

OSTEOPOROSIS CARE AROUND THE GLOBE UNITED STATES

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WHO CRITERIA FOR POSTMENOPAUSAL OSTEOPOROSIS

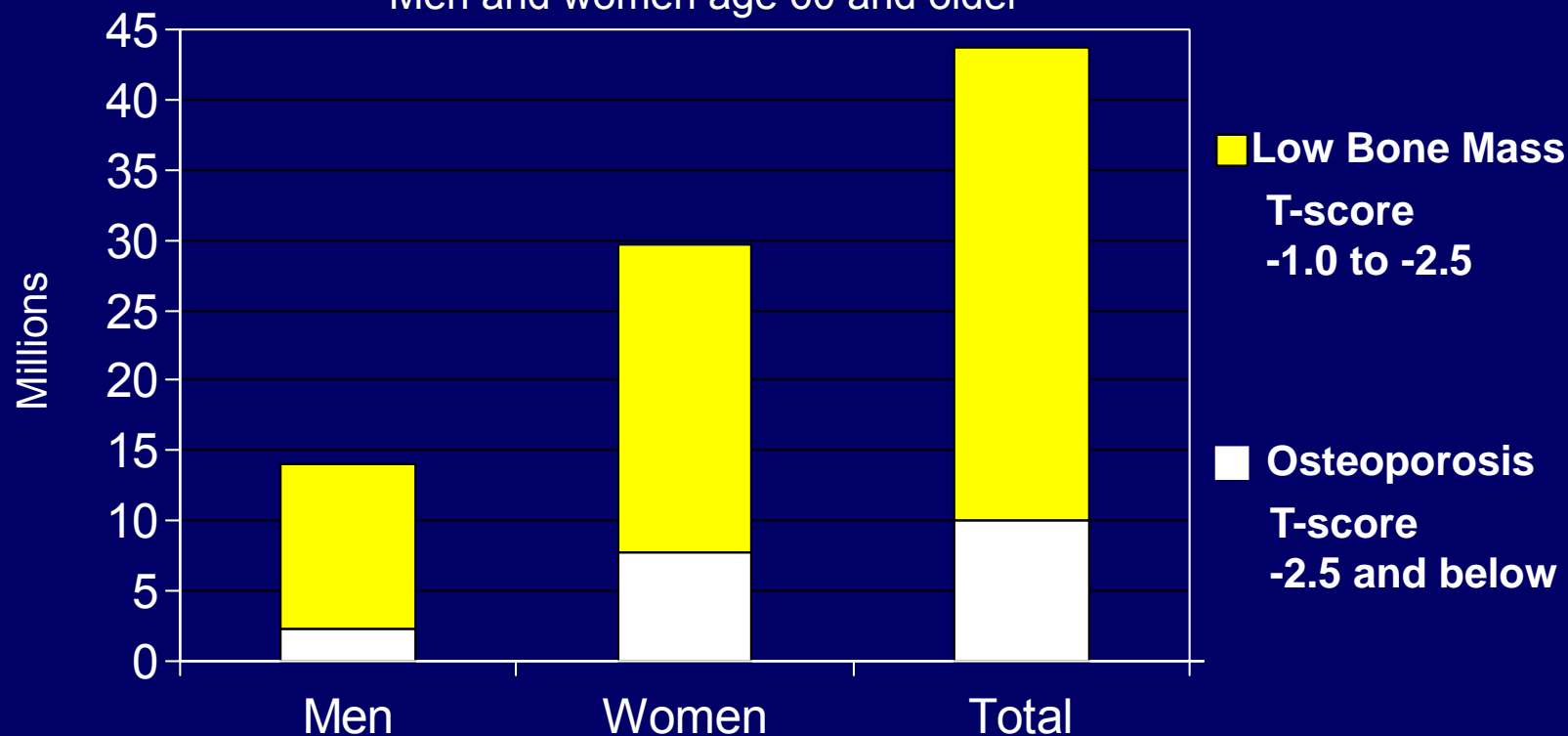
Category	T-score
Normal	-1.0 and above
Low bone mass (osteopenia)	Between -1.0 to -2.5
Osteoporosis	-2.5 and below

Kanis JA et al, *J Bone Miner Res* 1994;9:1137-1141



HOW MANY PEOPLE HAVE OSTEOPOROSIS?

US Figures from NHANES-III adjusted using 2000 US census data
Men and women age 60 and older



Data from National Osteoporosis Foundation, *America's Bone Health 2002*

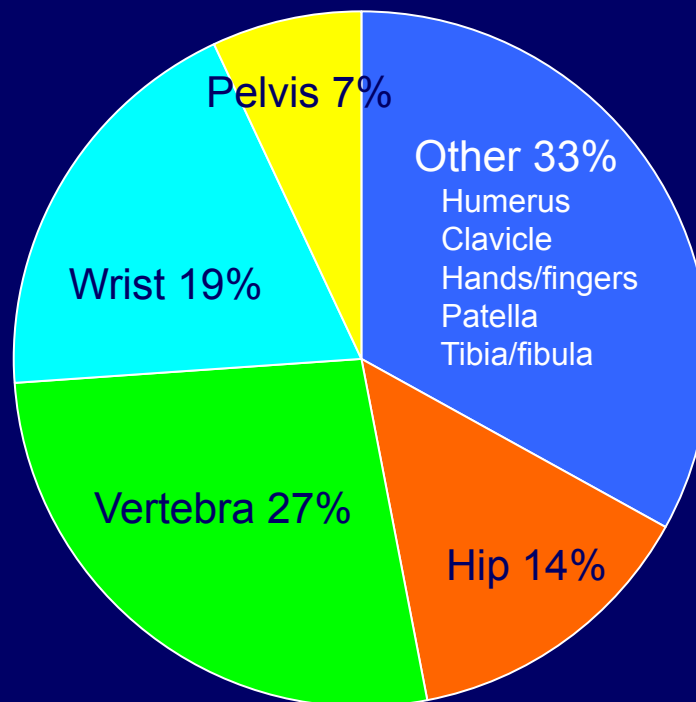


FRACTURES IN 2005 (US)

2 million fractures in 2005

29% occurred in men

14% occurred in nonwhites



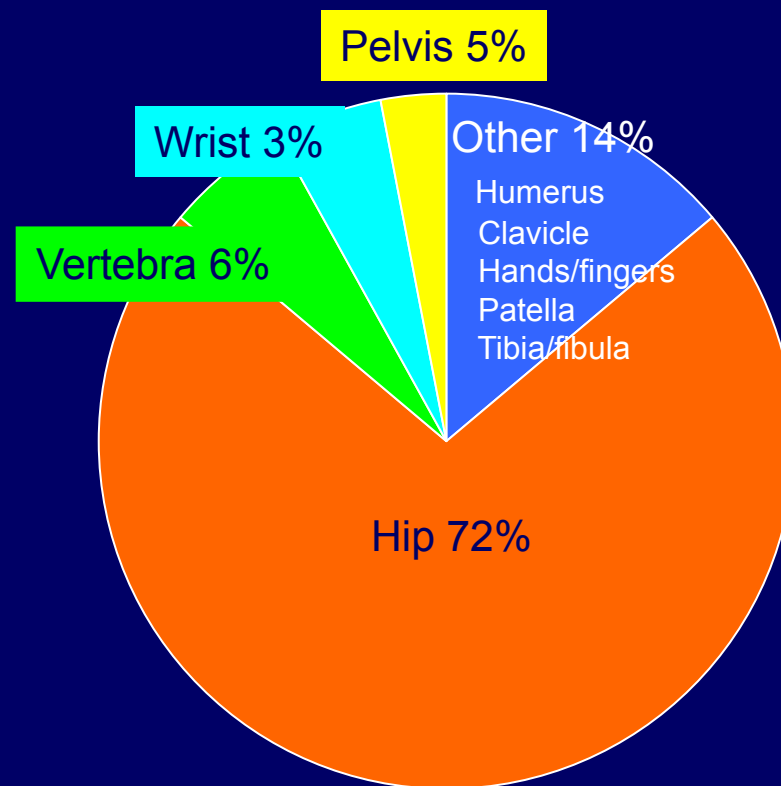
Burge R et al, *J Bone Miner Res* 2007;22:465-475



COST OF FRACTURES IN 2005 (US)

Direct cost was \$16.9 billion in 2005*

57% was spent on inpatient care
30% was spent on long-term care
13% was spent on outpatient care



*Does not include lost productivity, unpaid caregiver time, transportation and social services

Burge R et al, *J Bone Miner Res* 2007;22:465-475



WHO SHOULD HAVE A BONE DENSITY TEST?

- All postmenopausal women should be screened
 - At age 65 if there are no risk factors
 - Younger if there are risk factors:
 - Low body weight
 - Family history of osteoporosis
 - Cigarette smoking
 - Fracture age 45 or older
 - Affected by diseases or conditions or use drugs that cause bone loss
- Healthy men should be tested at age 70
 - Higher risk men should be tested earlier



OSTEOPOROSIS DIAGNOSIS AND/OR TREATMENT

HEDIS® Measures 2003

Medicare Disease Management Rates*

<u>Disease / Management</u>	<u>Rates</u>
Beta blocker after MI	94%
Breast cancer screening	74%
Colorectal cancer screening	50%
Dx or Rx after fracture	18%

(8% DXA, 10% prescription, 3% both)

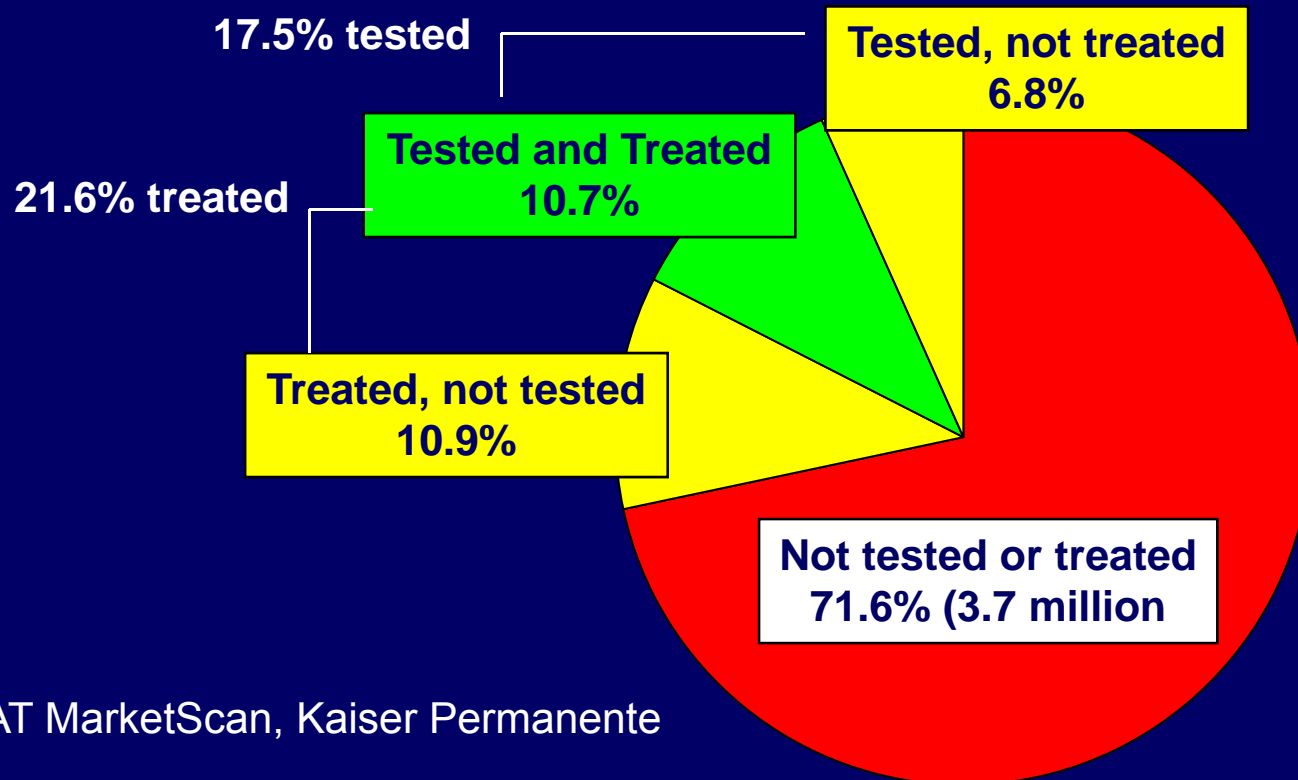
HEDIS = Health Plan Employer Data and Information Set; MI = myocardial infarction.

*The National Committee For Quality Assurance
The State of Health Care Quality 2004. NCQA Washington, DC



UNDER-DIAGNOSIS OF OSTEOPOROSIS

5.1 million
osteoporotic
women
age $\geq 65^*$



*CMS BESS, MEDSTAT MarketScan, Kaiser Permanente

King AB et al, *Osteoporos Int* 2005;16:1545-1557



DECREASING REIMBURSEMENT FOR DXA

Year	Work RVU	PE RVU	MP RVU	Total RVU	Conversion factor (CF)	Payment
2006	0.30	3.20	0.18	3.68	\$37.90	\$139.46
2007	0.18	2.59	0.18	2.95	\$37.90	\$111.81
2008	0.18	1.99	0.18	2.35	[\$34.18]	[\$80.32]
2009	0.18	1.39	0.18	1.75	[\$32.47]	[\$56.82]
2010	0.18	0.79	0.18	1.15	[\$30.85]	[\$35.48]

MPFS = Medicare Physician Fee Schedule; BN = budget neutrality; SGR= sustained growth rate; PE= practice expense; MP= malpractice; RVU = relative value units
 [] = payments modeled with 5% reduction/yr. with freeze for 2007 only

Federal Register November 2006; CMS-1321-FC



FUNDAMENTAL MEASURES FOR BONE HEALTH

CALCIUM

VITAMIN D

EXERCISE

WHOM TO TREAT WITH PRESCRIPTION MEDICATION

- Women who have osteoporosis
 - Fragility fractures
 - BMD T-score -2.5 and below
- Consider treating women whose BMD is borderline low (e.g., T-score -1.5 and below) if they have risk factors



Hodgson SF and Watts NB.
AAACE Osteoporosis Guidelines
***Endocrine Practice* 2003;9:544-564**



FDA-APPROVED MEDICATIONS

INDICATIONS

Drug	Postmenopausal Osteoporosis		Glucocorticoid-induced Osteoporosis		Men
	Prevention	Treatment	Prevention	Treatment	
Estrogen	✓				
Calcitonin (Miacalcin®, Fortical®)		✓			
Raloxifene (Evista®)	✓	✓			
Ibandronate (Boniva®)	✓	✓			
Alendronate (Fosamax®)	✓	✓		✓	✓
Risedronate (Actonel®)	✓	✓	✓	✓	✓
Zoledronic acid (Reclast®)		✓			
Teriparatide (Forteo®)		✓			✓



POOR ADHERENCE IS COMMON IN CHRONIC “SILENT” DISEASES

- 50%-70% with comply with antihypertensives^{1,2}
- 36%-93% with oral hypoglycemics³
- 24%-40% with statins^{4,5}
- 25%-75% with osteoporosis medications⁶⁻⁹
- 48% of patients did not refill a second prescription for an osteoporosis drug¹⁰

1. Schroeder K et al, *Arch Intern Med* 2004;722

2. Conlin PR et al, *Clin Ther* 2001;1999

3. Cramer JA, *Diabetes Care* 2004;27:1218

4. Benner JS et al, *JAMA* 2002;455

5. Jackevicius CA et al, *JAMA* 2002;288:462

6. Clowes JA et al, *J Clin Endocrinol* 2004;89:1117

7. Papaioannou A et al, *Osteoporos Int* 2003;14:808

8. Turbi C et al, *Clin Ther* 2004;26:245

9. McCombs JS et al, *Maturitas* 2004;271-287

10. Watts NB et al *J Manag Care Pharm* 2004;10:142



OSTEOPOROSIS IN THE US

GOOD

- DXA is widely available
- Multiple treatments are available, usually without requirement for a particular T-score or prior fracture

BAD

- DXA reimbursement is too low and is decreasing
- Testing and treatments are overutilized in low risk populations and underutilized in high risk populations
- Persistence with treatment is poor