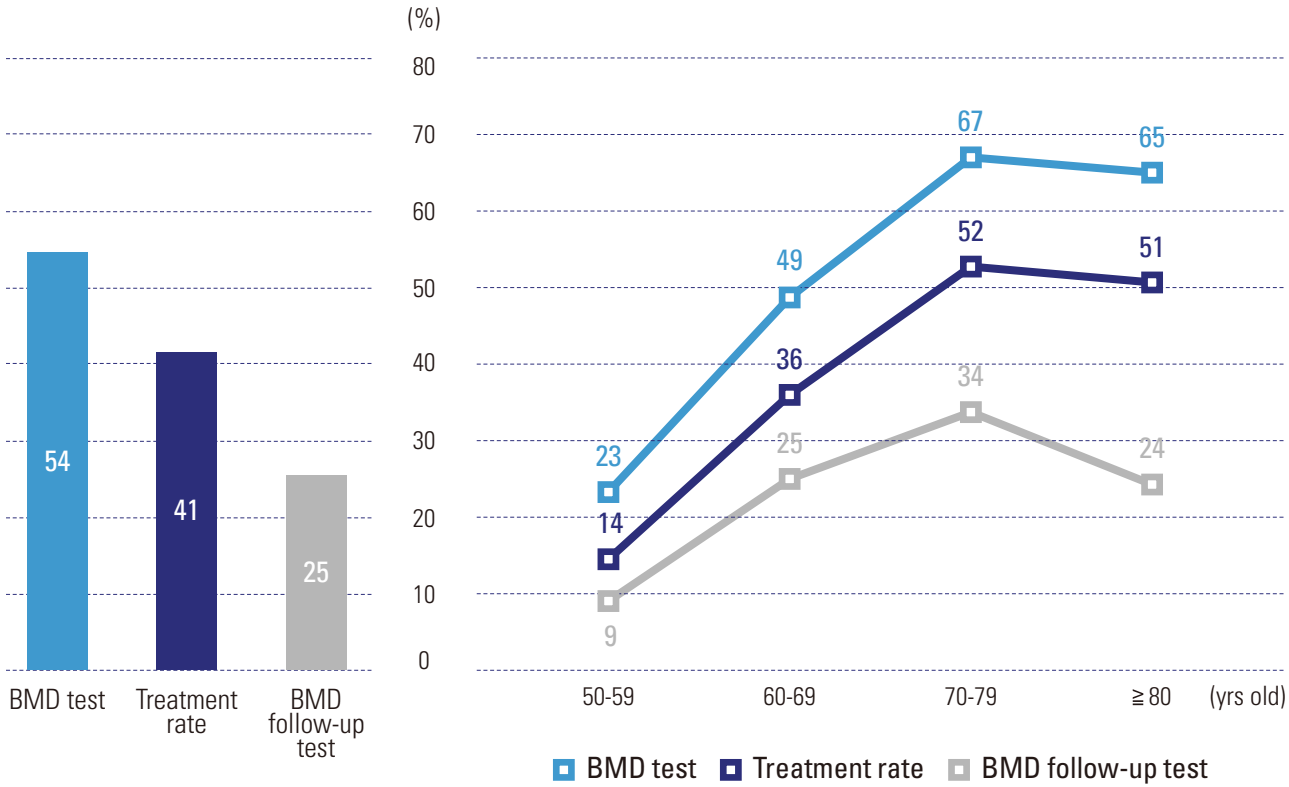


Data derived from the NHIS data set : 2012

Secondary fracture prevention care gap

41%
Treatment rate

- 54% of osteoporotic fracture patient had BMD test and 41% received pharmacological treatment for osteoporosis at 6 months after fracture

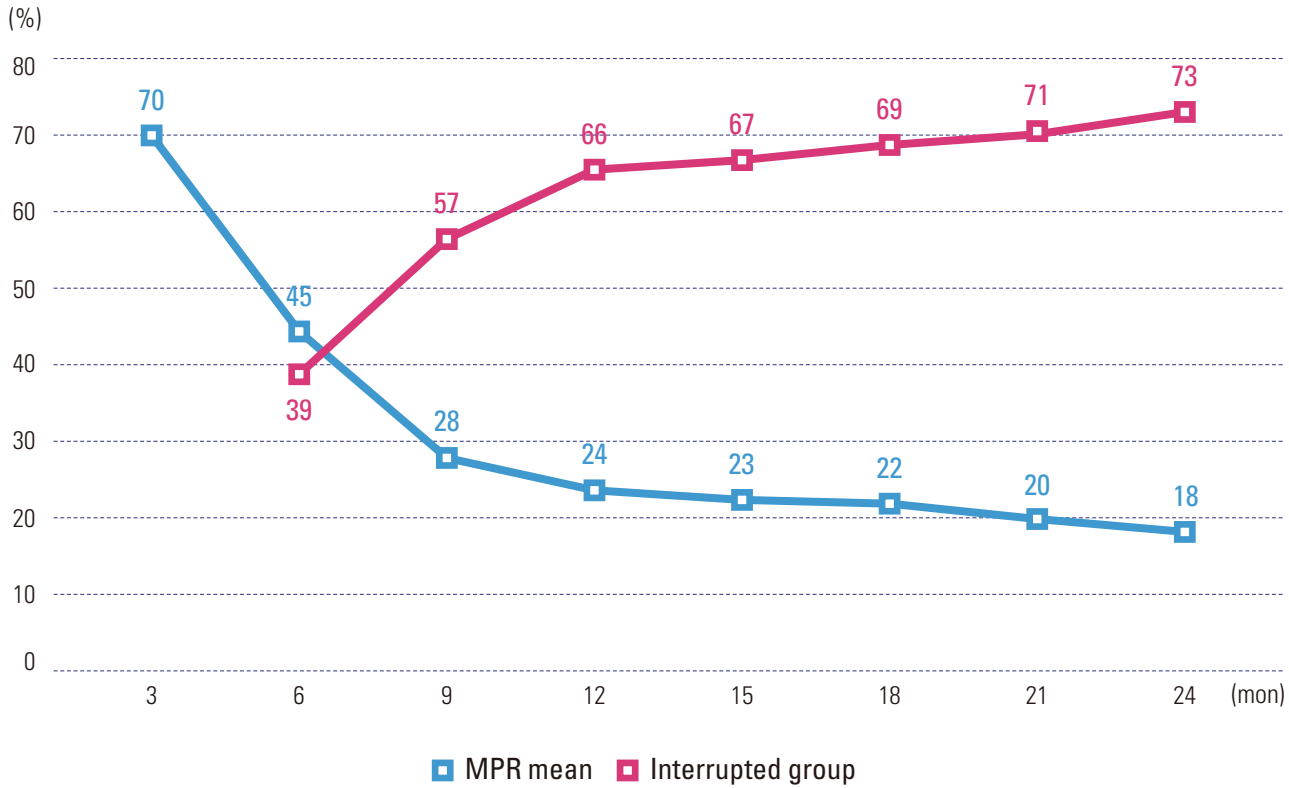


Data derived from the NHIS data set : 2010

Persistence with anti-osteoporosis medication

66%

- Only 24% of patients who started anti-osteoporosis medication were persistent at the end of the first year after therapy initiation

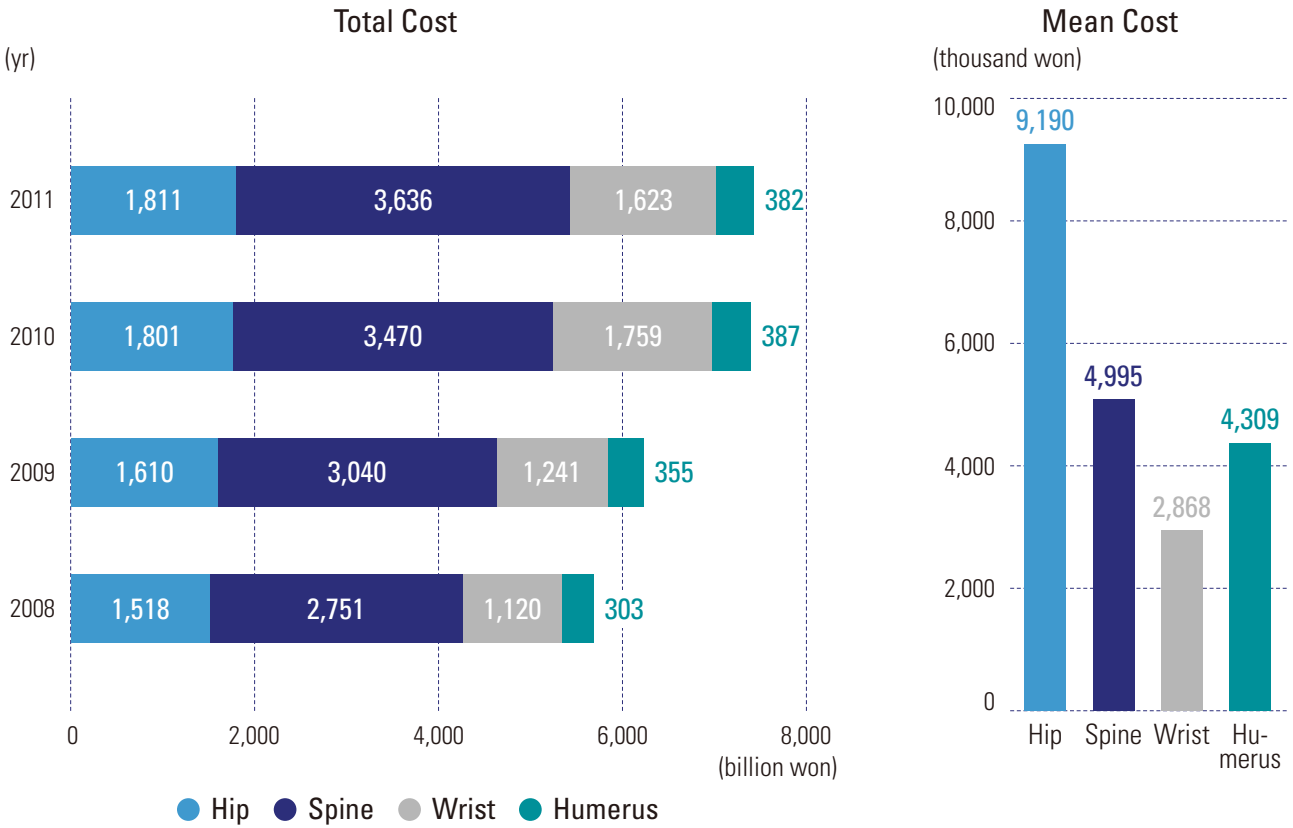


Data derived from the NHIS data set : 2009-2011

Medication possession ratio (MPR) = [(Total Rx days supplied during specified period/ total number of days during specified period)]x100 (%)

Healthcare Costs of Osteoporotic Fracture

- Total healthcare costs during the 12 months following the osteoporotic fracture increased over 4 years
- Mean healthcare costs were highest for hip fractures, and followed by spine fractures, humerus fractures, and distal radius fractures



Data derived from the NHIS data set : 2008-2011

From Healthcare Costs of Osteoporotic Fracture in Korea : information from the NHIS Database, 2008-2011. J Bone Metab (2017)

Fact Sheet Task Force Team

President	Hyun-Mo Ryoo	Seoul National University
Chairman, Board of Directors	Dong Won Byun	Soonchunhyang University
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	Sunmee Jang	Gachon University
	Seung Yeol Jeong	National Health Insurance Service
	Yong Chan Ha	Chung-Ang University

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