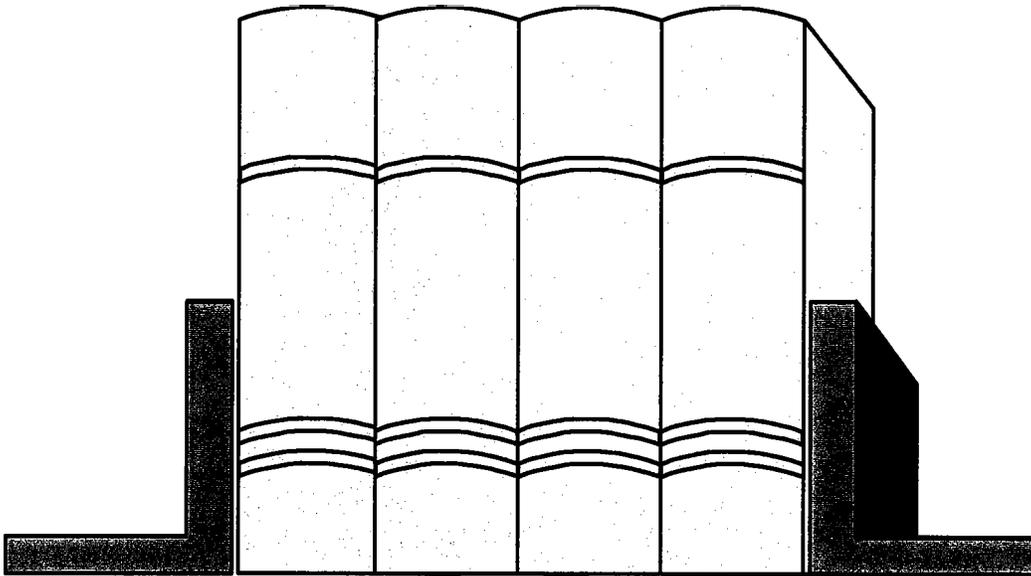




Resource Guide On Osteoporosis



American Association of Orthopaedic Surgeons

MEMORANDUM

To: State Legislative Advocate

From: AAOS Department of Socioeconomic & State Society Affairs

Re: Osteoporosis Information Packet

This information packet was created to help state orthopaedic societies advocate and enact legislation that will help in the prevention of osteoporosis, a devastating bone thinning disease.

Current statistics indicate that one of two women and one of eight men will *suffer* an osteoporotic fracture in their lifetime. In addition, the annual medical costs of osteoporosis to the health care system are estimated to be nearly \$13.8 billion and are expected to rise to \$60-\$80 billion by the year 2020. State legislatures will be expected to bear the brunt of this cost.

To address this serious problem, the National Osteoporosis Foundation (NOF) has created model legislation for use by states. The goal of the legislation is to not only ensure insurance plans cover such simple tests as bone-mass measurement, but also that states establish public awareness campaigns on the disease and appropriate funds to support educational efforts.

The AAOS has taken an active interest in the prevention of osteoporosis as well. An Osteoporosis Task Force has developed public education brochures and posters for use in physicians' offices. The Task Force has explored various ways the AAOS may take a more active role in the prevention of the disease. Within the Department of Socioeconomic & State Society Affairs, we have compiled examples of state legislation as well as relevant articles and information in support of the need for state action. We have also included a state-by-state analysis of the cost of this disease that was developed by the NOF.

We hope that you will use this information as a starting point for your state's efforts. Please feel free to contact John J. Fisher Legislative Analyst (847) 384-4336, or Susan Koshy, JD, MPH, at (847) 384-4332 if you have questions.

TABLE OF CONTENTS

Introduction

- Quick osteoporosis facts
- Who to contact for more information

Osteoporosis and State Legislation Overview **TAB 1**

- Quick fact sheet
- NOF Summary chart of states with osteoporosis activities
- NOF state legislation chart
- NOF list of state bills and sponsors
- NOF state-by-state osteoporosis prevalence figures

Bone Mass Measurement Legislation **TAB 2**

- Quick fact sheet
- Model bone mass measurement legislation
- Sample testimony
- Examples of actual state legislation

Prevention and Education Legislation **TAB 3**

- Model prevention and treatment education legislation
- Examples of actual state legislation

Articles and other Osteoporosis Information **TAB 4**

- “Osteoporosis: The Role of the Orthopaedist,”
Journal of the American Academy of Orthopaedic Surgeons
- “Editorial,”
The Journal of Bone and Joint Surgery
- “The Osteoporosis Interest Group,” *December, 1998 newsletter*
- “Focus on Prevention, Orthopaedists Told,” *The American Academy of Orthopaedic Surgeons Bulletin*
- “Bone Density Tests,”
The American Academy of Orthopaedic Surgeons Bulletin
- “Musculoskeletal Conditions in the U.S.” *The American Academy of Orthopaedic Surgeons Bulletin*



Osteoporosis Facts

Definition

- Osteoporosis, or porous bone, is a disease characterized by low bone mass and structural deterioration of bone tissue, leading to bone fragility and an increased susceptibility to fractures especially of the hip, spine, and wrist.

Prevalence

- Osteoporosis is a major public health threat for 28 million Americans, 80% of whom are women. In the U.S. today, 10 million individuals already have the disease and 18 million more have low bone mass, placing them at increased risk for osteoporosis.
- One out of two women and one in eight men over age 50 will have an osteoporosis-related fracture in their lifetime.
- 10% of African-American women over age 50 have osteoporosis; an additional 30% have low bone density that puts them at risk of developing osteoporosis.
- A woman's risk of hip fracture is equal to her combined risk of breast, uterine, and ovarian cancer.
- While osteoporosis is often thought of as an older person's disease, it can strike at any age.
- Osteoporosis is responsible for 1.5 million fractures annually, including more than 300,000 hip fractures, 700,000 vertebral fractures, 200,000 wrist fractures, and more than, 300,000 fractures at other sites.

Cost

The estimated national direct medical expenditures (hospitals and nursing homes) for osteoporosis and associated fractures in 1995 was \$13.8 billion (\$38 million per day) - and the cost is rising.

- The cost of osteoporosis is expected to increase to over \$60 billion by year 2020.

Symptoms

- Osteoporosis is often called the "silent disease" because bone loss occurs without symptoms. People may not know that they have osteoporosis until their bones become so weak that a sudden strain, bump, or fall causes a fracture *or* a vertebra to collapse.
- Collapsed vertebrae may initially be felt or seen in the *form* of severe back pain, loss of height, or spinal deformities, such as kyphosis or stooped posture.

1150 17th Street, N.W. • Suite 500 • Washington, D.C. 20036 – 4603
202/223 - 2226. • Fax 202/223 – 2227.

American Association of Orthopaedic Surgeons

Consequences

- Individuals suffering hip fractures have a 5 to 20 percent greater risk of dying within the first year following that injury than others in their age group.
- 50% of people suffering a hip fracture will never walk independently again.
- In 1995, osteoporotic fractures were the presumed cause of 432,000 hospitalizations, along with nearly 2.5 million visits to physicians and about 180,000 nursing home admissions.
- Hip fracture is more likely to lead to functional impairment than other serious medical conditions, including heart attack, stroke, and cancer.

Prevention

Building strong bones, especially before the age of 30, can be the best defense against developing osteoporosis. A healthy lifestyle can be critically important for keeping bones strong. Medical experts agree that osteoporosis is highly preventable. However, if the toll of osteoporosis is to be reduced, the commitment to osteoporosis research, public education and early diagnosis must be significantly increased.

Medications

Although there is no cure for osteoporosis, there are treatments available to help stop further bone loss and fractures:

- Estrogen is FDA approved for both the prevention and treatment of osteoporosis. Studies have shown estrogen can prevent the loss of bone mass in postmenopausal women.
- Alendronate, a bisphosphonate, is FDA approved for both the treatment and prevention of postmenopausal osteoporosis. Studies have shown alendronate (sold as Fosamax) can prevent up to 50% of fractures.
- Injectable and nasal calcitonin is FDA approved for the treatment of osteoporosis. This drug has been shown to slow bone breakdown and to reduce the pain associated with fractures.
- Raloxifene, a selective estrogen receptor modulator (SERMs), was approved in late 1997 by the FDA, for the prevention of osteoporosis. SERMs act like a weak estrogen in the cardiovascular systems and skeleton by preventing the loss of bone mass. SERMs block the effect of estrogen in the breast - and uterus, therefore, it is believed, there may not be an increase in the risk of breast and uterine cancers. Although, longer studies are needed before this can be known.

Medicare and Osteoporosis

- Medicare covers hospital stays and physician visits to treat osteoporosis.
- In 1997 the Medicare Bone Mass Measurement Coverage Standardization Act, a provision of the Balanced Budget Act, mandated coverage for bone mass measurement tests to diagnose osteoporosis in five categories of individuals at risk of osteoporosis. The provision goes into effect July 1998 and includes all FDA approved technologies.
- Injectable calcitonin is the only osteoporosis drug covered by Medicare. It is covered for postmenopausal women through the home health program if the individual is unable to inject herself. Men are excluded from coverage.

DEPARTMENT OF SOCIOECONOMIC AND STATE SOCIETY AFFAIRS

Department Fax Number - 847/823-1309
For More Information on Osteoporosis
Please Contact:

Robert C. Fine, JD, CAE

Department Director

Phone: 847/384-4322

[E-mail: fine@aaos.org](mailto:fine@aaos.org)

Susan A. Koshy, JD, MPH

Manager - State Society & Legislative Affairs

Phone: 847/384-4332

[E-mail: koshy@aaos.org](mailto:koshy@aaos.org)

John J. (Jay) Fisher, Jr., JD

Legislative Analyst

Phone: 847/384-4336

[E-mail: fisher@aaos.org](mailto:fisher@aaos.org)

Joyce R. Knauss

Administrative Assistant

Phone: 847/384-4334

[E-mail: knauss@aaos.org](mailto:knauss@aaos.org)

OSTEOPOROSIS & STATE LEGISLATIVE OVERVIEW

Quick Fact Sheet

AAOS position statement

"Osteoporosis as a National Public Health Priority"

NOF summary chart of states with osteoporosis activities

NOF state legislation chart

NOF list of state bills and sponsors

NOF state-by-state osteoporosis prevalence figures

**National Osteoporosis Foundation
Legislative Issue Brief
Osteoporosis and State Legislation**

Background

Osteoporosis is a major public health threat for 28 million Americans, 80% of whom are women. Osteoporosis causes 1.5 million fractures each year. The direct medical cost of osteoporosis is estimated to be \$13.8 billion annually. Unless interventions are begun immediately, the aging U.S population will drive this annual cost up to an estimated \$60 billion by year 2020, adding a huge burden to an already encumbered Medicare program.

Problem

Public Education: Educating both adults and teenagers is critical. Most women at menopause are not taking-or being advised to take-appropriate steps to prevent, detect or treat this disease. A 1997 Roper Starch survey indicated that *women 50 and older lack critical understanding* of how to maintain bone health after menopause, and how to prevent and treat osteoporosis. Osteoporosis is referred to as a "*Pediatric disease with a geriatric outcome*" because patterns of diet, nutrition and physical exercise established in adolescence and teenage years have long-lasting effects on bone. Ninety-seven percent of bone mass is reached before age 19. *Only 13% of teenage girls, ages 12-19, obtain the recommended dietary allowance (RDA) for calcium on an average daily basis.*

Early Detection: Bone mass measurement (BMM) is the only method available for determining the status of a person's bone mass and predicting risk of future fractures. Unfortunately, coverage of BMM by private insurers (HMO, PPO, etc.) is not consistent from plan to plan. While perhaps 50-75% of the insurers will cover BMM under limited circumstances, very few allow coverage for estrogen deficient women at high risk for osteoporosis. This leaves many menopausal women without access to this important test to determine if any of the available FDA-approved pharmacologic treatments beyond calcium, vitamin D and exercise are necessary to prevent osteoporosis.

Solution

The National Osteoporosis Foundation has developed two model state bills. If enacted and funded, these bills will start to answer the growing problem of osteoporosis and will reduce the future medical costs of the disease through early detection of bone loss and public education about the disease.

- 1) The "Osteoporosis Prevention and Treatment Education Act," recognizes that the public lacks the knowledge necessary to prevent, detect and treat the disease. Therefore, the act calls for funded, multi-generational, state education programs to promote public awareness and knowledge about the causes of osteoporosis, personal risk factors, the value of prevention and early detection, and the options available for treatment.
- 2) The "Osteoporosis Bone Mass Measurement Coverage Act," recognizes that the bone mass measurement test is the only reliable way to detect the presence of low bone mass allowing the doctor to determine if treatment is necessary. Early detection of bone loss can lead to the reduction of future fractures. Therefore, the act requires all health insurance plans to provide coverage for high-risk individuals for bone mass measurement tests.

**American Academy of Orthopaedic Surgeons
American Association of Orthopaedic Surgeons**

6300 North River Road Rosemont, IL 60018-4262
Phone 847/823-7186. 800/346-2267 Fax 847/823-8125 Fax-on-Demand 800/999-2939 Internet www.aaos.org

POSITION STATEMENT

Osteoporosis as a National Public Health Priority

**A Joint Position Statement of the
American Academy of Orthopaedic Surgeons
and the National Osteoporosis Foundation**

Osteoporosis is a widespread disease characterized by decreased bone mass and poor bone quality, which leads to increased numbers of fractures typically of the hip, spine and wrist. Osteoporosis is a global public health problem currently affecting more than 200 million people worldwide. ¹

In the United States alone, 10 million already have the disease and 18 million are at risk. 80 percent of whom are women. ² Although the incidence of osteoporotic fractures among African American and Hispanic women is less than that of Caucasian and Asian women, their risk is still significant. Each year, 1.5 million fractures are attributed to osteoporosis, including 350,000 hip fractures. ^{3,4} Seventy percent of those suffering from osteoporosis do not return to previous pre-injury status. The acute and long-term medical care expenses associated with these fractures costs the nation an estimated \$10 billion - \$18 billion. ⁴ Due to the dramatic growth of the elderly population and the rise in the incidence of fractures at earlier ages, osteoporosis has become a major public health problem of epidemic proportions..

Osteoporosis can be classified into two broad categories: primary and secondary osteoporosis. ⁵

Primary osteoporosis is, by far, the most common form of the disease and includes:

- postmenopausal osteoporosis
- age-associated osteoporosis, previously termed senile osteoporosis, affecting a majority of individuals age 70 and older
- idiopathic osteoporosis affecting premenopausal women and middle-aged men

Secondary osteoporosis is a disease in which an identifiable agent or disease process causes loss of bone tissue and includes:

- inflammatory disorders
- disorders of bone marrow cellularity
- endocrine disorders of bone remodeling
- medication induced

Osteoporosis reflects the inadequate accumulation of bone during growth and maturation, excessive losses thereafter, or both. Although knowledge of the causes of osteoporosis is incomplete, genetic,

endocrine and life style factors are contributory.⁴ Since today's effective and safe treatments primarily preserve existing bone tissue, prevention, which involves maximizing maturational gains in bone density and minimizing post-maturity losses, emerges as the crucial current disease prevention strategy.⁴

The American Academy of Orthopaedic Surgeons and the National Osteoporosis Foundation believe that increased federal funding for research and education programs are essential to reduce the growth rate of osteoporotic fractures.

Based upon current scientific knowledge about osteoporosis, it is further believed such education programs should include information about:

- risk factors associated with osteoporosis, including, insufficient calcium intake, sedentary lifestyle, smoking and excessive alcohol consumption. A family history of fractures, a small, slender body, fair skin and a Caucasian or Asian background can increase the risk of osteoporosis.
- early diagnosis of osteoporosis usually made by your doctor using a combination of a complete medical history and physical examination, skeletal X-rays, bone densitometry and specialized laboratory tests.
- the importance of adequate dietary intake of calcium, vitamin D and other nutrients, starting at an early age, especially young girls
- efficacy and safety of current estrogen and other hormone and estrogen antagonists (SERMs) to prevent and treat osteoporosis.
- efficacy and safety of bisphosphonates, calcitonin and evolving therapies to prevent and treat osteoporosis.
- sufficient exercise and activity.
- adverse effects of social behaviors such as using tobacco and alcohol
- fall prevention strategies and rehabilitation.

The care for patients with established osteoporosis should include: early diagnosis of potentially treatable secondary types of osteoporosis, protection against further bone loss by utilizing medications such as estrogen, SERMs, bisphosphonates and calcitonin, exercise and activity programs, and injury prevention strategies.

While there is much to be learned about the causes of osteoporosis, there is sufficient current knowledge to undertake therapeutic action today.

Estrogen, bisphosphonates, intranasal calcitonin and SERMs provide a wide range of therapeutic choices for prevention and treatment of osteoporosis. Effective regimens that stimulate bone formation will require increased federal research support.

To minimize future predicted costs, morbidity, and mortality from increasing numbers of osteoporotic fractures in our rapidly aging population, the American Academy of Orthopaedic Surgeons and the National Osteoporosis Foundation recommend that osteoporosis should become a national public health priority. ⁶ While current research demonstrates that pharmacological therapies can decrease the risk of fractures, new research is required to evaluate the role of each of our current therapies and to allow us to develop new therapeutic agents that can eliminate the underlying skeletal diseases.

References

1. Chestnut, CH III: Osteoporosis: A world-wide problem, in Christiansen C, Overgaard K (eds): *Osteoporosis 1990*. Kobenhavn K, Denmark, Osteopress ApS, 1990, pp 33-35.
2. National Osteoporosis Foundation, "1996 and 2015 Osteoporosis Prevalence Figures. State by State Prevalence Report," 1997.
3. Brody, JA: Prospects for an aging population, *Nature* 1985; 315:463-466.
4. Riggs, BL, Melton, LJ III: The prevention and treatment of osteoporosis. *New Engl J Med*, 1992; 327:620-627.
5. Riggs, BL, Melton LJ III: Evidence for two distinct syndromes of involuntional osteoporosis. *Am. J. Med* 1983;75:899-901.
6. Lane, JM, Nydick M Osteoporosis:Current Modes of Prevention and Treatment. *JAAOS* Vol.7:1,1931,1999

February 1993

Revised 1999

**American Academy of Orthopaedic Surgeons
National Osteoporosis Foundation**

American Association of Orthopaedic Surgeons

Summary Chart of States with Osteoporosis Activities

States with osteo. activities	Passed law to provide insurance coverage for bone density tests	Passed law to provide public education	Has osteo. public education program	Has separate earmarked appropriations for osteoporosis	Has separate approp. or funding from other sources	Total Funding (FY 98 Unless otherwise noted)	Designated staff (FTE)	Targeted pop.				
								Menopausal woman	Women & men 65+	Teens	Health Care Prof.	Other
AL		X	X	X	X	\$185,000	1.25	✓	✓	✓	✓	✓
AR		X										
CA	X											
CO			X ('91-'97)					✓	✓	✓	✓	✓
CT			X		X	\$10,000	1.0					✓
DE		X	X					✓	✓	✓	✓	✓
FL	X	X	X	X	X	\$150,000	1.0(Health) 3.0 (Elder)	✓	✓	✓		✓
GA	X	X										
IL		X	X	X	X	\$500,000 (FY99)	1.0	✓		✓		✓
IN		X	X		X	\$130,000	1.0	✓				
KY	X											
MA		X	X	X	X	\$500,000	1.0	✓	✓	✓	✓	✓
MD	X		X		X	\$5,000	0.1	✓				✓
MI		X	X	X	X	\$650,000 (FY99)	0	✓	✓	✓	✓	✓
MO		X	X	X	X	\$78,500	2.0	✓	✓		✓	✓
MS		X						✓	✓	✓		✓
NC			X	X	X	\$280,000	1+3 p.t.	✓	✓	✓	✓	
NH		X	X		X	\$40,000	0.25	✓	✓	✓	✓	
NJ		X	X	X	X	\$300,000	0.5	✓	✓	✓	✓	
NM		X	X	X	X	\$150,000	0	✓	✓	✓	✓	
NY		X	X	X	X	\$250,000	1.0	✓	✓	✓	✓	
OH		X	X	X	X	\$100,000	0.5	✓	✓	✓	✓	
OK	X	X										
PA		X	X		X	\$150,000	0.5	✓		✓	✓	
RI		X	X				0.1	✓	✓		✓	
SC		X	X	X	X	\$100,000 (FY99)	1.5	✓				✓
TN	X	X	X		X	\$101,600	1.0	✓	✓	✓	✓	✓
TX	X	X	X	X	X	\$250,000	0	✓	✓		✓	
VA		X	X				0.2	✓	✓	✓	✓	
WA		X	X		X	\$5,000	0	✓			✓	✓
WV		X	X	X	X	\$200,000	2.1	✓		✓	✓	✓
TOTAL	8	25	25	14	21	\$4,135,100	19	25	18	18	19	14

NOF 2/94

American Association of Orthopaedic Surgeons

NATIONAL OSTEOPOROSIS FOUNDATION: OSTEOPOROSIS STATE LEGISLATION: PASSED* LEGISLATION				
<i>(*Except where indicated as pending)</i>				
EDUCATION <i>(special for example may be osteoporosis day or women i health initiative)</i>	BONE MASS MEASURE-MENT	TASK FORCE AND RELATED	OSTEO-POROSIS STUDY	APPROPRIATIONS
AL '96. ('99 special)				AL= 96.'97.'98: \$185.000 each year; <i>(AL 99 pending \$195.000 FY00)</i>
AR'97				
AZ'99				AZ'99 -\$450.000 annually for FY99/00 and 00/01
<i>(CA 99 pending)</i>	CA '93			<i>(CA 99 pending \$1 million)</i>
(CO '99 special)				
<i>(CT 99 pending)</i>		CT '96		
DE '98				
FL '96	FL '96			FL-'98: \$150.000 (FL'99: total \$400.000 in recurring funds from this yr. + \$150.000 recurring, from '98)
GA '95	GA '98			
IL '94				IL-'98: \$500.000; <i>(IL 99 pending \$300,000for FY99/00)</i>
IN '97, (IN'99 special)				IN '99: creates office Women's HIth with \$500,000 for that office
	KY '98			
	<i>(LA 99 pending)</i>		LA'95	
	MD '97			
MA '93				MA-'93: \$500,000; <i>(MA 99 pending 5502.638)</i>
MI '98 ('99 special pending)				MI-'98-5650,000; <i>(99 special pending: establishes osteoporosis prevent/educ With \$250,000 to start fund).</i>
MS '94 ('99 special)			MN '95	
MO '95				
<i>(NE 99 women S health initiative/dept & fund pending)</i>				
NH '97				
(NV'97 special)				
NJ'97; ('99 special) ('98 special pending)	<i>(NJ-pending)</i>			NJ-'97: \$300.000 (98:525.000 pending)
NM '98				NM=98: \$150.000

American Association of Orthopaedic Surgeons

NATIONAL OSTEOPOROSIS FOUNDATION: OSTEOPOROSIS STATE LEGISLATION: PASSED* LEGISLATION (*Except where indicated as pending)				
N Y '97(99 special pending)	(NY 99 pendin			NY-'97:5500.000 (never allocated): '98:\$250.000 (NY 99 \$250.000 pending)
(NC 99 pending)	(NC 99 pending)	NC '97		NC-'97: \$200.000 98: 5200.000 (99 pending 5100.000 for FY 99-00)
OH '97	(OH 99 pending)			OH-'97: 5100.000 for each of the next 2 years; (OH 99 pending \$50,000 for each FY, FY00 and FY01)
OK '96.99	OK '96			
PA '98	(PA 99 pending)			(PA 99 pending \$250,000)
RI '97	(RI 99 pending)			
SC '97				SC-'98: \$100.000
TN '96	TN '96		TN '98	
TX '95. TX '99 special	TX '95			TX'97: \$250,000 each FY of the biennium
	(VT 99 pending)			
VA '95				
W A '96 (99 special-pending)				(WA 99 pending: plans are for an appropriation, but amount is still to be determined)
W V '96				W V'99: \$300,756
TOTALS (Bills NOT states): 33 + 8 pending (•26 states)	8 + 8 pending	2	3	16 + 10 allocation, bills pending

f:\esther\legislat\state99\chart699 WP 8.0 June 9, 1999 (Please feel free to contact E. Katzman at. 202-22.3-2226 to correct any discrepancies).

American Association of Orthopaedic Surgeons

**OSTEOPOROSIS STATE LEGISLATION
1993-1999**

TO ACCESS INTERNET: <http://www.state>. (you insert state abbreviation). us

carry over-c.o. The legislative session ends, bills fail and then must be re-introduced the next year.

STATE	EDUCATION	PRIMARY SPONSOR OF EDUCATION BILL	BONE MASS MEASUREMENT TESTS	PRIMARY SPONSOR OF BMM BILL	NOTES
ALABAMA HB: 334-242-7600 SB: 334-242-7800 (outside of AL) session ends 6/9/99 no carry over (c.o.)	SB517--Failed 96 HB316--PASSED 96 *HB73a--PASSED 97 **HB287--PASSED 98 ***H 158 intro 3/99 is on Sen. Calendar with a substitute and companion S160-intro 4/99;failed 4/6/99 ****HJR359-PASSED 5/28199	Sen. Sundra Escott- Russell Rep. <i>Bill</i> Fuller Rep. <i>Bill</i> Fuller Rep. <i>Bill</i> Fuller Rep. Howard Hawk Sen. Henry "Hank" Sanders Rep. Graham			HB316 establishes an osteoporosis program with an appropriated \$150,000 allocation. * HB73a appropriates \$185,000 to the osteoporosis education program. ** HB287 allocates \$185,000 *** H158/SI60 allocates \$195,000 for FY ending 9/30/00 to the Dept of Public Hlth for the Osteoporosis Educ. Prgm.
ALASKA					
ARIZONA HB: 602-542-4221 SB: 602-542-3559	HB2344--Introduced/ and Failed 98 *HB2523--Introduced	Rep. Kathi Foster Rep. Susan Gerard Sen. Ann Day			* HB 2523 establishes a women's health task force. Part of this initiative

(as of June 9, 1999 f:\esther\legislat\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page 1

American Association of Orthopaedic Surgeons

<p>no c.o. ARIZONA (continued)</p> <p>Session starts 1/99 and lasts approx. 100 days.</p>	<p>98 and Failed 98**S1238--Introduced and Failed 98</p> <p>***HB2499-441R- Intro 1/99- contents rolled into H2480-PASSED 5/14/99</p>	<p>Sen. Ann Day</p> <p>Rep. Susan Gerard</p>			<p>availability of research, treatment, and education for menopause, osteoporosis and other health issues of concern to older women.</p> <p>**SB 1238 was an education bill and asked for \$750,000 for each of fiscal years 98-99/and 99 2000. By the time it was sent to Governor's desk and signed on 5/29/98-it <i>was no longer an</i> <i>osteoporosis bill</i>; it had converted to another bill with no op language in it. ***HB2499 for FY99-00 & FY00-01 annual allocation of \$450,000 for the osteoporosis prevention and treatment education program.</p>
<p>ARKANSAS</p>	<p>HB1936--PASSED 97</p>	<p>Rep. Jacqueline Roberts</p>			
<p>CALIFORNIA 916-445-4251 Sen. Approp.= 445-3284</p> <p>yes-c.o.</p>	<p>AB 1341 Intro and Failed 97</p> <p>*AB2200 Intro 97 and Failed 98**AB1748- Introduced 98 Failed 9/29/98</p>	<p>Asm. Elaine White Alquist</p> <p>Asm. Carol Migden Asm. Elaine White- Alquist</p>	<p>AB547--PASSED 93</p>	<p>Asm. Jackie Speier</p>	<p>*AB2200 established Office of Women's Health which addresses osteoporosis.</p> <p>**AB1748 requires on/before 6/30/99 to establish an osteoporosis prevention and treatment education advisory council.</p>

American Association of Orthopaedic Surgeons

<p>CALIFORNIA (continued)</p>	<p>***ACR 94--Intro and Failed 98</p> <p>AB 161- Intro 1/99/ amended 3/99-To Senate 6/3/99</p>	<p>Assemblywoman Alquist</p> <p>Asm. Alquist</p>			<p>Appropriations Bill vetoed for FY 98 was \$250,000 and FY99 was \$500,000. ***ACR 94 proposed an osteoporosis education day AB161 creates the CA Osteoporosis Prev. & Ed., Program w/in State Dept. of Health Serv. amend- + appropriates \$1 million</p>
<p>COLORADO 303-866-3055</p> <p>session ended 5/7/99; to start 1/5/00 no c.o.</p>	<p>S 146--Intro 99-Failed 3/22/99</p> <p>SR9-PASSED 99 SJR14-Intro and Failed '99</p>	<p>Sen. Ginette "Gigi" Dennis</p> <p>Sen. G. Dennis</p>			<p>S 146 Dept. Of Public Health & Environ. to create an osteoporosis prevent. & treatment educ. Program and fund. SR9 acknowledges the needed for osteoporosis ed</p>
<p>CONNECTICUT 860-240-0555 (office re-opens 1/6/99 and session ends 6/9/99)</p> <p>no c.o.</p>	<p>*SB57-PASSED '96 **SB632--Introduced 97/ Failed 98 ***S 1 250-Intro 2/99 awaiting a # and signature by Governor</p>	<p>Sen. Toni Harp</p> <p>Committee on Aging (AGE)</p>	<p>HB5149--Failed 95</p>	<p>Rep. Theresa Gerratana</p>	<p>*SB57 sets up a task force to study osteoporosis. **SB632 recommends from the osteoporosis task force for an Osteoporosis Adv Council, state-wide media / educ. campaigns & data collection. ***S1250 creates an osteoporosis educ. and treatment program</p>

American Association of Orthopaedic Surgeons

DELAWARE	H240--PASSED 98	Rep. Jane Maroney			
DISTRICT OF COLUMBIA					
FLORIDA 850-488-4371 yes-c.o.	HB1239--Failed 95 HB193-- Failed 96 SB370-- Failed 96 HB1357--PASSED 97 *SB 414--Failed 98 **HB 4201-PASSED98 H1789-Failed 99; became S2500-PASSED	Rep. Mandy Dawson Rep. Cynthia Moore Chestnut Sen. George Kirkpatrick Rep. George Albright Sen. Walter "Skip" Campbell, Jr. Appropriations Bill Appropriations Budget Bill	SB1640--Failed 95 ***HB397--PASSED 96 *SB 414--Failed 98 ****H1919- Intro 3/99-Failed 99 and companion bill Is S1600, also failed 99	Sen. George Kirkpatrick Rep. Mandy Dawson Rep. Ritter Sen. Campbell	*SB414 was an amendment requiring inclusion of osteoporosis education as a condition for high school graduation; also required insurance companies operating within the state to cover bone density tests if deemed necessary by a physician and included state employees. **HB4201-- \$150,000 was appropriated through a general appropriations act to the Department of Health for osteoporosis education with the agreement that they would in turn contract with the Department of Elder Affairs who would use \$75,000 of this money to support their own osteoporosis education effort. ***HB397 also has an osteoporosis education component.

American Association of Orthopaedic Surgeons

as of June 9.1999 f:esther\lccislaf\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page4

FLORIDA (continued)					**** H1919/ S1600 mandates insurers coverage for diagnosis and treatment of osteoporosis for high risk individuals after 10/1/96. H1789 (is now S2500) appropriates recurring \$200,000 for osteoporosis enhancement program and \$200,000 for osteoporosis prev.&educ. (150,000 from last session to be recurring)
STATE	EDUCATION	PRIMARY SPONSOR OF EDUCATION BILL	BONE MASS MEASUREMENT TESTS	PRIMARY SPONSOR OF BMM BILL	NOTES
GEORGIA 404-656-5040	HB558--PASSED 95	Rep. Nan Orrock	HB432--Failed 95 *HB 1320--Failed 96 **HB1086--PASSED 98	Rep. Michele Henson Rep. Parham Rep. Michele Henson	*HB 1320 required insurers to offer treatment & related equipment for osteoporosis management Final bill substituted diabetes for osteoporosis. **HB 1086 stipulates bone density tests for qualified individuals be made an optional part of insur.benefit plans
HAWAII 808-587-0478 in essence, no c.o.	H2705 Introduced 98 S2632 Introduced 98- were companion bills that both Failed 98 *S824--Intro 1/99-	Rep. Marilyn B. Lee Sen. Suzanne Chun Oakland Sen. Suzanne Chun	HCR34 -Intro 1/99- failed 4/5/99	Rep. Marilyn B. Lee	*S824 creates osteoporosis treatment and educ. Program under the Dept. Of Hlth without allocations.

American Association of Orthopaedic Surgeons

as of June 9.1999 f:esther\l\cgislat\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page5

STATE	EDUCATION	PRIMARY SPONSOR OF EDUCATION BILL	BONE MASS MEASUREMENT TESTS	PRIMARY SPONSOR OF BMM BILL	NOTES
<p>Session starts 3rd Wed., Jan 2000</p>	<p>Failed 2/11/99 H922(companion for S824)--Intro 1/99- Failed 2/19/99 **HR74-Intro 3/99- Failed 3/17/99</p>	<p>Oakland Rep. Colleen Meyer Rep. Colleen Meyer</p>			<p>HCR34 requests the auditor assess the social/financial effects of requiring insurers to offer bmm coverage (& HRT, mammogram, etc. as well) **HR74urges Dept. of Hlth to implement an osteoporosis prevention & treatment program to incl. an interagency council</p>
<p>IDAHO</p>					
<p>ILLINOIS 217-782-3944 Summer recess from 5/24/99 to 11/4/99 Yes- c.o.</p>	<p>HB2884--PASSED 94 *HB1331--Introduced 97 (same as HB 2735)- Failed 1/99 **HB455-PASSED 98 ***H3839 Intro 2/98- Failed 1/99 OH 1313-Intro 2/99 001-125311-Intro 2/99- both referred back to the house</p>	<p>Rep. Kay Wojcik Rep. Gerald Mitchell Rep. Renee Kosel Governor's budget bill Rep. Lee A. Daniels Rep. Timothy Schmitz Rep. Lee A. Daniels</p>			<p>*HB1331 appropriates \$300,000 for osteoporosis education through Department of Public Health. Governor requesting an additional \$200,000 through the Office of Women's Health for osteoporosis education. **HB455 appropriates \$500,000 for grants for the promotion of awareness / prevention of osteoporosis. ***HB3839 appropriates \$200,000 in grants thru the Office of Women Health for osteo. awareness/</p>

American Association of Orthopaedic Surgeons

as of June 9.1999 f:esther\lcgislat\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page6

STATE	EDUCATION	PRIMARY SPONSOR OF EDUCATION BILL	BONE MASS MEASUREMENT TESTS	PRIMARY SPONSOR OF BMM BILL	NOTES
					<p>prevention. OH1313 allocates \$300,00 to the Dept. of Public Hlth to fund the osteoporosis prevention and education program FY99/00 0OH2531 Allocates to Office of Women's Health for osteoporosis awareness an undetermined sum.</p>
<p>INDIANA 317-232-9856</p>	<p>HB1961--PASSED 97 *S131 17 Intro/Failed 98 **H1356--Intro 1/99-PASSED S428--Intro 1/99 & is companion for H1356.</p>	<p>Rep. Sheila Klinker Sen. Vi Simpson Rep. Susan R. Crosby Sen. Vi Simpson</p>			<p>*SB117 creates an office of Women's Health, educ. advocates, clearinghouse of info on <i>health issues</i>, incl. Osteoporosis **HB1356 is 1999 version of S1311 17; includes \$500,000 for the office for 7/99-7/00.</p>
<p>IOWA</p>					
<p>KANSAS 785-296-2149</p>			<p>H13 2360--Introduced 97 (and was amended into HB2297)*HB 2297--Failed 98</p>	<p>Rep. JoAnn Pottorff Appropriations Committee with amendment by Rep. Barbara Ballard</p>	<p>*HB2297 amended it to include BMM section--it failed as of 5/26/98.</p>

as of June 9.1999 f:esther\lcgislat\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page7

American Association of Orthopaedic Surgeons

KENTUCKY			HB799--Failed 96 *HB 864--PASSED 98	Rep. Joni Jenkins Rep. Ruth Ann Palumbo	*HB 864 allows baseline bone density tests for women age 35 and older
LOUISIANA 225-342-2456 (for 1998 bills) 225-568-5701 (1997 bills and prior) no c.o.	*HCCR221-PASSED 95	Rep. (Jerry?) Thomas	S701--Introduced and Failed 97 **S4- Intro 3/99- to governor, awaiting signature 6/2/99	Sen. Diana Bajoie Sen. Diana Bajoie	*HCCR221 asked Department of Health to conduct a study on osteoporosis. **S4 mandates insurers to provide bmm tests for qualified (by Dr.) persons.
MAINE					
MARYLAND WDC area: 301-970-5400 Balf: 410-946-5400 session ended 4/10/99 no c.o.	*HJR 4- Failed 96 H191--Failed 96 **H1317-Introduced and Failed 98 H684--Failed 98 ***H460--Intro 2/99- withdrawn by sponsors	Del. Marilyn Goldwater Del. Marilyn Goldwater Del. Joan Pitkin Del. Clarence Davis Del. Clarence Davis	HB1432--Failed 94 HB192-- Failed 96 HB155-- PASSED 97	Del. Joan Pitkin Del. Marilyn Goldwater Del. Marilyn Goldwater	*HJR 4 no osteoporosis info **H1317 estab. State Adv. Council on Osteoporosis ***H460 is 1999 version of H684
MASSACHUSETTS 617-722-2356 year round session yes c.o.	*SB541 Budget Act of 93-- PASSED**H4400 Intro 4/99- amended & to Senate next wk; SB2000	Sen. Lois Pines Ways/Means Comm.	SB681--Failed 92 SB668--Failed 94 SB785--Failed 95SB682- -Introduced 97- Became S131824-Failed 1/99	Sen. Lois Pines Sen. Lois Pines Sen. Lois PinesSen. Lois Pines	*SB541 established an Office of Women's Health. Budget Act of 93 appropriated \$500,000 for osteoporosis education. **H4400 \$502,638 for osteoporosis educ. progrm
MICHIGAN 517-373-0630	HB4922--Failed 95	Rep. Alma Stallworth	HB4753--Failed 95 HB4754--Failed 95	Rep. Alma Stallworth Rep. Alma Stallworth	*S201 appropriates \$250,000 for osteoporosis

American Association of Orthopaedic Surgeons

<p>Michigan legislature. org MICHIGAN (continued) year round session no c.o.</p>	<p>*S201 --introduced 97, Failed 12/98 **H4351 --introduced 97, Failed 12/98 ***H4231 --Introduced 97, Failed, 12/98 S201 and HB4351 are companion bills. ****5908--Intro 98-- PASSED 11/98- & assigned PA336 of 1998 HB4185--Intro 2/99- still in the House</p>	<p>Rep. John Schwarz Rep. Lyn Banks Rep. Nancy Quarles Rep. R. Robert Geake Rep. Martha G. Scott</p>	<p>HB4755--Failed 96</p>	<p>Rep. Alma Stallworth</p>	<p>education. **H4351 appropriates \$250,000 for osteoporosis education. ***H4231 is the same as H4351, but no money was appropriated. ****5908 is a budget bill that requests \$150,000 to implement the osteoporosis education program. HB4185 establishes osteoporosis prevent & treatment with \$250,000 to start a fund. Fund can collect private/ public monies and be invested.</p>
<p>MINNESOTA 612-296-6646</p>	<p>'SF1110-Passed 95-96</p>		<p>**S1908 PASSED 6197 HB19991ntro/Failed' 97</p>	<p>Sen. Don Samuelson Appropriations Bill</p>	<p>study of mandated a f osteoporosis. It became Chapter 207. (Need copy to verify osteoporosis inclusion). **S1908 permits use of radiographic absorption metry for diagnosis and management of osteoporosis.</p>
<p>MISSISSIPPI</p>	<p>HB1399--PASSED 94 HB1671--Failed 94* **SCR611-Intro 3199 PASSED 99</p>	<p>Rep. Reta Holden Rep. Reta Holden Sen. Tommy Gollott</p>			<p>HB1671 requested \$500,000 for osteoporosis education. **SCR611 Designates May as Osteoporosis Awareness in MS and</p>

American Association of Orthopaedic Surgeons

					encourages the establishment of an advisory council/ other monitoring strategies.
MISSOURI	HB212--PASSED 95	Rep. Rita Days	SB696--Failed 96	Sen. Betty Sims	
MONTANA	HB88--Failed 93	Rep. Angela Russell			
NEBRASKA 402-471-2271 new session: 12/6/98 thru 5/27/99 Starts again the first Wed. after the first Mon. in 2000 Yes- c.o.	'LR193 introduced and Failed in 1997 "LR 466 intro 4/98. Failed 12/98 "L 480 Intro 1/99- c.o. to next session	Sen. DiAnna Schimek Sen. DiAnna Schimek			*LR193 was an interim study to examine NE responsibility to reduce disabilities due to osteo. and looked at economic burden. **LR 466 is the 98 version of LR 193. ***L480 creates Women's Health Initiative, Fund and Council w/in Dept. Of Health&Human Serv. Fund to be from private/ public monies
NEVADA 775-687-6800 session ends 5/31/99 no c.o.	*H417 PASSED 97	Asm. Merle Berman	A162--intro 2/99- Failed '99	Asm. Merle Berman	A162 mandates that insurers cover bmm testing and treatment for osteoporosis and incl a baseline bmm for women 55+, an annual bmm for women at risk and a regular bmm for amen at risk. *H417 proclaims a week in May as Osteoporosis

American Association of Orthopaedic Surgeons

					Prevent&Aware. for NV
NEW HAMPSHIRE	HB765--PASSED 97	Rep. Barbara French			
NEW JERSEY 609-292-4840 two year session. Bills remain the same for 1999.	AB855--Failed 94 A13201-Intro 96 *AB2342--Introduced/ Failed 97 *S1354--Introduced/ Failed 97 AB891-PASSED 97 **AB3000--PASSED 97 ***SB436 intro 1/98: 2nd reading in assembly since 10/29/98. SJR44-Intro 12/98, and companion bill, AJR63--Intro 1/99- substituted for SJR44 SJR44--PASSED 4199	Asm. Barbara Wright Rep. Loretta Weinberg Asm. Melvin Cottrell Sen. Robert Singer Budget bill Sen. C. Louis Bassano Sen. Diane Allen Asm. Charlotte Vandervalk	AB1806--Failed 94 AB201--Introduced 97-- is NEW as A2235 and is in Assem. Bank&Insur. Committee as of 6/98. Two year session to end 1/2000 SB1561--Introduced 97-- is also now A2235 ****SB317--Intro 98-- similar to SBI561--in Asm. Bank& Insur. Committee since 5/18/98 A2315--Intro 7/98- in Asm. Bank & Insur.	Asm. Loretta Weinberg Asm . Loretta Weinberg Sen. Robert W. Singer Sen. Robert W. Singer and Sen. Martha W. Bark Rep. Richard H. Bagger	*AB2342 and SB1354 appropriate \$300,000 from the General Fund to the Dept. Of Health and Senior Services to support program. **AB3000 is a budget bill in which an unexpended balance of \$300,000 was appropriated for osteo porosis. ***SB436 directs Health and Human Serv. to prepare info packets on op for pharmacies and appropriates \$25,000. ****SB317 requires hospital, medical, health service organizations, HMO's and commercial insurers to develop guidelines for bone density testing and to adhere to these coverage criteria of reimbursement. A2315 requires various insurers/providers to pay for bmm and to develop frequency standards. SJR44Designates April of

American Association of Orthopaedic Surgeons

<p>NJ (continued)</p>					<p>each year as "Women's Wellness Month" including osteoporosis education.</p>
<p>NEW MEXICO 505-986-4600 session ended 3/19/99, to resume the 3rd Tues-- Jan 2000</p>	<p>*HB 244 introduced and failed 98 **HB2 -- INTRO/PASSED 1998 94</p>	<p>Rep. Patsy Trujillo Knauer (no specific sponsor since it's an approp. bill for all state appropriations).</p>	<p>***S265-Intro 1/99 & Failed '99 S3497--Introduced 97, Failed 12/98 ****A6369--Introduced '97--Failed 12/98. A 9850-Introduced 98--Failed 12/98</p>	<p>Sen. Rod Adair Sen. Suzi Oppenheimer Asm. Debra Mazzarelli Asm. Deborah J. Glick</p>	<p>*HB244 appropriations \$30,000 for osteoporosis prevention. **HB 2 is an appropriations bill and it provides the Public Health Division with \$150,000 for osteoporosis education. ***S265 mandating insurance coverage for bone density testing; two tests in lifetime except if there are clinical indications of rapid bone loss-then no lifetime limit.</p>
<p>NEW YORK 518-455-7545 Year round session. Session starts first Wed. 1/99 with a two-year cycle.</p>	<p>AB9001--Failed SB1423--Failed 94 AB6113--Failed 96 *S4283--Introduced 97 AND AB5348 was substituted for this bill: AB5348 --PASSED 97 **AB8894 intro 1/98 and substituted by</p>	<p>Asm. Helene Weinstein Sen. Mary Lou Rath Asm. Helene Weinstein Asm. H. Weinstein</p>	<p>****S3496--Intro '97, Failed 12/98 ****A6369—Introduced 97*-Failed 12/98. A9850-Introduced 98—Failed 12/98 ****S3496—Intro '97, Failed 12/98 S1356--Intro 1/99- in Insur. A 5457-intro 3/99</p>	<p>Sen. Suzi Oppenheimer Asm Debra Mazzarelli Asm. Deborah Glick Sen. Suzi Oppenheimer Sen. Suzi Oppenheimer Asm. Deborah Glick/</p>	<p>S4283 appropriates *S4283 \$500,000 **AB8894/SB6013 adjusts appointments to op advisory council; governor designate to a chair; reimburse expenses of council members retro to 12/3/97 ***S6104 is a bill from the Governor's office that appropriated \$375,000 for 1998-99 for osteoporosis education. However, \$125,000 was line item</p>

American Association of Orthopaedic Surgeons

<p>NY (continued)</p>	<p>**SB6013 PASSED 98 (8/5/98) as Chapter 557</p> <p>***S6104-- PASSED98*(but lines 9 thru 164 were vetoed)</p> <p>****S3496--Introd 97-- Failed 12/98</p> <p>*S3287-Intro 3/99, in Finance since 3/2, companion A6432- Ways&Means since 3/2. :':A4793-Intro 2199-in Health Comm.</p>	<p>Sen. Mary Lou Rath</p> <p>Office of the Governor</p> <p>Sen. Suzi Oppenheimer</p> <p>Office of the Governor</p> <p>Office of the Governor</p> <p>Rep. Debra Mazzarelli</p>	<p>in Sen. Rules as of 5/24- companion bill= S 2996--Intro 3/99, amended and re- committed to Insur--4/30</p>	<p>Sen. John Bonacic</p>	<p>vetoed with \$250,000 being appropriated. ****S3496 mandates an osteoporosis interagency council, appropriates \$750,000 and mandates coverage for bone density tests. *****A6369 sets up screening standards and procedures to be followed by HMO's for persons with chronic diseases S1356 requires bmm testing. A5457/S2996 women's health initiative, incl. bmm testing, meds & devices OS3287 \$250,000 for osteoporosis prevent. & ed -'.-A4793 sets standards for the screening and treatment of chronic disease, incl. osteoporosis.</p>
<p>NORTH CAROLINA 919-733-7779 session begins 1/27/99, anticipated end= 7/99</p>	<p>*SB476--Introduced 97- Failed 98</p> <p>HB913--Introduced 97 and is the companion to SB476; Failed 98</p> <p>**SB352--PASSED 97</p>	<p>Sen. Beverly Perdue</p> <p>Rep. Carolyn Russell</p> <p>Sen. Beverly Perdue</p> <p>Rep. W. Franklin Mitchell</p>	<p>HB914--Introduced 97, Failed 98</p> <p>H314--Intro 3/99- in Senate 6/3; to be heard 6/9</p>	<p>Rep. Cynthia Bailey Watson</p> <p>Rep. Flossie Boyd-McIntyre</p>	<p>*SB476 establishes an osteoporosis prevention task force and appropriates \$350,000 in 1997-98 and \$350,000 in 1998-99. **SB352 is an appropriations bill. Sen. Robert Martin requested insertion on osteoporosis.</p>

American Association of Orthopaedic Surgeons

<p>NORTH CAROLINA (continued)</p> <p>yes c.o.</p>	<p>HB1716 and companion bill--Failed 98.</p> <p>***SB1490--Intro 6/98: Failed 98.</p> <p>****SB1366: PASS 98</p> <p>S91 intro 2/99-in committee on approp.and companion bill H313 intro 3/99-- Failed'99-BUT rolled into QHouse approp. bill</p>	<p>Rep. Flossie Boyd-McIntyre and Rep. C. Russell</p> <p>Sen. William Purcell</p> <p>General Budget</p> <p>Sen. Virginia Foxx Rep. Flossie Boyd-McIntyre</p>			<p>An osteoporosis task force is established in SB352 and \$200,000 appropriated.</p> <p>***SB1490 appropriates \$225,000 for FY 98-99 for continued work of the osteoporosis task force.</p> <p>****SB1366 appropriated \$200,000 for osteoporosis S911 H313Appropriates \$300,000 for FY 99-00 and \$300,000 for FY 00-01 to the Dept. Of HHSA for implementing the osteoporosis education program</p> <p>QHouse approp. bill-- \$100,000 for FY 99-00 to extend the task force.</p>
<p>NORTH DAKOTA</p>					
<p>OHIO</p> <p>614-466-7434;</p> <p>1/4/99- year round session since 1/4/99</p> <p>www.lsc.state.oh.us</p> <p>yes c.o.</p>	<p>*HB215--PASSED 97</p> <p>***H283-Intro 99- assigned to Senate Comm. 5/11</p>	<p>Rep. Tom Johnson Rep. E,J. Thomas</p>	<p>HB 714 Introduced 98- Failed 12/98</p> <p>**H272-Intro 3/99- In House Insur. since 3/99</p>	<p>Rep. Samuel T. Britton</p> <p>Rep. Samuel T. Britton</p>	<p>*HB215 is a budget bill which appropriates \$100,000 for each of the next two years for osteoporosis education.</p> <p>**H272 requires coverage for diagnosis, treatment and management of osteoporosis</p> <p>***H283 appropriates \$50,000 for each FY-00 and FY 01 for osteoporosis</p>

American Association of Orthopaedic Surgeons

					awareness to DOH
OKLAHOMA 405-521-5642	*HCR1025-PASSED 96 **5330-PASSED 5/24/99	Rep. Laura Boyd Sen. Trish Weedn & Angela Zoe Monson and Rep. Laura Boyd	HB2261 --PASSED 96 **HB 3175--Introduced/Failed 98	Rep. Laura Boyd Rep. Hopper Smith	*HCR1025 encourages the State's Public Health Department to set up an osteoporosis education program **HB3175 limited reimbursement for bone density tests to \$150, allowed reimbursement if the PCP/ referral physician requested the test for a qualified individual. **S330 Osteoporosis Prev & Treatment Act thru Dept. of Hlth to incl. Interagency council, no funds allocated.
OREGON					
PENNSYLVANIA 717-787-2342 PA (continued) session begins 1/99, scheduled to end 6/30/99. yes c.o.	HB1240--Failed 94 SB410-- Failed 95 HB135-PASSED 98--as Act.#711Printer#3736 **SB402--Failed 98 S606-Intro 3/99-in Pub. Health & Welfare since 3/16/99	*Rep. Ellen Harley Sen. Allyson Schwartz Rep. Lita Indzel Cohen Sen. Allyson Schwartz Sen. Allyson Schwartz	SB408--Failed 95 SB 1057-Introduced 1/97 and companion bill HB 2545--Introduced 98*-Failed 98 ***S322-Intro-2/99-Insur. comm. 2/14	Sen. Allyson Schwartz Sen. Jay Costa, Jr. Rep. Lisa Boscola Sen. Jay Costa, Jr.	*Ms. Harley is no. longer a member of the legislature. **S402 is a general Women's Health Education Act. \$250,000 is appropriated in this bill for a number of women's health issues, including osteoporosis. ***S322 mandates health insur. coverage for diagnosis and treatment of osteoporosis. S606- The Women's Health Ed. Act. Which

American Association of Orthopaedic Surgeons

					includes osteoporosis; \$250,000 appropriated to carry out the act.
RHODE ISLAND 401-222-3580 session ends 6/99 yes c.o.	SB2557--PASSED 96 *H5774--PASSED 97 *SB378 introduced 2/97-is companion bill for H5774; Failed 98	Sen. Jennie Day Rep. Suzanne Henseler Sen. Catherine Graziano	SB3047--Failed 94 **S117 Intro--1/99 in Sen. HEW since 1/13/99	Sen. Jennie Day Sen. Catherine Graziano	*H5774 sets up an education program for the public using existing funds. A task force may be appointed to assist in recommending strategies to educate the public. This bill supersedes SB2557. S117 mandates coverage for physician-ordered osteoporosis testing.
SOUTH CAROLINA 803-734-2060 session starts 1/12/99 SC (continued)	HB4392--Failed 96 HB3112--PASSED 97 *HB3985-Failed 6/98-- (see notes). **HB4700-PASSED 98	Rep. Alma Byrd Rep. Alma Byrd Rep. Lynn Seithel Governor's Budget bill	*HB3985--Failed 98 (see notes)	Rep. Lynn Seithel	*HB3985 original bill mandated insurance coverage of BMM and set up an osteoporosis education program but final bill had all osteoporosis language deleted **HB4700-- state budget allocates \$100,000 to be used to promote osteoporosis education as outlined by HB 3112 enacted in 1997.
SOUTH DAKOTA					

American Association of Orthopaedic Surgeons

<p>TENNESSEE 615-741-3511</p>	<p>"HJR431 HB592--PASSED 96 **SJR655--PASSED 98 HB2164 and companion bill is ***SB2104 PASSED 98</p>	<p>Rep. Mary Pruitt Sen Thelma Harper Sen. Kenneth N. "Pete" Springer</p>	<p>****HB2484-PASSED 96</p>	<p>Rep. Kathryn Bowers</p>	<p>*HJR431 sets up a committee to study women's health, including osteoporosis. **SJR655 extends until 3/1/00 the special joint committee established by ***SB2104 (HB2164 is same) sets sunset date for interagency council specializing in osteoporosis for 6/30/06 ****HB2484 states bmm testing <i>may</i> be covered by insurers.</p>
<p>TEXAS 512-463-2182 Session ended 5/31/99. no c.o.</p>	<p>SB606--PASSED 95 ***HB 1--PASSED 97 ****SR822-PASSED 5/99</p>	<p>Sen. Judith Zaffirini General approp. Bill Sen. Judith Zaffirini</p>	<p>SB607--PASSED 95 *H3187--Introduced and failed 97 **H859--Intro 1/99- Failed '99</p>	<p>Sen. Judith Zaffirini Rep. Diana Davila Rep. Dawnna Dukes</p>	<p>Existing Public Health Department funds have been earmarked for osteoporosis education. *Rep. Davila has sponsored legislation to clarify SB607. **H859 Requires coverage for bmm testing and treatment for qualified individuals. ***HB 1 appropriates \$250,000 in each FY of the biennium for osteoporosis education, 50% of the monies to be dedicated for PSA's, other public communications.</p>

American Association of Orthopaedic Surgeons

					**** SR822 encourages osteoporosis week to begin 5/3/99
UTAH					
VERMONT 802-828-2231			HB16--Introduced 97 and failed 4/98 H13725--Introduced 98 and failed, 4/98 *H104--Intro 1/99	Rep. Kathleen Keenan Rep. Elaine Alfano Rep. Carolyn W. Partridge	*H104 requires coverage for bmm testing and treatment for qualified individuals.
VIRGINIA 804-698-1470	HB1689--PASSED 95 and has become Chapter 78	Del. Keating			
WASHINGTON 360-786-7573 Jan 12, 1999 thru 2000 will be new Bill cycle session ended 4/25/99	*SB6251-PASSED 96 SB6239--Failed 96 SB5634--Failed 98 H1627--Intro 97 **HB2258--Introd. 97, Failed 98 ***HB3134-Introduced and Failed 98 ****S5430--Intro 1/99- on hold until next session Sen. Lorraine Wojahn Sen. Lorraine Wojahn Rep. Tom Huff	S136240--Failed 96 SB5471--Intro 97/Fail 98 Sen. Lorraine Wojahn Sen. Lorraine Wojahn	*SB6251 included provisions for osteoporosis education as funds become available. **HB2258 is an appropriations bill that includes a comprehensive osteoporosis education provision but does not have specific funds allocated ***HB3134 created Office of Womens' Health for educ.		

American Association of Orthopaedic Surgeons

WASHINGTON (continued)	Rep. Tom Huff Rep. Mary Skinner Sen. Lorraine Wojahn		prevention programs to incl. osteoporosis ****S5430 is 1999 version of HB3134, incl. new section to designate an appropriation (not determined yet).		
WEST VIRGINIA	HB4198--PASSED 96 H2200-PASSED 3199	Rep. Vicki Douglas Rep. Robert Kiss			H2200 appropriates \$300,756 for the Osteoporosis Prevention Fund.
WISCONSIN					
WYOMING					

as of June 9.1999 f:esther\lcgislat\State99\Bills699.wpd /Corel WP8

National Osteoporosis Foundation: 202-223-2226 Page19

American Association of Orthopaedic Surgeons

1996 and 2015
Osteoporosis Prevalence
Figures

State-by-State Report

National Osteoporosis Foundation
1150 17th Street, NW Suite 500
Washington DC 20036-4603 202/223-2226

TABLE OF CONTENTS

Executive Summary

Overview of Osteoporosis	1
Assumptions	5
References	7
1996 Prevalence Figures by State	8
2015 Prevalence Figures by State	11

The National Osteoporosis Foundation, January 1997

EXECUTIVE SUMMARY

Osteoporosis is a major public health threat for an estimated 28,673,453 women and men age 50 and over in the United States. Eighty percent of these people are women. It is estimated that 10,102,986 individuals already have the disease and 18,556,985 more have low bone mass, placing them at increased risk for osteoporosis. By the year 2015, it is estimated that 41,184,895 men and women age 50 and over will either have the disease or be at risk for the disease.

The number of women age 50 and over who have osteoporosis or are at risk for developing the disease will increase from an estimated 23,455,096 in 1996 to an estimated 35,030,069 in 2015. Non-Hispanic white women are disproportionately afflicted with this disease, but the number of women of other races and men of all races affected is also significant.

California, Florida, New York, Texas, and Pennsylvania top the list with the greatest number of women with osteoporosis. Approximately 13-14% of the men and women age 50 and over in any given state have osteoporosis and many more are at risk due to low bone mass.

The prevalence figures in the following tables are derived from the most up-to-date information available. The figures signal that significant numbers of Americans have the disease or are at risk for developing the disease.

Osteoporosis is not part of normal aging and should not be ignored. A national effort is needed to educate the younger generation so they can maximize their opportunities to achieve peak bone mass and reduce the risk of subsequent osteoporotic fractures later in life. Concomitantly, a comprehensive national effort to diagnose and treat osteoporosis is necessary to address the debilitating and costly end result of the disease.

Additional research is needed to further fine-tune the prevalence figures associated with osteoporosis and low bone mass in the U.S. population. Prevalence figures for men are especially difficult to estimate. This is due in part to the lack of research identifying men of various races with osteoporosis and low bone mass and to the continued use of white female norms to assess the disease in men. The use of white female norms to estimate the prevalence of osteoporosis and low bone mass in women of different races is also an area that needs additional research.

The National Osteoporosis Foundation (NOF) is the only national nonprofit voluntary health organization solely dedicated to the prevention, diagnosis, and treatment of the disease. NOF's mission is to eradicate the disease through research, education, and advocacy.

OVERVIEW OF OSTEOPOROSIS

This prevalence report highlights for each state the number of women and men age fifty and older who have or are at high risk for developing osteoporosis due to low bone mass. The purpose of this report is to increase the awareness and visibility of this silent disease on the state level.

CHARACTERISTICS OF THE DISEASE

Osteoporosis has been labeled a silent disease because it typically progresses without symptoms until fractures occur. The disease is characterized by low bone mass and a disruption in skeletal microarchitecture. Low bone mass can be the result of a decrease in bone formation, an increase in bone resorption, or both. The first symptom a person experiences may be a non-traumatic fracture of the hip, spine, wrist or other bone.

Compared to other osteoporotic fractures, hip fractures result in the highest morbidity and mortality. Following a hip fracture, there is a 10-20% mortality rate during the next six months. Fifty percent of those people experiencing a hip fracture will be unable to walk without assistance, and 25% will require long-term care (Riggs et al.).

Frail, elderly women and men who have suffered multiple, non-traumatic vertebral fractures which result in collapse and compression of the spinal column may develop kyphosis or stooped posture. With kyphosis, the person loses height as the spinal column curves forward and subsequently pushes against internal organs. In extreme cases, women and men with this type of fracture have trouble breathing and eating adequate amounts of food because there is less available space for organs to expand and contract normally in the abdominal and chest cavities.

PREVALENCE FIGURES

In 1996, there were an estimated 28,673,453 women and men age 50 and over in the United States who either had osteoporosis or had low bone mass and were at risk for developing the disease. The number of women who have osteoporosis or are at risk for developing the disease will increase from 23,455,096 in 1996 to an estimated 35,030,069 in 2015. Non-Hispanic white women are disproportionately afflicted with this disease, but the number of women of other races and men of all races affected is also significant.

FRACTURE RATES

Each year approximately 1.5 million fractures are associated with osteoporosis. This figure includes an estimated 300,000 hip fractures, 700,000 vertebral fractures, 250,000 distal forearm fractures, and 250,000 fractures at other sites (1994 OTA background paper, Riggs et al.).

Beginning at age fifty, white women have a 40% chance of fracturing the spine, hip, or distal radius in their lifetime. This figure rises to 50% if all fracture sites in the body are considered. A woman's risk of a hip fracture is equivalent to her combined risk of developing breast, uterine, and ovarian cancer. The lifetime risk of an osteoporotic fracture for white men from age fifty onwards is 13% (Riggs et al.).

ECONOMIC AND HUMAN COSTS

The costs to the health care system associated with osteoporotic fractures exceeds \$13.8 billion annually (Ray et al.). It is estimated that osteoporosis-related fractures represent 3% of all Medicare costs. Each hip fracture currently represents \$32,428 in total medical costs (Ray et al.). The human costs of the disease are immense but difficult to measure. Quality of life is affected following a fracture due to fears about additional fractures, limited mobility, and coping with deformity.

CLINICAL USES OF BONE DENSITOMETRY

It has been known for some time that low bone mass is one of the most reliable predictors of future fracture risk. Bone mass can now be accurately and painlessly measured to diagnose and monitor treatment of osteoporosis. The National Osteoporosis Foundation (NOF) recommends that individuals consider bone density testing to detect low bone mass in the following cases:

- Estrogen-deficient women at risk for osteoporosis and who are contemplating treatment.
- Women and men on long-term glucocorticoid therapy (asthmatics, people with chronic inflammatory bowel disease, and people with rheumatoid arthritis typically receive this type of medication).
- Women and men who are hyperparathyroid.
- Women and men who have vertebral abnormalities or radiographic osteopenia (low

- bone mass).
- Women and men who have been prescribed a treatment for osteoporosis to monitor the response to therapy.

MONITORING WITH NEW FDA-APPROVED THERAPIES

Monitoring a person's response to therapy with bone density tests may be of value in detecting those who are responding adequately to treatment and identifying those who are nonresponders. However, it must be noted that the ability to detect changes in bone density is greatly dependent on the precision of the measurement and the degree to which bone mass is expected to change. As a result of the current variability in measurements, the cost-effectiveness of using bone density tests to monitor treatment for osteoporosis is under discussion.

Since changes in bone mass over time are reasonably small, measurements generally should be made in one to two year intervals. One must be careful not to remove individuals from therapy who do not appear to be responding but who, in fact, are building bone mass in amounts that are masked by the current variability of the test.

Alendronate recently was approved by the Food and Drug Association (FDA) for the treatment of osteoporosis. Alendronate, a bisphosphonate, exerts its effect by reducing the risk of hip and vertebral fractures. A calcitonin nasal spray as well as an injectable calcitonin have FDA approval, and several other therapies may soon be sanctioned. Hormone replacement therapy (HRT) has been approved for both the prevention and treatment of osteoporosis. Clinical trials are now underway to determine if combining HRT with one of the other therapies further enhances bone mass and fracture reduction.

Several biochemical marker tests have FDA approval and are being used to identify individuals who are losing bone tissue at faster than normal rates. These eventually may be used in combination with bone density tests to help monitor effectiveness of osteoporosis treatments.

PRIMARY PREVENTION

NOF has a number of campaigns underway to educate Americans about the risk factors associated with osteoporosis. Preventing the disease in the first place is of paramount importance. Physical activity habits, alcohol intake, tobacco use, estrogen levels, and calcium intakes are several critically important areas to assess when making recommendations to help people achieve and

maintain peak bone mass.

Healthy People 2000 is a national education campaign to help Americans achieve specific health goals by the year 2000 (Healthy People 2000, 1995). NOF participated in formulating many of the Healthy People 2000 goals that impact the prevention, diagnosis, and treatment of the disease. NOF made recommendations for goals that pertain to HRT, physical activity habits, and nutrition.

In the area of nutrition, one of the Healthy People 2000 goals is to increase calcium intakes for all Americans. By the year 2000, the target is to increase calcium intakes so that at least 50%75% of people over the age of two (including pregnant or lactating women) consume a minimum .of 2-3 servings of foods rich in calcium. While the Healthy People 2000 1995 Midcourse Review indicates some progress has been made, Americans in general fall well below this recommended number of servings. (USDA survey, 1994 and Looker et al., 1993).

Optimal calcium intakes are essential for achieving peak bone mass in early adulthood, maintaining bone mass, and slowing the rate of bone loss later in life. Ninety percent of a young woman's total body bone mineral density is attained by age thirteen and 97% by age nineteen (Teegarden et al.). Studies indicate that variations in calcium nutrition early in life may account for a 5-10% difference in adult bone mass and a 50% difference in the hip fracture rate later in life (Matkovic, 1993).

LEGISLATION

Many states have addressed the prevention, diagnosis, and treatment of osteoporosis by passing education, bone density testing or task force legislation based on model bills developed by NOR The prevalence figures in this report can be used by states to bolster these legislative initiatives in the continuing effort to decrease the incidence of this debilitating and costly disease.

ASSUMPTIONS

Several sources were used and a number of assumptions were made for calculating the prevalence of osteoporosis in the United States. The following represents a summary of how these numbers were calculated:

1. Osteoporosis was defined as bone density values greater than 2.5 standard deviations below a non-Hispanic white female reference group mean aged 20-29 years old.
2. Low bone mass was defined as bone density values between 1 and 2.5 standard deviations below a non-Hispanic white female reference group mean aged 20-29 years old.
3. Research summaries from NHANES III (Looker et. al., 1995) were used as the basis for prevalence data extrapolations. Measurements of total values for femoral neck, trochanter, and intertrochanter were used to arrive at the following percentages of women by race with osteoporosis and low bone mass (Table 3, Looker et. al, 1995):
 - a. 21% of non-Hispanic white and Asian women age 50 and over have osteoporosis.
 - b. 16% of American-Indian and Hispanic women age 50 and over have osteoporosis.
 - c. 10% of black women age 50 and over have osteoporosis.
 - d. 39% of non-Hispanic white and Asian women age 50 and over have low bone mass.
 - e. 36% of American-Indian and Hispanic women age 50 and over have low bone mass.
 - f. 29% of black women age 50 and over have low bone mass.
4. These percentages were then applied to state-specific census bureau extrapolations for 1996 and 2015. These extrapolations are based on 1993 census data.
5. "Hispanic" and "Mexican American" were used interchangeably. There is no current data on rates of osteoporosis in Hispanic populations. The NHANES III data reported rates of osteoporosis and low bone mass for Mexican Americans, while the census bureau reports the number of Hispanic Americans.

American Association of Orthopaedic Surgeons

6. American-Indian female populations were assumed to have the same rates of osteoporosis and low bone mass as I-Espanic females. This assumption is subject to change as additional research addressing this population becomes available.
7. Data on men is sparse. Estimations of rates of osteoporosis in men were based on conversations with leading researchers. Information on rates of osteoporosis in men are for the most part, based on female norms. Rates of osteoporosis in men were subsequently calculated as follows:
 - a. 5% of white, Asian, Hispanic, and American-Indian men age 50-79 have osteoporosis.
 - b. 3.5% of black men age 50-79 have osteoporosis.
 - c. 24% of white men age 80 and over have osteoporosis.
 - d. 17% of black men age 80 and over have osteoporosis.
 - e. 5% of Asian, Hispanic, and American-Indian men age 80 and over have osteoporosis.
8. The prevalence of low bone mass in men was estimated conservatively at 1.5 times the rate of osteoporosis in men. (The prevalence of low bone mass in women is approximately 1.9 times the rate of osteoporosis.) The data in this report is subject to change when figures become available on the prevalence of low bone mass in men. Low bone mass currently is being defined in women and men in the literature as 1-2.5 standard deviations below a non-Hispanic white female reference group mean aged 20-29 years old.
9. In the tables, the "Percent of Men and Women With Osteoporosis" was calculated by taking the total number of men and women age 50 and over with osteoporosis and dividing by the number of men and women age 50 and over in the specific state referenced.

REFERENCES

Bureau of the Census (1994, April). *Population Projections for States by Age, Sex, Race, and Hispanic Origin: 1993-2020: Detailed Results for All States: Series A, Number PE-13*. Washington, DC: Statistical Information Office, Population Division, Bureau of the Census.

Center for Disease Control and Prevention (1996, Oct. 18). Incidence and costs to Medicare of fractures among Medicare beneficiaries aged ≥ 65 years-United States, July 1991-June 1992. *Morbidity and Mortality Weekly Report*, 45(41), **877-883**.

Healthy People 2000 Midcourse Review and 1995 Revisions. U.S. Department of Health and Human Services, Public Health Service.

Looker AC, Johnston CC Jr, Wahner HW, Dunn WL, Calvo MS, Harris TB, Heyse SP, and Lindsay RL. Prevalence of low femoral bone density in older U.S. women from NHANES III. *J Bone Miner Res* 1995;10(5):796-802.

Looker AC, Loria CM, Carroll MD, McDowell MA, Johnson CL. Calcium intakes of Mexican Americans, Cubans, Puerto Ricans, non-Hispanic whites, and non-Hispanic blacks in the United States. *J Am Dietetic Assoc* 1993 Nov;93(11):1274-9.

Matkovic V, Illich JZ. Calcium requirements for growth: Are current recommendations adequate? *Nutr Rev* 1993;51:171-80.

Ray NF, Chan JK, Thamer M, Melton U. Medical Expenditures for the treatment of osteoporotic fractures in the United States in 1995: Report from the National Osteoporosis Foundation. *J of Bone and Miner Res* 1997;12(1):2435.

Riggs BL and Melton LJ, The worldwide problem of osteoporosis: Insights afforded by epidemiology. *Bone*; November 1995:17(5) suppl. pp.505S-511S.

Teegarden D, Proulx WR, Martin BR, Zhao J, McCabe GP, Lyle RM, Peacock M, Slemenda C, Johnston CC, Weaver CM. Peak bone mass in young women. *J Bone and Min Res* 1995(10)5 712715.

U. S. Congress, Office of Technology Assessment, *Hip Fracture Outcomes in People Age 50 and Over Background Paper, OTA-BP-H-120* (Washington, DC: U.S. Government Printing Office, July 1994).

United States Department of Agriculture Continuing Survey of Food Intakes by Individuals, 1994.

1996 Osteoporosis Prevalence Figures* U.S. Population Age 50 and Over

State	Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis And Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis And Low Bone Mass	Total Men and Women With Osteoporosis and Low Bone Mass	Percent of Men and Women With Osteoporosis
AL	124,270	244,904	369,174	31,408	47,112	78,520	447,694	13%
AK	9,090	17,504	26,594	2,649	3,974	6,623	33,218	12%
AZ	135,284	237,683	392,969	36,917	53,373	92,292	485,261	14%
Alt	80,621	154,680	233,302	21,310	31,965	33,276	288,577	14%
CA	926,185	1,788,242	2,714,427	241,974	362,960	604,934	3,319,361	14%
Co	102,917	193,423	298,340	26,848	40,272	67,119	363,460	14%
CI'	109,233	207,378	316,613	28,340	42,510	70,830	387,462	14%
DI	20,930	40,396	61,326	3,377	8,066	13,443	74,769	14%
DC	12,112	29,214	41,326	3,438	5,157	8,594	49,921	10%
FL	596,495	1,148,526	1,745,021	164,856	247,284	412,141	2,157,162	14%
CIA	177,169	350,438	327,607	44,341	66,511	110,853	638,460	13%
III	34,669	64,965	99,634	8,163	12,245	20,408	120,042	14%
II)	31,741	59,276	91,017	9,075	13,612	22,686	113,704	14%
IL	349,346	675,079	1,024,426	90,192	135,288	225,480	1,249,906	14%
IN	176,050	333,309	509,359	44,658	66,987	111,646	621,003	14%
IA	96,216	179,407	275,623	25,674	38,511	64,186	339,809	15%
KS	80,031	150,803	230,836	21,607	32,411	54,018	284,854	14%
KY	117,578	222,034	339,612	29,457	44,185	73,642	413,254	14%

*Due to rounding, "Total" figures may not be exact.

1996 Osteoporosis Prevalence Figures U.S. Population Age 50 and Over

State	Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis and Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis and Low Bone Mass	Total Man and Women With Osteoporosis and Low Bone Mass	Percent of Men and Women With Osteoporosis
LA	110,076	220,915	330,991	28,468	42,702	71,170	402,161	13%
MR	40,213	74,779	114,992	10,353	15,329	25,882	140,875	15%
MI)	133,852	264,528	398,380	34,656	51,985	86,641	485,021	13%
MA	195,209	367,546	562,756	48,642	72,963	121,605	684,361	14%
MI	270,988	521,215	792,204	71,068	106,602	177,670	969,873	14%
MN	135,253	252,319	387,572	36,411	54,617	91,028	478,599	14%
MS	71,306	143,576	214,881	18,446	27,669	46,115	260,996	13%
MO	168,400	320,408	488,808	43,512	65,268	108,781	597,589	14%
MI'	25,947	48,523	74,470	7,403	11,104	18,507	92,977	14%
NIi	51,412	96,349	147,761	13,864	20,796	34,659	182,421	15%
NV	42,370	80,526	122,896	11,714	17,571	29,285	152,180	13%
N)	260,881	304,177	763,058	66,504	99,755	166,259	931,317	14%
NM	55,344	108,036	163,379	14,740	22,110	36,849	200,229	13%
N ±	586,370	1,147,751	1,734,121	146,152	219,229	365,381	2,099,502	14%
NI/	32,994	61,395	94,389	8,631	12,946	21,577	115,967	14%
NC	209,334	409,617	618,951	52,217	78,326	130,543	749,494	13%
ND	19,601	36,541	36,142	5,719	8,578	14,297	10,439	15%
Oil	344,563	657,033	1,001,596	86,859	130,289	217,148	1,218,744	14%
OK	101,099	192,711	293,810	26,202	39,303	65,504	359,314	14%
OIt	97,119	181,598	278,716	26,861	40,291	67,152	343,868	14%
NA	417,940	793,887	1,211,827	105,176	157,764	262,940	1,474,768	14%
It1	34,534	64,843	99,377	8,485	12,728	21,213	120,589	15%
SC	99,985	199,302	299,287	25,140	37,710	62,850	362,138	13%
SD	22,614	42,291	64,905	6,348	9,522	15,870	80,775	15%

1996 Osteoporosis Prevalence Figures U.S. Population Age 50 and Over

	State Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis and Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis and Low Bone Mass	Total Men and Women With Osteoporosis and Low Bone Mass	Percent of Man and Women With Osteoporosis
IN	159,460	306,540	466,000	39,611	59,416	99,027	565,027	14%
TX	530,312	1,035,576	1,563,888	136,821	205,231	342,032	1,907,939	13%
UT	42,246	79,045	121,291	11,607	17,411	29,019	150,310	14%
VI	17,040	31,685	48,724	4,386	6,579	10,965	59,689	14%
VA	178,645	348,343	526,990	45,733	68,599	114,331	641,321	13%
WA	153,428	287,626	441,055	42,253	63,380	103,633	546,688	14%
WV	63,683	119,279	182,962	15,878	23,818	39,696	222,638	15%
WI	156,491	293,603	450,094	42,352	63,528	105,880	555,974	14%
WY	12,388	23,229	35,617	3,454	5,181	8,635	44,252	14%
Grand Total	8,021,036	15,434,059	23,455,096	2,081,950	3,122,926	3,204,875	28,659,974	

12/23/96

Page 3 of 3

2015 Osteoporosis Prevalence Figures*
U.S. Population Age 50 and Over

	State Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis and Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis and Low Bone Mass	Total Men and Women With Osteoporosis and Low Bone Mass	Percent of Men and Women With Osteoporosis
Al.	180,582	357,607	538,189	37,258	55,887	93,144	631,334	12%
AK	16,272	31,494	47,765	2,962	4,444	7,406	55,171	12%
AZ	245,041	470,270	715,311	48,458	72,688	121,146	836,457	13%
Alt	120,152	230,625	350,778*	24,4RR	36,732	61,221	411,998	13%
CA	1,689,207	3,296,836	4,986,044	296,612	444,918	741,529	5,727,573	12%
Co	181,494	346,433	527,927	33,741	50,611	84,352	612,279	12%
CT	147,227	282,051	429,278	33,268	49,902	83,170	512,448	13%
DE	31,156	60,888	92,044	6,798	10,197	16,996	109,040	13%
DC	15,114	35,890	51,004	3,659	5,488	9,146	60,150	10%
Fl.	1,005,213	1,957,324	2,962,537	218,948	328,422	547,370	3,509,907	13%
GA	301,545	602,573	904,118	54,799	82,199	136,998	1,041,117	12%
HI	57,860	109,246	167,106	10,021	15,031	25,052	192,158	13%
Il.	54,749	102,736	157,484	10,851	16,277	27,128	184,612	13%
IN	467,884	914,395	1,382,280	101,956	152,934	254,890	1,637,169	12%
IA	239,110	454,992	694,101	52,237	78,355	130,592	824,694	13%

*Due to rounding, "Total" figures may not be exact.

2015 Osteoporosis Prevalence Figures U.S. Population Age 50 and Over

State	Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis and Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis and Low Bone Mass	Total Men & Women With Osteoporosis & Low Bone Mass	Percent of Men & Women With Osteoporosis
IA	120,596	225,513	346,109	28,956	43,434	72,391	418,499	14%
KS	113,895	215,810	329,706	25,447	38,171	63,618	393,324	13%
KY	166,258	314,624	480,882	33,567	50,351	83,918	564,800	13%
LA	157,079	318,561	475,640	33,011	49,517	82,528	558,169	12%
MGR	57,546	107,096	164,642	12,030	18,045	30,075	194,717	14%
MD	200,096	404,899	604,995	41,664	62,497	104,161	709,156	12%
MA	258,491	490,160	748,651	56,048	84,072	140,120	888,770	13%
MI	354,250	687,806	1,042,056	82,338	123,507	205,845	1,247,901	13%
MN	204,035	381,578	585,613	42,551	63,826	106,376	691,989	13%
MS	104,523	211,539	316,062	21,115	31,672	52,787	368,850	12%
MO	234,204	446,972	681,177	50,143	75,214	125,357	806,534	13%
Mf	38,410	71,980	110,390	8,471	12,707	21,178	131,568	13%
N	69,788	131,350	201,137	15,792	23,688	39,479	240,617	13%
NV	84,953	163,434	248,387	14,623	21,935	36,558	284,945	12%
NJ	358,121	701,703	1,059,824	100,077	150,116	250,193	1,310,017	13%
NM	97,538	191,743	289,280	17,953	26,930	44,884	334,164	12%
NY	734,643	1,456,244	2,190,887	164,451	246,677	411,129	2,602,015	13%
NH	54,368	101,338	155,705	10,374	15,561	25,936	181,641	13%
NC	332,856	655,309	988,164	66,870	100,305	167,176	1,155,340	12%
ND	25,553	47,755	73,308	6,180	9,270	15,450	88,759	14%

2015 Osteoporosis Prevalence Figures U.S. Population Age 50 and Over

	State Women With Osteoporosis	Women With Low Bone Mass	Total Women With Osteoporosis and Low Bone Mass	Men With Osteoporosis	Men With Low Bone Mass	Total Men With Osteoporosis and Low Bone Mass	Total Men and Women With Osteoporosis and Low Bone Mass	Percent of Men and Women With Osteoporosis
011	447,283	857,776	1,305,059	101,524	152,286	253,809	1,558,868	13%
OK	146,126	280,210	426,336	29,921	44,881	74,802	501,138	13%
Olt	157,735	296,212	453,947	31,277	46,915	78,191	532,138	13%
PA	520,654	993,486	1,514,140	118,908	178,362	297,270	1,811,410	13%
Itl	45,634	86,291	131,925	9,598	14,398	23,996	155,921	13%
SC	158,070	318,005	476,075	31,483	47,224	78,707	554,782	12%
S1)	31,005	58,148	89,153	7,077	10,616	17,693	106,846	13%
IV	245,167	474,116	719,283	46,860	70,291	117,151	836,434	13%
rX	960,260	1,893,654	2,853,915	167,383	251,074	418,457	3,272,372	12%
111'	75,086	140,859	215,945	14,900	22,350	37,249	253,194	13%
V1'	24,921	46,390	71,311	5,042	7,563	12,606	83,916	13%
VA	286,065	562,237	848,302	56,586	84,878	141,464	989,766	12%
t WA	278,514	524,140	802,654	51,808	77,713	129,521	932,173	13%
WV	79,132	148,114	227,246	17,353	26,030	43,383	270,629	14%
WI	223,155	421,330	644,485	49,157	73,736	122,894	767,378	13%
WY	19,374	36,458	55,831	3,830	5,745	9,573	65,407	13%
Grand Total	12,217,989	23,716,200	35,934,188	2,510,424	3,765,642	6,276,067	42,210,256	

BONE MASS MEASUREMENT LEGISLATION

Quick Fact Sheet

Model bone mass measurement legislation

Sample testimony

Examples of actual state legislation

National Osteoporosis Foundation

Bone Mass Measurement--Insurance Coverage

Background

Osteoporosis causes more than 1.5 million hip, spine, and other bone fractures annually. The 300,000 hip fractures attributable to osteoporosis are the most serious and costly because they often cause long-term disability or death. Direct medical costs of osteoporosis are estimated to exceed \$13.8 billion annually. Without intervention, the costs of osteoporosis are expected to reach \$60 billion by the year 2020.

Bone mass measurement (BMM) is the only method available for determining the status of a person's bone mass. These safe, painless, and accurate tests are predictors of future fractures because as bone mass decreases, fracture risk increases exponentially. For example, a woman with a 10 percent reduction in bone mass in the hip has a 2.6 times greater likelihood of fracturing that hip. Low bone mass is as accurate a prediction of future fracture risk as high cholesterol or high blood pressure are predictions of heart disease or stroke. Several FDA approved types of non-invasive measurement techniques are used. Currently, the most common is dual energy x-ray absorptiometry (DXA), which accurately measures the hip, spine, or total body using a very low dose of radiation. Peripheral measurements of the forearm, finger, or heel are also widely used and provide excellent information about fracture risk.

In 1997 the Medicare Bone Mass Measurement Coverage Standardization Act mandated coverage for bone mass measurement tests to diagnose osteoporosis in five categories of individuals at risk for osteoporosis. The provision went into effect July 1998 and includes all FDA approved technologies.

Problem

While Medicare coverage of BMM is an important step forward, additional legislation is needed to provide the same protection to all Americans covered by other forms of health insurance. Unfortunately, coverage of BMM by private insurers (HMO, PPO, etc.) is not consistent from plan to plan. While perhaps 50-75% of the insurers will cover BMM under limited circumstances, very few allow coverage for estrogen deficient women at high risk for osteoporosis. This leaves many menopausal women without access to this important test to determine if any of the available FDA-approved pharmacologic treatments beyond calcium, vitamin D and exercise are necessary to prevent osteoporosis.

Solution

State legislation requiring private insurance to cover bone mass measurement for all women and men at risk for osteoporosis is necessary. Early diagnosis and treatment will save money by preventing costly fractures.

9/98

1150 17th Street, N.W. • Suite 500 • Washington, D.C. 20036 – 4603
202/223 - 2226 • Fax 202/223 – 2227 • Website <http://www.nof.org>

MODEL LEGISLATION **"Osteoporosis Bone Mass Measurement Coverage Act"**

A Bill

To amend _____ (Insurance Code) to provide coverage for bone mass measurement.

Section 1: SHORT TITLE

This Act may be cited as the "Bone Mass Measurement Coverage Act."

Section 2: FINDINGS AND PURPOSE

(A) FINDINGS. The legislature hereby finds the following:

(1) osteoporosis is a public health threat to 28 million Americans and each year results in 1.5 million fractures of the hip, spine, wrist, and other bones, costing the nation nearly \$14 billion annually in medical costs;

(2) osteoporosis progresses silently, in many cases undiagnosed until a fracture occurs, and once a fracture occurs, the disease is already advanced, and the likelihood is high that another fracture will occur;

(3) one in two women and one in eight men age 50 and over will suffer a fracture due to osteoporosis;

(4) since osteoporosis progresses silently and currently has no cure, prevention, early diagnosis, and treatment are key to reducing the prevalence and devastation of this disease;

(5) medical experts agree that osteoporosis is preventable and treatable, however once the disease progresses to the point of fracture its associated consequences may lead to disability and institutionalization, and exact a heavy toll on quality of life;

(6) given the current national focus on reducing unnecessary health care expenditures through the use of health promotion/disease prevention programs, it is cost effective to mandate coverage of services such as bone mass measurement, which will lead to early diagnosis, intervention and prevention of fracture;

(7) bone mass measurement is a reliable way to detect the presence of low bone mass and to ascertain the extent of bone loss to help assess the individual's risk for fracture, which

1

aids in selecting appropriate therapies and interventions; ordinary x-rays are not sensitive enough to detect osteoporosis until 25-40 percent of bone mass has been lost and the disease is advanced;

(8) currently available technologies for measuring bone mass or bone loss include: single and dual energy x-ray absorptiometry, quantitative computed tomography, radiographic absorptiometry and biochemical markers; other technologies for determining bone mass, bone quality or bone loss are under investigation and may become scientifically proven technologies in the future; and

(9) scientifically proven technologies for detecting bone loss and other services related to the prevention, diagnosis and treatment of osteoporosis can be used effectively to reduce the pain and financial burden that osteoporosis inflicts upon its victims.

(B) PURPOSE. To mandate coverage for qualified individuals for bone mass measurement (bone density testing) to prevent fractures associated with osteoporosis.

Section 3: ESTABLISHMENT OF COVERAGE FOR BONE MASS MEASUREMENT

The _____ (insurance code) is amended by adding at the appropriate place the following:

(A) (1) Every health care service plan contract that provides hospital, medical or surgical coverage that is issued, amended, delivered or renewed in this state on or after _____ (the appropriate date) shall be deemed to include coverage for qualified individuals for reimbursement for scientifically proven bone mass measurement (bone density testing) for the prevention, diagnosis and treatment of osteoporosis.

(2) Health care service plans shall identify and use the most up-to-date, scientifically accurate educational materials to increase patient awareness and knowledge and encourage the prevention and treatment of osteoporosis.

(B) (1) Every policy of disability insurance that provides hospital, medical, or surgical coverage that is issued, amended, delivered or renewed in this state on or after _____ (the appropriate date) shall be deemed to include coverage for qualified individuals for reimbursement for scientifically proven bone mass measurement (bone density testing) for the prevention, diagnosis and treatment of osteoporosis.

(2) Disability insurers shall identify and use the most up-to-date, scientifically accurate educational materials to increase patient awareness and knowledge and encourage the prevention and treatment of osteoporosis.

(C) (1) Every non-profit and for-profit hospital plan contract that provides hospital, medical or surgical coverage that is issued, amended, delivered or renewed in this state on or after _____ (the appropriate date) shall be deemed to include coverage for qualified individuals for reimbursement for scientifically proven bone mass measurement (bone density testing) for the prevention, diagnosis and treatment of osteoporosis.

(2) Non-profit and for-profit hospital service plans shall identify and use the most up-to-date, scientifically accurate educational materials to increase patient awareness and knowledge and encourage the prevention and treatment of osteoporosis.

Section 4: DEFINITIONS

For the purposes of this Act:

(A) Bone Mass Measurement. The term "bone mass measurement" means a radiologic or radioisotopic procedure or other scientifically proven technologies performed on an individual for the purpose of identifying bone mass, bone quality or detecting bone loss.

(B) Qualified Individual. The "qualified individual" means:

- (1) an estrogen-deficient woman at clinical risk of osteoporosis and who is considering treatment;
- (2) an individual with vertebral abnormalities;
- (3) an individual receiving long-term glucocorticoid (steroid) therapy;
- (4) an individual with primary hyperparathyroidism; or
- (5) an individual being monitored to assess the response to or efficacy of approved osteoporosis drug therapies.

**SAMPLE QUESTIONS
FROM A STATE LEGISLATOR
ABOUT A BONE MASS MEASUREMENT BILL**

The National Osteoporosis Foundation (NOF) would like to express its support of mandated insurance benefits for the coverage and reimbursement of bone density tests. Osteoporosis is a preventable disease that affects 28 million Americans, 80% of whom are women. In the United States today, 10 million people already have the disease and another 18 million have low bone mass, placing them at increased risk for osteoporosis. People with osteoporosis many times do not know they have the disease until they fracture a hip, vertebra, wrist or other skeletal site. This can happen at any age. Unfortunately, many people still believe this disease is a natural consequence of aging. Nothing could be further from the truth.

While some health care plans do a good job when it comes to identifying, treating, and managing people with osteoporosis, many more do not. The result of inadequate care can be devastating in terms of health care costs and the impact on quality of life. There are several treatments on the market which can prevent and ameliorate the bone loss seen with this disease. In sum, the good news is that osteoporosis is a preventable disease, and fracture risk can be lowered dramatically if the disease is diagnosed early enough and treatment initiated.

The following comments are offered in support of mandated coverage of bone density tests:

(i) The extent to which the proposed benefit and the services it would provide are needed by, available to and utilized by the population of the Commonwealth.

Osteoporosis is often called the "silent disease" because the first symptom is many times a non-traumatic fracture of the hip, spine, wrist or other body site. Women are especially vulnerable. For example, they can lose up to 20% of their bone mass in the 5-7 years after menopause (ages 50-58).

In 1996, it was estimated that 417,940 women and 105,176 men age 50 and over in Pennsylvania had osteoporosis. An additional 793,887 women and 157,764 men had low bone mass, putting them at risk for the disease. By the year 2015, assuming no additional steps are taken to prevent, diagnose, or treat the disease, 520,654 women and 118,908 men age 50 and over will have the disease. An additional 993,486 women and 178,362 men will suffer from low bone mass (Enclosure 1).

The consequences of osteoporosis are devastating. Each year in the United States this disease leads to a million and a half fractures, mostly of the hip, spine and wrist, although any bone can be affected. Ninety percent of hip and spine fractures in elderly white women can be attributed to osteoporosis.

Hip fractures, which occur about twice as often in women as men, are more serious than most people realize: 1²- to 20% of hip fracture patients will die in the year after fracture, usually from complications like pneumonia or blood clots in the lung, which are related to the fracture or to the surgery to repair the fracture. More than half of those who survive will not be able to walk independently, and a quarter will need long-term *nursing* home care.

In 1995, \$13.8 billion in health care costs were attributed to osteoporosis in the United States. Timely detection and treatment of osteoporosis in women and men at risk will prevent costly fractures,

usually resulting in hospitalization, *in* the future.

(ii) The extent to which insurance coverage for the proposed benefit already exists, or if no such coverage exists, the extent to which this lack of coverage results in inadequate health care or financial hardship for the population of the Commonwealth.

An informal survey of providers in Pennsylvania was conducted to ask for feedback regarding the current coverage and reimbursement practices of health plans operating in the state of Pennsylvania when it comes to the prevention, diagnosis and treatment of osteoporosis. An overall dissatisfaction was expressed by every respondent regarding the rationing of bone density tests by health care plans. This rationing in most cases was so extreme that medically necessary patient care was compromised. The following represents some of the barriers imposed by health plans:

Health Plans Disallowing Coverage for Estrogen Deficient Women at High-Risk for Osteoporosis

Estrogen deficient high-risk women represent an extremely vulnerable group of people. It is a population most often overlooked because of cost considerations by health plans. This shortsighted approach ignores the tremendous health care costs associated with osteoporotic fractures. Health care costs of osteoporosis to Pennsylvania's health care system were \$290 million in 1995 and are projected to be \$907 million in 2015 (Enclosure 2).

Some health plans *in* Pennsylvania have adopted Pennsylvania Medicare's policy to exclude estrogen deficient high-risk women from coverage. This has resulted in providers withholding the test for these women unless the enrollee can pay out-of-pocket. For many people this is not possible. For one osteoporosis clinic in an area of Pennsylvania with a very low median income, this has resulted in bone density tests not being offered or only for people with Cushings syndrome, hyperparathyroidism, hyperthyroidism, hypogonadism, prolactinoma, long term steroid therapy, vertebral abnormalities on x-ray (compression fractures or radiographic osteopenia), fractures of the hip, wrist, or spine in the absence of severe trauma, documented loss of height greater than 1.5 inches, and to monitor the response to ongoing restorative treatment for patients with documented osteoporosis. This is a very restrictive policy that covers only a small group of individuals. The bottom line is that for many people covered under these health plans, fractures must occur before a bone density test will be allowed. This is a travesty, as bone mass measurements predict fracture risk and allow for treatment to begin well before fractures occur.

Half of all Medicare carriers currently do and half do not allow bone mass measurements for estrogen deficient high-risk women. It is because of these discrepancies we are pleased that as of *July 1, 1998* all Medicare carriers will be required by law to cover bone density tests for several groups of individuals, including estrogen deficient high-risk women. Enclosed is the actual bill language (Enclosure 3).

Coverage Criteria Deemed Proprietary

Some health plans are unwilling to give providers or enrollees criteria (written or verbal) under which a bone density exam would be covered. Withholding this type information makes it extremely difficult for providers to code appropriately and for patients to receive the timely care they need. Also, if the physician believes the bone density test is necessary, both the patient and provider must know if the test is covered and who will ultimately pay for the test.

(iii) The demand for the proposed benefit from the public and the source and extent of opposition to mandating the benefit

As mentioned earlier, there are approximately half a million men and women in Pennsylvania age 50 and over with osteoporosis (Enclosure 1). One out of every two women and one in eight men over the age of 50 will have an osteoporosis-related fracture in their lifetime. The earlier osteoporosis is detected, the less expensive the treatment (drug therapy, exercise, diet) and the later osteoporosis is detected, i.e., at the time of fracture, the more costly the treatment such as hospitalization for the acute symptoms and nursing home care for the rehabilitation. The average health care cost of a hip fracture today is approximately \$33,000. From a survey we conducted of osteoporosis clinics, we found the average charge for a bone density test (which measured the hip and spine and included an interpretation of the test results) was \$215. Treatment costs for the disease range from \$50 to \$730 per year.

Health plans and insurers are naturally looking for ways to cut costs. Legislation mandating health plan coverage for bone mass measurement as it will be implemented for Medicare beneficiaries will remove the barrier to this diagnostic test and ensure that people receive the care they need to prevent fractures. In this way, the costs of fractures can be avoided, as well as the dramatic toll this disease takes on the quality of life.

(iv) All relevant findings bearing on the social impact of the lack of the proposed benefit

Quality of life (Enclosures 4 and 5) is greatly impaired in persons with severe osteoporosis, not only because of the debilitating pain and deformity, but also because of limited ability to move and be active for the fear of breaking more bones. When several vertebrae are fractured, the spinal column becomes shorter or compressed, resulting in a loss of height and a forward curvature of the spine called kyphosis, sometimes so severe that the person is unable to look up and is condemned to walking for the rest of their life stooped over looking at the ground. Depression is a common result among severe cases of osteoporosis.

(v) Where the proposed benefit would mandate coverage of a particular therapy, the results of at least one professionally accepted, controlled trial comparing the medical consequences of the proposed therapy, alternative therapies and no therapy.

Please see Enclosures 4 and 5.

(vi) Where the proposed benefit would mandate coverage of an additional class of practitioners, the result of at least one professionally accepted, controlled trial comparing the medical results achieved by the additional class of practitioners and those practitioners already covered by the benefit.

Not applicable.

(vii) The results of any other relevant research.

Please see Enclosures 4 and 5.

(viii) Evidence of the financial impact of the proposed legislation, including at least:

- (A) The extent to which the proposed benefit would increase or decrease cost for treatment or service.*
- (B) The extent to which similar mandated benefits in other states have affected charges, costs and payment for services*
- (C) The extent to which the proposed benefit would increase appropriate use of the treatment or service*
- (D) The impact of the proposed benefit on administrative expenses of health care insurers.*
- (E) The impact of the proposed benefit on benefits costs of purchasers.*

Please see Enclosure 6 for a list of the states that have passed bone mass measurement legislation or osteoporosis education legislation.

Several of the state legislators responsible for passing legislation which mandates insurers to cover and reimburse bone density tests for specific groups of individuals (see Enclosure 7, model bone mass measurement bill) indicated that it was determined there would be no fiscal impact on the state. In addition, it was noted that this was not a bill that mandated screening. Screening is defined as providing bone mass measurement to all people at a specific age, regardless of risk factors. We do not support screening across the board. Instead, our model bill stipulates bone mass shall be measured for five groups of individuals, including estrogen deficient high-risk women.

The Congressional Budget Office (CBO) was asked to estimate the cost to Medicare of the bone mass measurement legislation (Enclosure 3) before it was passed (effective date July 1, 1998). CBO considered the fact that according to our figures, 1.92% of eligible women in Medicare plans that offered bone density coverage for hyperparathyroidism, long-term glucocorticoid treatment, vertebral abnormalities, and monitoring of treatments actually had the test done. When eligible women in Medicare plans that covered bone density tests for estrogen deficient high-risk women, hyperparathyroidism, long-term glucocorticoid treatment, vertebral abnormalities, and monitoring of treatments were considered, 2.65% of these women had the test done. These estimates were based on the total number of bone mass measurement tests performed on Medicare beneficiaries in 1996 as compared to the total number of women age 65 and over.

(F) The impact of the proposed benefits on the total cost of health care within the Commonwealth.

In 1995 the estimated health care expenditures attributable to osteoporotic fractures exceeded \$13 billion in the United States alone. This figure is expected to exceed \$60 billion by the year 2030. As the population ages, the number of people with osteoporosis will continue to increase dramatically as the baby boomers age. Equal and affordable access to bone density tests will allow early detection and treatment for osteoporosis. As mentioned previously, the average charge for a bone density test is \$215. Treatment costs range from \$50 to \$730 per year. These costs pale in comparison to the many thousands of dollars in health care costs attributed by to osteoporosis for surgery, hospitalization, nursing home care and home care for a year if this disease is not treated in the early stages.

FROM THE LOUISIANA ORTHOPAEDIC ASSOCIATION

Testimony in favor of Senate Bill 4 - a bill to require insurance coverage for bone-mass measurement

PLEASE VOTE FOR SB 4

SB 4, by Senator Diana Bajoie is a measure that requires insurers to cover screenings for osteoporosis. It is awaiting action on the House floor.

This bill requires that insurance companies cover bone density measurement (BDM) screenings for the following qualified individuals:

- Estrogen deficient women at clinical risk for osteoporosis who are considering treatment
- Individuals receiving long term steroid therapy
- Individuals being monitored to assess the response to or efficacy of approved osteoporosis drug therapies.

This bill received favorable consideration by the Senate Insurance Committee, the Senate and the House Insurance Committee. Consider the fact that a BDM screening costs between \$100-150 and the cost of a hip fracture is \$35,000. The test measures bone density in your spine, hip and/or wrist -- the most common sites of fractures due to osteoporosis. Osteoporosis threatens the health and independence of the elderly, especially post-menopausal women. It is far better for a patient's quality of life and independence to detect and prevent osteoporosis than to mend brittle, broken bones.

What will SB 4 cost the state? Zero. There is no fiscal impact to the State Employees Group Benefits program. This actuarial estimate for the insurance industry is one-half of 1 percent of all paid claims in Louisiana by 225 insurance companies.

"Orthopaedic surgeons know firsthand the dreadful consequences of osteoporosis. Our unique expertise carries with it a particular responsibility. It is up to us not just to repair fractures but to be certain that diagnostic studies for osteoporosis are performed and that effective preventative measures and treatment are initiated ... Longevity, in and of itself, may be good. Far better, however is an advanced age that is free from pain and offers the highest possible degree of independence. "

Laura Tosi, M.D. and Joseph Lane, M.D., Academy of Orthopedic Surgeons Oversight Panel on Women's Health Issues.

Thank you for your consideration of this matter.

If you have any questions, contact Cindy Bishop, Louisiana Orthopaedic Association. (225) 923-1599

16TH DOCUMENT of Level 1 printed in FULL format.

THE STATE OF IOWA
BILL TEXT
STATENET

Copyright (c) 1998 by Information for Public Affairs,

IOWA 77TH GENERAL ASSEMBLY - SECOND SESSION

SENATE BILL 2258

SENATE FILE 2258
BY NEUHAUSER, SZYMONIAK AND
HAMMOND

1997 IA S.B. 2258

Inc.

VERSION: Introduced VERSION-DATE: February 18, 1998 SYNOPSIS:
A BILL FOR

An Act relating to the rights of enrollees under managed care plans.

DIGEST:

EXPLANATION

This bill provides for the establishment of rights for enrollees under managed care health insurance plans. The rights established relate to access to personnel and facilities, provision of choice of health care professionals under a plan, access to specialty and emergency care, coverage for participation in clinical trials, continuity of care when coverage is terminated while an enrollee is undergoing a course of treatment, access to necessary prescription drugs, standards for utilization review, complaints and appeals, a quality improvement program for health care services offered to enrollees, nondiscrimination of plans, medical records and confidentiality, the provision of information regarding the plan and insurer, and the promotion of good medical practices

TEXT: BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA: Section

1. NEW SECTION. 5141.1 TITLE.

This chapter shall be known and may be cited as the "Health Insurance Consumers' Bill of Rights Act".

Sec. 2. NEW SECTION. 5141.2 DEFINITIONS.

As used in this chapter, unless the context otherwise requires:

1. "Division" means the insurance division of the department of commerce.

1997 IA S.B. 2258

2. "Emergency medical condition" means a medical condition which manifests by acute symptoms of sufficient severity, including severe pain, such that a prudent layperson who possesses an average knowledge of health and medicine could reasonably expect the absence of immediate medical attention to result in any of the following:

a. Placing the health of the individual or with respect to a pregnant woman, the health of the woman or the fetus in serious jeopardy.

b. Serious impairment to bodily functions.

c. Serious dysfunction of any bodily organ or part.

3. "Emergency services" means, with respect to an enrollee under a plan or coverage, inpatient and outpatient services, covered under the plan or coverage, that are furnished by a provider that is qualified to furnish such services under the plan or coverage, and are necessary to evaluate or stabilize an emergency.

4. "Enrollee" means an individual who is entitled to benefits under a group health plan or under health insurance coverage.

5. "Group health plan" means a group health plan as defined in 42 U.S.C. section 300gg(91).

6. "Health care professional" means a person licensed to practice a profession as defined in section 147.1, with the exceptions of cosmetology arts and sciences, barbering, and mortuary sciences, who provides health care services.

7. "Health care provider" means "provider" as defined in section 514B.1.

8. "Health insurance coverage" means health insurance coverage 42 as defined in U.S.C.) 300gg(91).

9. "Health insurance issuer" means a person who does insurance business in the state who provides health insurance coverage.

10. "Managed care" means, with respect to a group health plan or health insurance coverage, a plan or coverage that provides financial incentives for enrollees to obtain benefits through participating health care providers or professionals.

11. "Nonparticipating" means with respect to a health care provider or professional and a group health plan or health insurance coverage, a provider or professional that is not a participating provider or professional with respect to plan or insurance coverage services.

12. "Participating" means with respect to a health care provider or professional and a group health plan or health insurance coverage offered by a health insurance issuer, a provider or professional that has entered into an agreement or arrangement with the plan or issuer with respect to the provision of health care services to enrollees under the plan or coverage.

1997 IA S.B. 2258

13. "Primary care practitioner" means, with respect to a group health plan or health insurance coverage offered by a health insurance issuer, a health care professional who is trained in family practice, general practice, internal medicine, obstetrics and gynecology, or pediatrics and who is practicing within the scope of practice authorized by state law, designated by the plan or issuer to coordinate, supervise, or provide ongoing care to enrollees.

Sec. 3. NEW SECTION. 5141.3 ACCESS TO PERSONNEL AND FACILITIES
ASSURING ADEQUATE CHOICE OF HEALTH CARE PROFESSIONALS.

The division shall adopt rules regulating managed care group health plans and health insurance issuers offering managed care group health insurance coverage to ensure that the plans and insurers meet all of the following requirements:

1. Have a sufficient number and type of primary care practitioners and specialists throughout the service area to meet the needs of enrollees and to provide substantive choice.
2. Maintain a mix of primary care practitioners that is adequate to meet the needs of the enrollees' varied characteristics, including age, gender, race, and health status.
3. Include, to the extent possible, a variety of primary care providers, including but not limited to community health centers, rural health clinics, and family planning clinics.

Sec. 4. NEW SECTION. 5141.4 ACCESS TO SPECIALTY CARE.

The division shall adopt rules regulating managed care group health plans and health insurance issuers offering managed care group health insurance coverage to ensure that the plans and issuers provide enrollees with all of the following:

1. Access to specialty care.
2. Standing referrals to specialists.
3. Access to nonparticipating providers.
4. Direct access without the need for a referral to health care professionals trained in obstetrics and gynecology.
5. A process that permits a health care provider trained in obstetrics and gynecology to be designated and treated as a primary care practitioner.

Sec. 5. NEW SECTION. 5141.5 ACCESS TO EMERGENCY CARE.

1. if a group health plan or health insurance coverage provides any benefits with respect to emergency services, the plan or the health insurance issuer offering the coverage shall do all of the following:
 - a. Provide for emergency services without regard to prior authorization or the emergency care provider's contractual relationship with the organization.

1997 IA S.B. 2258

b. Comply with guidelines prescribed by the secretary of the United States department of health and human services relating to promoting efficient and timely coordination of appropriate maintenance and poststabilization care of an enrollee after the enrollee has been determined to be stable.

Sec. 6. NEW SECTION. 5141.6 COVERAGE FOR INDIVIDUALS PARTICIPATING IN APPROVED CLINICAL TRIALS.

1. If a group health plan provides benefits, or a health insurance issuer offers health insurance coverage to a qualified enrollee, for an approved clinical trial, the plan or issuer shall comply with all of the following:

a. The plan or issuer shall not deny the enrollee participation in the clinical trial.

b. Subject to subsection 3, the plan or issuer shall not deny, limit, or impose additional conditions on the coverage of routine patient costs for items and services furnished in connection with participation in the trial.

c. The plan or issuer shall not discriminate against the enrollee on the basis of the enrollee's participation in the trial.

2. For the purposes of this subsection, "qualified enrollee" means an enrollee who meets all of the following conditions:

a. The enrollee has a life-threatening or serious illness for which no standard treatment is effective.

b. The enrollee is eligible to participate **in an** approved clinical trial with respect to treatment of such illness.

c. The enrollee and the referring physician conclude that the enrollee's participation in the trial would be appropriate.

d. The enrollee's participation in the trial offers potential for significant clinical benefit for the enrollee.

3. a. A plan or issuer shall provide for payment for routine patient costs described in subsection 1, but is not required to pay for costs of items and services that are reasonably expected to be paid for by the sponsors of an approved clinical trial.

b. In the case of covered items and services, the payment rate if provided by a participating provider shall be the agreed upon rate and if provided by a nonparticipating provider shall be the payment rate the plan or issuer would normally pay for comparable services under paragraph "a".

4. As used in this section, "approved clinical trial" means a clinical research study or clinical investigation approved by the United States food and drug administration or approved and funded by one or more of the following:

a. The national institutes of health.

b. The United States department of defense.

Sec. 7. NEW SECTION. 5141.7 CONTINUITY OF CARE.

The division shall adopt rules regulating managed care group health plans and health insurance issuers offering managed care group health insurance coverage to ensure that plans and issuers provide continuity of coverage if an enrollee is undergoing a course of treatment with the provider at the time of termination of the coverage.

Sec. 8. NEW SECTION. 5141.8 PROHIBITION OF INTERFERENCE WITH CERTAIN MEDICAL COMMUNICATIONS.

A contract or agreement, or the operation of a contract or agreement, between a group health plan or health insurance issuer offering health insurance coverage in connection with a group health plan and a health professional shall not prohibit or restrict the *health* professional from engaging in medical communications with a patient. Any contract provision or agreement that prohibits or restricts such medical communications is null and void.

Sec. 9. NEW SECTION. 5141.9 ACCESS TO NECESSARY PRESCRIPTION DRUGS.

If a group health plan or health insurance issuer offers health insurance coverage that provides benefits with respect to prescription drugs, but the coverage limits benefits to drugs included in a formulary, the plan or issuer shall ensure, in accordance with rules adopted by the division, that the nature of the formulary restrictions is fully disclosed to enrollees and exceptions from the formulary restrictions are provided when medically necessary or appropriate.

Sec. 10. NEW SECTION. 5141.10 STANDARDS FOR UTILIZATION REVIEW ACTIVITIES, COMPLAINTS, AND APPEALS.

The division shall establish standards by rule for group health plans and health insurance issuers offering health insurance coverage in connection with a group health plan relating to conduct of utilization review activities. The standards shall include all of the following:

1. A requirement that a plan or issuer develop written policies and criteria concerning utilization review activities.
2. A requirement that a plan or issuer provide notice of such policies and criteria and written notice of adverse determinations to enrollees.
3. A restriction on the use of contingent compensation arrangements with providers.
4. A requirement establishing deadlines to ensure timely utilization review determinations.
5. The establishment of an adequate process for filing complaints and appealing decisions concerning utilization review determinations, including the mandatory use of an outside review panel to make decisions on appeals.
6. A requirement that a plan or issuer that utilizes clinical practice guidelines uniformly apply review criteria based on sound scientific principles and the most recent medical evidence.

1997 IA S.B. 2258

Sec. 11. NEW SECTION. 5141.11 QUALITY IMPROVEMENT PROGRAM.

A group health plan or health insurance issuer offering health insurance coverage shall make arrangements for an ongoing quality improvement program for health care services provided to enrollees. The program shall meet standards established by the division, including standards relating to all of the following:

1. The measurement of health outcomes relevant to all populations.
2. Evaluation of high risk services.
3. Monitoring utilization of services.
4. Ensuring appropriate action to improve quality of care.
5. Providing for an independent external review of the program.

Sec. 12. NEW SECTION. 5141.12 NONDISCRIMINATION.

1. A group health plan or health insurance issuer offering health insurance coverage, whether or not a managed care plan or coverage, shall not discriminate or engage directly or through contractual arrangements in any activity, including the selection of service **area**, that has the effect of discriminating against an individual or group of individuals on the basis of race, culture, national origin, gender, sexual orientation, language, socioeconomic status, age, disability, genetic makeup, health status, payer source, or anticipated need for health care services.

2. A plan or issuer shall not discriminate in the selection of members of the health provider or provider network or in establishing the terms and conditions for membership in the network of the plan or coverage based **on any of** the factors described in subsection 1.

3. A plan or issuer shall not exclude coverage, including coverage for procedures and drugs, if the effect is to discriminate in violation of **subsection 1 or 2**.

Sec. 13. NEW SECTION. 5141.13 MEDICAL RECORDS AND CONFIDENTIALITY.

A managed care group health plan or a health insurance issuer offering managed care group health insurance shall do all of the following:

1. Establish written policies and procedures for the handling of medical records and enrollee communications to ensure enrollee confidentiality.
2. Ensure the confidentiality of specified enrollee information, including prior medical history, medical record information, and claims information, except when disclosure of the information is required by law.
3. Not release any individual patient record information, unless a release is authorized in writing by the enrollee or otherwise required by law.

Sec. 14. NEW SECTION. 5141.14 HEALTH PROSPECTUS, DISCLOSURE OF INFORMATION.

1997 IA S.B. 2258

1. A group health plan or health insurance issuer providing health insurance coverage shall provide to each of its enrollees at the time of enrollment and on an annual basis, and shall make available to each prospective enrollee upon request, a prospectus that relates to the plan or coverage offered, in a format specified by the commissioner, for the purpose of comparison by enrollees and prospective enrollees, that provides all of the following:

a. Quality assessment data on the plan or coverage that meets all of the following requirements:

(1) Is similar to the types of data collected for managed care plans under Title XVIII of the federal Social Security Act, taking into account differences between the populations covered under that title and the populations covered under this chapter.

(2) Is collected by independent auditing agencies. (3) Includes all of the following:

(a) A description of the types of methodologies including capitation, financial incentives or bonuses, fee-for-service, salary, and withholds used by the plan or issuer to reimburse physicians, including the proportions of physicians who have each of these types of arrangements.

(b) Cost-sharing requirements for enrollees.

(c) Upon request, information on the reimbursement methodology used by the plan or insurer or medical groups for individual physicians. However, this paragraph shall not require the disclosure of specific reimbursement rates.

b. Measures of performance data of the plan or issuer in relation to coverage offered which includes each of the following and other salient data as the commissioner may specify:

(1) The ratio of physicians to enrollees, including the ratio of physicians who are obstetricians and gynecologists to adult female enrollees.

(2) The ratio of specialists, including the types of specialists, to enrollees.

(3) The incentive structure used for payment of primary care physicians and specialists.

(4) Patient outcomes for procedures, including procedures enrollees.

specific to female

(5) The average number of grievances filed annually under the plan or coverage.

(6) The number of requests for procedures for which utilization review board review or approval is required and the number and percentage of requests that are denied.

(7) The number of appeals filed from denial of such requests and the number and percentage of such appeals that are approved, and such numbers and

percentages by gender of the enrollee involved. (8) Disenrollment data.

c. The benefits provided under the plan or coverage, as well as explicit exclusions, including a description of all of the following:

(1) The coverage policy with respect to coverage for female-specific benefits, including screening mammography, hormone replacement therapy, bone density testing, osteoporosis screening, maternity care, and reconstructive surgery following a mastectomy.

(2) The costs of copayments for treatments, including any exceptions. d. Additional information, including all of the following:

(1) The plan's or issuer's structure and provider network, including the names and credentials of physicians in the network.

(2) Coverage provided and excluded, including out-of-area coverage. (3) Procedures for utilization management.

(4) Procedures for determining coverage for investigational or experimental treatments as well as definitions for coverage terms.

(5) Any restrictive formularies or prior approval requirements for obtaining prescription drugs, including, upon request, information on whether or not specific drugs are covered.

(6) Use of voluntary or mandatory arbitration.

(7) Procedures for receiving emergency care and out-of-network services when those services are not available in the network and information on the coverage of emergency services, including all of the following:

(a) The appropriate use of emergency services, including use of the 911 telephone system or its local equivalent in emergency situations and an explanation of what constitutes an emergency situation.

(b) The process and procedures for obtaining emergency services.

(c) The locations of emergency departments and other settings, in which physicians and hospitals provide emergency services and poststabilization care.

(d) How to contact agencies that regulate the plans or issuer. (

(e) How to contact consumer assistance agencies. (

(f) How to obtain covered services.

(g) How to receive preventive health services and health education

(h) How to select providers and obtain referrals.

1997 IA S.B. 2258

(i)How to appeal health plan decisions and file grievances.

2. This section shall not be construed as preventing the state from requiring health insurance issuers, in relation to their offering of health insurance coverage, to separately disclose information, including comparative ratings of health insurance coverage, in addition to the information required to be disclosed under this section.

Sec. 15. NEW SECTION. 5141.15 PROMOTING GOOD MEDICAL PRACTICE.

1. A group health plan or provision of health insurance which particular services are or appropriate, to the extent covered benefit.

a health insurance issuer, in connection coverage, shall not impose limits on the delivered, if the services are medically necessary that such procedure or treatment is otherwise a

with the manner in

2. Subsection 1 shall not be services which are not otherwise construed as requiring coverage of particular covered under the terms of the coverage.

SPONSOR: Neuhauser

LOAD-DATE: February 20, 1998

American Association of Orthopaedic Surgeons

19TH DOCUMENT of Level 1 printed in FULL format.

THE STATE OF KENTUCKY
BILL TEXT
STATENET

Copyright (c) 1998 by Information for Public Affairs, Inc.

KENTUCKY 1998 REGULAR SESSION

HOUSE BILL 864

1998 KY H.B. 864

VERSION: Enacted

VERSION-DATE: April 9, 1998

SYNOPSIS:

AN ACT relating to health and welfare.

NOTICE:

[A> UPPERCASE TEXT WITHIN THESE SYMBOLS IS ADDED <A] [D>
Text within these symbols is deleted <D]

TEXT: Be it enacted by the General Assembly of the Commonwealth of Kentucky:

SECTION 1. A NEW SECTION OF SUBTITLE 17 OF KRS CHAPTER 304 IS CREATED TO READ AS FOLLOWS:

I
INDIVIDUAL
[A> (1) ALL INSURERS ISSUING INDIVIDUAL HEALTH INSURANCE POLICIES IN THIS COMMONWEALTH PROVIDING COVERAGE ON AN EXPENSE-INCURRED BASIS SHALL MAKE AVAILABLE AND OFFER TO THE PURCHASER COVERAGE FOR: <A]

[A> (A) ALL STAGES OF BREAST RECONSTRUCTION SURGERY FOLLOWING A MASTECTOMY THAT RESULTED FROM BREAST CANCER IF THE INSURER ALSO COVERS MASTECTOMIES; <A]

[A> (B) DIAGNOSIS AND TREATMENT OF ENDOMETRIOSIS AND ENDOMETRITIS IF THE INSURER ALSO COVERS HYSTERECTOMIES; AND <A]

[A> (C) BONE DENSITY TESTING FOR WOMEN AGE THIRTY-FIVE (35) AND OLDER, AS INDICATED BY THE HEALTH CARE PROVIDER, IN ACCORDANCE WITH STANDARD MEDICAL PRACTICE, TO OBTAIN BASELINE DATA FOR THE PURPOSE OF EARLY DETECTION OF OSTEOPOROSIS. <A]

[A> (2) NO INSURER UNDER THIS SECTION SHALL OFFER COVERAGE FOR MASTECTOMES THAT REQUIRES THE PROCEDURE TO BE PERFORMED ON AN OUTPATIENT BASIS. <A]

SECTION 2. A NEW SECTION OF KRS 304.17A-100 TO 304.17A-160 IS CREATED TO READ AS FOLLOWS:

[A> (1) A HEALTH BENEFIT PLAN ISSUED OR RENEWED ON OR AFTER JULY 15, 1996, SHALL MAKE AVAILABLE AND OFFER TO THE PURCHASER COVERAGE FOR: <A]

[A> (A) BREAST RECONSTRUCTION SURGERY FOLLOWING A MASTECTOMY THAT RESULTED FROM BREAST CANCER IF THE INSURER ALSO COVERS MASTECTOMIES; <A]

1998 KY H.B. 864

[A> (B) DIAGNOSIS AND TREATMENT OF ENDOMETRIOSIS AND ENDOMETRITIS IF THE INSURER ALSO COVERS HYSTERECTOMIES; AND <A]

(A> (C) BONE DENSITY TESTING FOR WOMEN AGE THIRTY-FIVE (35) AND OLDER, AS INDICATED BY THE HEALTH CARE PROVIDER, IN ACCORDANCE WITH STANDARD MEDICAL PRACTICE, TO OBTAIN BASELINE DATA FOR THE PURPOSE OF EARLY DETECTION OF OSTEOPOROSIS. <A]

[A> (2) NO HEALTH BENEFIT PLAN UNDER THIS SECTION SHALL OFFER COVERAGE FOR MASTECTOMIES THAT REQUIRES THE PROCEDURE BE PERFORMED ON AN OUTPATIENT BASIS. <A]

SECTION 3. A NEW SECTION OF SUBTITLE 18 OF KRS CHAPTER 304 IS CREATED TO READ AS FOLLOWS:

GROUP

[A> (1) ALL INSURERS ISSUING GROUP OR BLANKET HEALTH INSURANCE POLICIES AND CERTIFICATES IN THIS COMMONWEALTH PROVIDING COVERAGE ON AN EXPENSE-INCURRED BASIS SHALL MAKE AVAILABLE AND OFFER TO THE PURCHASER COVCRAGE FOR: <A]

[A> (A) BREAST RECONSTRUCTION SURGERY FOLLOWING A MASTECTOMY THAT RESULTED FROM BREAST CANCER IF THE INSURER ALSO COVERS MASTECTOMIES; <A]

[A> (B) DIAGNOSIS AND TREATMENT OF ENDOMETRIOSIS AND ENDOMETRITIS IF THE INSURER ALSO COVERS HYSTERECTOMIES; AND <A]

[A> (C) BONE DENSITY TESTING FOR WOMEN AGE THIRTY-FIVE (35) AND OLDER, AS INDICATED BY THE HEALTH CARE-PROVIDER, IN ACCORDANCE WITH STANDARD MEDICAL PRACTICE, TO OBTAIN BASELINE DATA FOR THE PURPOSE OF EARLY DETECTION OF OSTEOPOROSIS. <A]

[A> (2) NO INSURER UNDER THIS SECTION SHALL OFFER COVERAGE FOR MASTECTOMIES WHICH REQUIRES THE PROCEDURE BE PERFORMED ON AN OUTPATIENT BASIS. <A]

SECTION 4. A NEW SECTION OF SUBTITLE 32 OF KRS CHAPTER 304 IS CREATED TO READ AS FOLLOWS:

CONTRACTS (CORPORATIONS)

[A> (1) ALL NONPROFIT HOSPITAL, MEDICAL-SURGICAL, DENTAL, AND HEALTH SERVICE CORPORATIONS ISSUING CONTRACTS IN THIS COMMONWEALTH PROVIDING HOSPITAL MEDICAL, OR SURGICAL EXPENSE BENEFITS SHALL MAKE AVAILABLE AND OFFER TO THE PURCHASER COVERAGE FOR: <A]

[A> (A) BREAST RECONSTRUCTION SURGERY FOLLOWING A MASTECTOMY THAT RESULTED FROM BREAST CANCER IF THE INSURER ALSO COVERS MASTECTOMIES; <A]

[A> (B) DIAGNOSIS AND TREATMENT OF ENDOMETRIOSIS AND ENDOMETRITIS IF THE INSURER ALSO COVERS HYSTERECTOMIES; AND <A]

[A> (C) BONE DENSITY TESTING FOR WOMEN AGE THIRTY-FIVE (35) AND OLDER, AS INDICATED BY THE HEALTH CARE PROVIDER, IN ACCORDANCE WITH STANDARD MEDICAL PRACTICE, TO OBTAIN BASELINE DATA FOR THE PURPOSE OF EARLY DETECTION OF OSTEOPOROSIS. <A]

[A> (2) NO INSURER UNDER THIS SECTION SHALL OFFER COVERAGE FOR MASTECTOMIES THAT REQUIRES THE PROCEDURE BE PERFORMED ON AN OUTPATIENT BASIS. <A]

1998 KY H.B. 864

SECTION 5. A NEW SECTION OF SUBTITLE 38 OF KRS CHAPTER 304 IS CREATED TO READ AS FOLLOWS :

HMO

[A> (1) HEALTH MAINTENANCE ORGANIZATIONS ISSUING CONTRACTS IN THIS COMMONWEALTH THAT PROVIDE HOSPITAL, MEDICAL, OR SURGICAL EXPENSE BENEFITS SHALL MAKE AVAILABLE AND OFFER TO THE PURCHASER COVERAGE FOR: <A]

[A> (A) BREAST RECONSTRUCTION SURGERY FOLLOWING A MASTECTOMY THAT RESULTED FROM BREAST CANCER IF THE INSURER ALSO COVERS MASTECTOMIES; <A]

[A> (B) DIAGNOSIS AND TREATMENT OF ENDOMETRIOSIS IF THE INSURER ALSO COVERS HYSTERECTOMIES; AND <A]

[A> (C) BONE DENSITY TESTING FOR WOMEN AGE THIRTY-FIVE (35) AND OLDER, AS INDICATED BY THE HEALTH CARE PROVIDER, IN ACCORDANCE WITH STANDARD MEDICAL PRACTICE, TO OBTAIN BASELINE DATA FOR THE PURPOSE OF EARLY DETECTION OF OSTEOPOROSIS. <A]

[A> (2) NO INSURER UNDER THIS SECTION SHALL OFFER COVERAGE FOR MASTECTOMIES THAT REQUIRES THE PROCEDURE BE PERFORMED ON AN OUTPATIENT BASIS. <A]

SECTION 6. A NEW SECTION OF SUBTITLE 17A OF KRS CHAPTER 304 IS CREATED TO READ AS FOLLOWS:

[A> (1) NO HEALTH BENEFIT PLAN SHALL DENY COVERAGE, REFUSE TO ISSUE OR RENEW, CANCEL OR OTHERWISE TERMINATE, RESTRICT, OR EXCLUDE ANY PERSON FROM ANY HEALTH BENEFIT PLAN ISSUED OR RENEWED ON OR AFTER THE EFFECTIVE DATE OF THIS ACT, ON THE BASIS OF THE APPLICANT'S OR INSURED'S STATUS AS A VICTIM OF DOMESTIC VIOLENCE AND ABUSE AS DEFINED IN KRS 403.720. <A]

[A> (2) NO HEALTH BENEFIT PLAN SHALL DENY A CLAIM ON THE BASIS OF THE INSURED'S STATUS AS A VICTIM OF DOMESTIC VIOLENCE. <A]

[A> (3) DOMESTIC VIOLENCE SHALL NOT BE CONSIDERED TO BE A PREEXISTING CONDITION. <A]

Section 7. KRS 216.2920 is amended to read as follows:

As used in KRS 216.2920 to 216.2929, unless the context requires otherwise:

(1) "Ambulatory facility" means a facility, including an ambulatory surgical facility, ambulatory care clinic, alternative birth center, mobile health service, or a specialized medical technology service, which is not part of a hospital, and which is licensed pursuant to KRS Chapter 216B, and which provides one (1) or more major ambulatory procedures to patients not requiring hospitalization.

(2) [A> "CABINET" MEANS THE CABINET FOR HUMAN RESOURCES. <A]

[A> (3) <A] "Charge" means all amounts billed by a hospital or ambulatory facility, including charges for all ancillary and support services or procedures, prior to any adjustment for bad debts, charity contractual allowances, administrative or courtesy discounts, or similar deductions from revenue. However, if necessary to achieve comparability of information between providers, charges for the professional services of hospital-based or

1998 KY H.B. 864

ambulatory facility-based physicians shall be excluded from the calculation of charge.

[A> (4) "FACILITY" MEANS ANY HOSPITAL OR OTHER HEALTH CARE FACILITY, WHETHER OPERATED FOR PROFIT OR NOT, REQUIRED TO BE LICENSED PURSUANT TO KRS CHAPTER 216B. <A]

[A> (5) "HEALTH CARE PROVIDER" OR "PROVIDER" MEANS ANY FACILITY AND SERVICE REQUIRED TO BE LICENSED PURSUANT TO KRS CHAPTER 216B, PHARMACIST AS DEFINED PURSUANT TO KRS CHAPTER 315, AND ANY OF THE FOLLOWING INDEPENDENT PRACTICING PRACTITIONERS: <A]

[A> (A) PHYSICIANS, OSTEOPATHS, AND PODIATRISTS LICENSED PURSUANT TO KRS CHAPTER 311; <A]

(A) (B) CHIROPRACTORS LICENSED PURSUANT TO KRS CHAPTER 312; <A]

[A> (C) DENTISTS LICENSED PURSUANT TO KRS CHAPTER 313; <A]

[A> (D) OPTOMETRISTS LICENSED PURSUANT TO KRS CHAPTER 320; <A]

[A> (E) PHYSICIAN ASSISTANTS REGULATED PURSUANT TO KRS CHAPTER 311; <A]

[A> (F) NURSE PRACTITIONERS LICENSED PURSUANT TO KRS CHAPTER 314; <A]

[A> (G) OTHER HEALTH CARE PRACTITIONERS AS DETERMINED BY THE CABINET FOR HUMAN RESOURCES BY ADMINISTRATIVE REGULATION PROMULGATED PURSUANT TO KRS CHAPTER 13A. <A]

[A> (6) <A] [D> (3) <D] "Hospital" means a facility licensed pursuant to KRS Chapter 216B as either an acute care hospital, psychiatric hospital, rehabilitation hospital, or chemical dependency treatment facility.

[A> (7) <A] [D> (4) <D] "Procedures" means those surgical, medical, radiological, diagnostic, or therapeutic, procedures performed by a provider, as periodically determined by the cabinet in administrative regulations promulgated pursuant to KRS Chapter 13A as those for which reports to the cabinet shall be required. "Procedures" also includes procedures that are provided in hospitals or other licensed ambulatory facilities, or those which require the use of special equipment, including fluoroscopic equipment, computer tomographic scanners, magnetic resonance imagers, mammography, ultrasound equipment, or any other new technology as periodically determined by the cabinet.

[A> (8) <A] [D> (5) <D] "Quality" means the extent to which a provider renders care which obtains for patients optimal health outcomes.

[A> (9) <A] [D> (6) <D] "Secretary" means the secretary of the Cabinet for Human Resources.

Section 8. KRS 216.2921 is amended to read as follows:

(1) The Cabinet for Human Resources shall collect, pursuant to KRS 216.2925, analyze, and disseminate information [A> IN A TIMELY MANNER <A] on the cost, quality, and outcomes of health services provided by health facilities and health care providers in the Commonwealth. [A> THE CABINET SHALL MAKE EVERY

1998 KY H.B. 864

EFFORT TO MAKE HEALTH DATA FINDINGS THAT CAN SERVE AS A BASIS TO EDUCATE CONSUMERS AND PROVIDERS FOR THE PURPOSE OF IMPROVING PATIENT MORBIDITY AND MORTALITY OUTCOMES, AVAILABLE TO THE PUBLIC, AND STATE AND LOCAL LEADERS IN HEALTH POLICY, THROUGH THE COST-EFFECTIVE AND TIMELY USE OF THE MEDIA AND THE INTERNET AND THROUGH DISTRIBUTION OF THE FINDINGS TO HEALTH FACILITIES AND HEALTH CARE PROVIDERS FOR FURTHER DISSEMINATION TO THEIR PATIENTS. <A]

(2) The secretary of the Cabinet for Human Resources shall serve as chief administrative officer for the health data collection functions of KRS 216.2920 to 216.2929.

(3) Neither the secretary nor any employee of the cabinet shall be subject to any personal liability for any loss

American Association of Orthopaedic Surgeons

sustained or damage suffered on account of any action or inaction of under KRS 216.2920 to 216.2929.

Section 9. KRS 216.2923 is amended to read as follows:

(1) For the purposes of carrying out the provisions of KRS 216.2920 to 216.2929, the secretary may:

(a) Appoint temporary volunteer advisory committees, which may include individuals and representatives of interested public or private entities or organizations;

(b) Apply for and accept any funds, property, or services from any person or government agency;

(c) Make agreements with a grantor of funds or services, including an agreement to make any study allowed or required under KRS 216.2920 to 216.2929; and

(d) Contract with a qualified, independent third party for any service necessary to carry out the provisions of KRS 216.2920 to 216.2929; however, unless permission is granted specifically by the secretary a third party hired by the secretary shall not release, publish, or otherwise use any information to which the third party has access under its contract.

(2) For the purposes of carrying out the provisions of KRS 216.2920 to 216.2929, the secretary shall:

(a) Publish and make available information that relates to the health care financing and delivery system, the cost of workers' compensation health benefits, motor vehicle health insurance benefits, and health insurance premiums and benefits that is in the public interest;

(b) Periodically participate in or conduct analyses and studies that relate to:

1. Health care costs;
2. Health care quality and outcomes;
3. Health care providers and health services;

1998 KY H.B. 864

4. Health insurance costs; and

5. The cost of health benefits covered by motor vehicle insurance and workers' compensation insurance;

(c) Promulgate administrative regulations pursuant to KRS Chapter 13A that relate to its meetings, minutes, and transactions related to KRS 216.2920 to 216.2929;

(d) Prepare annually a budget proposal that includes the estimated income and proposed expenditures for the administration and operation of KRS 216.2920 to 216.2929; and

(e) [A> NO LATER THAN THIRTY (30) DAYS AFTER THE EFFECTIVE DATE OF THIS ACT, <A] appoint [A> AND CONVENE <A] a permanent advisory committee (A> , WHICH SHALL INCLUDE A MEMBER OF THE KENTUCKY COMMISSION ON WOMEN, <A] to define quality outcome measurements and to advise the cabinet on technical matters including proper interpretation of the data and the manner in which it should be published [A> AND DISSEMINATED TO THE PUBLIC, STATE AND LOCAL LEADERS IN HEALTH POLICY, HEALTH FACILITIES, AND HEALTH CARE PROVIDERS. <A]

(3) All insurers and self-insurers authorized to write motor vehicle, workers' compensation, or health insurance in this state shall transmit at least annually by March 30 to the Department of Insurance the following information on their insurance experience in this state for the preceding calendar year:

(a) Total premiums paid;

(b) Total cost of claims filed and paid;

(c) Total cost of health and medical claims paid for by motor vehicle insurance and by workers' compensation insurance;

(d) Total policies canceled by type and the aggregate reasons therefor;

(e) List of total health and medical services paid for, grouped by types of services and costs:

1. Total cost per health and medical service per

a. Cost paid by insurer;

b. Cost paid by insured; and

2. Percentage of insureds who received each service.

If the secretary finds it necessary for the purposes of carrying out the provisions of KRS 216.2920 to 216.2929, the secretary may require quarterly transmission to the cabinet of the information specified under paragraphs (a) to (e) of this subsection. Nothing in this subsection shall prohibit the cabinet from requesting nonidentifying specific claims data for the purpose of identifying expenditure trends for health and medical claims and developing approaches to cost containment.

1998 KY H.B. 864

(4) The cabinet may promulgate administrative regulations pursuant to KRS Chapter 13A that impose civil fines not to exceed five hundred dollars (\$ 500) for each violation for knowingly failing to file a report as required [A] UNDER KRS 216.2920 TO 216.2929 <A]. The amount of any fine imposed shall not be included in the allowed costs of a facility for Medicare or Medicaid reimbursement.

Section 10. KRS 216.2925 is amended to read as follows:

(1) The Cabinet for Human Resources shall establish by promulgation of administrative regulations pursuant to KRS Chapter 13A, no later than January 1, 1995, those data elements required to be submitted to the cabinet by all licensed hospitals and ambulatory facilities, including a timetable for submission and acceptable data forms. Thereafter, every hospital and ambulatory facility shall be required to report, on a periodic basis, which may include quarterly reporting, information regarding the charge for and quality of the procedures and health care services performed therein, and as stipulated by administrative regulations promulgated pursuant to KRS Chapter 13A. The cabinet shall accept data which, at the option of the provider is submitted through a third party, including, but not limited to, organizations involved in the processing of claims for payment, so long as the data elements conform to the requirements established by the cabinet. The cabinet may conduct statistical surveys of a sample of hospitals, ambulatory facilities, or other providers in lieu of requiring the submission of information by all hospitals, ambulatory facilities, or providers. [A] ON AT LEAST A BIENNIAL BASIS, THE CABINET SHALL CONDUCT A STATISTICAL SURVEY THAT ADDRESSES THE STATUS OF WOMEN'S HEALTH, SPECIFICALLY INCLUDING DATA ON PATIENT AGE, ETHNICITY, GEOGRAPHIC REGION, AND PAYOR SOURCES. <A] The cabinet shall rely on data from readily-available reports and statistics whenever possible.

(2) The cabinet shall require for submission to the cabinet by any group of providers, except for physicians providing services or dispensaries, first aid stations, or clinics located within business or industrial establishments maintained solely for the use of their employees, including those categories within the definition of provider contained in KRS 216.2920 and any further categories determined by the cabinet, at the beginning of each fiscal year after January 1, 1995, and within the limits of the state, federal, and other funds made available to the cabinet for that year, and as provided by cabinet promulgation of administrative regulations pursuant to KRS Chapter 13A, the following:

(a) A list of medical conditions, health services, and procedures for which charge and quality data shall be collected and published at specified time intervals and in a specified manner;

(b) A timetable for filing data, which may include quarterly reporting of the information provided for under paragraph (a) of this subsection;

(c) A list of data elements that are necessary to enable the cabinet to analyze and disseminate risk-adjusted charge, quality, and outcome information, including mortality and morbidity data;

(d) An acceptable format for data submission which shall include use of the uniform health claim form pursuant to KRS 304.14-135 or any other universal health claim form to be determined by the cabinet, and which may be in the

1998 KY H.B. 864

form of magnetic computer tape, computer diskettes, or other electronic media, or through an electronic network, or in the form of hard copy;

(e) Procedures to allow health care providers at least thirty (30) days to review information generated from any data required to be submitted by them, with any reports generated by the cabinet to reflect valid corrections by the provider before the information is released to the public; and

(f) Procedures pertaining to the confidentiality of data collected.

(3) The cabinet shall coordinate its data-gathering activities with other data-collection activities conducted by the Department of Insurance, as well as other state agencies which collect health-related service, utilization, financial, and health care personnel data, and shall review all administrative regulations promulgated pursuant to KRS 216.2920 to 216.2929 to prevent duplicate filing requirements. The cabinet shall periodically review the **use** of all data collected under KRS 216.2920 to 216.2929 to assure its use is consistent with legislative intent.

(4) The cabinet shall conduct outcome analyses and effectiveness studies and prepare other reports pertaining to issues involving health care charges and quality.

(5) The cabinet may independently audit any data required to be submitted by providers as needed to corroborate the accuracy of the submitted data. Any audit may be at the expense of the cabinet and shall, to the extent practicable, be coordinated with other audits performed by state agencies.

(6) The cabinet may initiate activities set forth in subsection (1) or (2) of this section at any time after July 15, 1996.

(7) The Cabinet for Human Resources shall collect all data elements under this section using only the uniform health insurance claim form pursuant to KRS 304.14-135.

SECTION 11. A NEW SECTION OF KRS CHAPTER 194 IS CREATED TO READ AS FOLLOWS:

[A> BY THE YEAR 2000, THERE SHALL BE CREATED IN THE CABINET FOR HUMAN RESOURCES AN OFFICE OF WOMEN'S HEALTH FOR THE PURPOSE OF: <A]

[A> (1) SERVING AS A REPOSITORY FOR DATA AND INFORMATION AFFECTING WOMEN'S HEALTH AND MENTAL HEALTH; <A]

[A> (2) ANALYZING AND COMMUNICATING TRENDS IN WOMEN'S HEALTH ISSUES AND MENTAL HEALTH; <A]

[A> (3) RECOMMENDING TO THE CABINET FOR HUMAN RESOURCES AND TO ANY ADVISORY COMMITTEES CREATED UNDER KRS 216.2923, DATA ELEMENTS AFFECTING WOMEN'S HEALTH AND MENTAL HEALTH THAT SHOULD BE COLLECTED, ANALYZED, AND REPORTED IN A TIMELY MANNER UNDER KRS 216.2920 TO 216.2929; <A]

[A> (4) COOPERATING WITH THE CABINET FOR HUMAN RESOURCES IN RECEIVING AND DISSEMINATING THROUGH THE INTERNET RELEVANT AGGREGATE DATA FINDINGS UNDER KRS 216.2920 TO 216.2929 WHICH AFFECT WOMEN; AND <A]

1998 KY H.B. 864

[A> (5) ADMINISTERING A WOMEN'S HEALTH RESOURCE CENTER TO FOCUS ON TARGETED PREVENTIVE CARE AND COMPREHENSIVE HEALTH EDUCATION. <A]

SECTION 12. A NEW SECTION OF KRS CHAPTER 205 IS CREATED TO READ AS FOLLOWS:

(A> ANY PUBLIC ASSISTANCE RECIPIENT UNDER TITLE IV OF THE FEDERAL SOCIAL SECURITY ACT AND ANY FEDERAL FOOD STAMP PROGRAM RECIPIENT WHO HAS BEEN CONVICTED OF A DRUG FELONY AFTER AUGUST 22, 1996, MAY REMAIN ELIGIBLE FOR THE PROGRAM BENEFITS IF THE RECIPIENT HAS BEEN ASSESSED AS CHEMICALLY DEPENDENT AND IS PARTICIPATING IN OR HAS SUCCESSFULLY COMPLETED A CHEMICAL DEPENDENCY TREATMENT PROGRAM OR IS PREGNANT, AND THE RECIPIENT IS OTHERWISE ELIGIBLE. <A]

Section 13. KRS 314.142 is amended to read as follows:

(1) The Kentucky Board of Nursing shall promulgate administrative regulations pursuant to KRS Chapter 13A to create a Sexual Assault Nurse Examiner Program. These administrative regulations shall address, at a minimum:

(a) Educational requirements for sexual assault nurse examiners and statewide standards for provision of the education;

(b) The application process through which registered nurses who submit documentation of required education and clinical experience and who remit the designated application fee may apply to the board to be credentialed as a "Sexual Assault Nurse Examiner";

(c) Continuing education requirements for maintenance of the sexual assault nurse examiner credential; and

(d) Methods of monitoring overall program implementation.

(2) For the purpose of providing recommendations to the Kentucky Board of Nursing on the development and implementation of the Sexual Assault Nurse Examiner Program, there is hereby created a [D> fourteen (14) member <D] Sexual Assault Nurse Examiner Advisory Council. The following members shall serve on the council by virtue of their office: the executive director of the Kentucky Board of Nursing or the executive director's designee; the executive director of the Kentucky Hospital Association or the executive director's designee; the state medical examiner or the examiner's designee; the (A> COMMISSIONER OF THE DEPARTMENT FOR SOCIAL SERVICES <A) [D> secretary <D] of the Cabinet for Human Resources or the [A> COMMISSIONER'S <A) [D> secretary's <D] designee; [A> THE EXECUTIVE DIRECTOR OF THE GOVERNOR'S OFFICE OF CHILD ABUSE AND DOMESTIC VIOLENCE SERVICES OR THE EXECUTIVE DIRECTOR'S DESIGNEE; <A] the president of the [A> KENTUCKY ASSOCIATION OF SEXUAL ASSAULT PROGRAMS <A) [D> Statewide Association of Rape Crisis Centers <D] or the president's designee; the commissioner of the Department for Health Services of the Cabinet for Human Resources or the commissioner's designee; [A> THE COMMISSIONER OF THE KENTUCKY STATE POLICE OR THE COMMISSIONER'S DESIGNEE; <A] the chair of the (A> KENTUCKY ASSOCIATION OF BACCALAUREATE AND HIGHER DEGREE NURSING PROGRAMS <A) [D> Council on Postsecondary Education <D] or the chair's designee; the director of the Victim's Advocacy Division of the Office of the Attorney General or the director's designee; the director of the Prosecutors Advisory Council of the Office of the Attorney General or the director's designee; and the director of the Kentucky State Police Crime Lab or the director's designee. Two (2) members shall be registered nurses with forensic experience appointed by the Governor

American Association of Orthopaedic Surgeons

PAGE 30

1998 KY H.B. 864

from a list of three (3) names recommended by the Kentucky Nurses Association. [A> ONE (1) MEMBER SHALL BE A PHYSICIAN WITH FORENSIC EXPERIENCE APPOINTED BY THE GOVERNOR FROM A LIST OF THREE (3) NAMES RECOMMENDED BY THE KENTUCKY MEDICAL ASSOCIATION. <A] Two (2) members with a demonstrated interest and experience in victims' services shall be appointed by the Governor to serve as at-large members. Of the at-large members, one (1) shall be appointed from a list of three (3) names recommended by the Kentucky Board of Nursing and one (1) from a list of three (3) names recommended by the Cabinet for Human Resources.

(3) Members shall serve at the pleasure of the appointing authority but shall not serve longer than four (4) years without reappointment.

(4) The chair of the advisory council shall be elected by a majority vote of council members.

(5) Each member of the council may be reimbursed for necessary expenses incurred in attending its meetings from funds available through the collection of fees required under subsection (1) of this section.

[A> (6) ANY PERSON IN THIS STATE WHO HOLDS A CREDENTIAL AS A SEXUAL ASSAULT NURSE EXAMINER AS DEFINED IN KRS 314.011(14) SHALL HAVE THE RIGHT TO USE THE TITLE "SEXUAL ASSAULT NURSE EXAMINER" AND THE ABBREVIATION "SANE". NO OTHER PERSON SHALL ASSUME THE TITLE OR USE THE ABBREVIATION OR ANY OTHER WORDS, LETTERS, SIGNS, OR FIGURES TO INDICATE THAT THE PERSON USING THE SAME IS A SEXUAL ASSAULT NURSE EXAMINER. <A]

Section 14. If the reorganization of the Cabinet for Human Resources into the Cabinet for Families and Children and the Cabinet for Health Services is confirmed by this 1998 Regular Session of the General Assembly, the reference to the Cabinet for Human Resources appearing in subsections (2) and (5) of Section 7 of this Act and throughout Section 11 of this Act shall be codified as the Cabinet for Health Services.

Section 15. This Act may be cited as the Women's Health Act of 1998.

SPONSOR: Palumbo

LOAD-DATE: April 11, 1998

In bill text, brackets have special meaning:

[A> <A] contains added text, and [D> <D]
contains deleted text.

Louisiana 1999 Regular Session 1999 LA S 4
Enacted
06/09/1999
Bajoie
Regular Session, 1999

SENATE BILL NO. 4
BY SENATOR BAJOIE AND REPRESENTATIVES ANSARDI, MURRAY AND WILKERSON
AN ACT

To enact R.S. 22:215.16, relative to health insurance coverage; to provide for coverage for bone mass measurement; and to provide for related matters. Be it enacted by the Legislature of Louisiana:

Section 1. R.S. 22:215.16 is hereby enacted to read as follows:

Section 215.16. Osteoporosis; bone mass measurement; mandatory coverage [A> R.S. 22:215.16
is all new law. <A]

A. Any hospital, health, or medical expense insurance policy, hospital or medical service contract, employee welfare benefit plan, health and accident insurance policy, or any other insurance contract of this type, including a group insurance plan, and a self-insurance plan that provides medical and surgical benefits for accident and health services, which is delivered or issued for delivery in this state on or after January 1, 2000, shall include coverage for a qualified individual for scientifically proven bone mass measurement for the diagnosis and treatment of osteoporosis.

B. As used in this Section, the following definitions shall apply:

(1) "Bone mass measurement" means a radiologic or radioisotopic procedure or other scientifically proven technologies performed on an individual for the purpose of identifying bone mass or detecting bone loss.

(2) "Qualified individual" means:

(a) An estrogen deficient woman at clinical risk of osteoporosis who is considering treatment.

(b) An individual receiving long term steroid therapy.

(c) An individual being monitored to assess the response to or efficacy of approved osteoporosis drug therapies.

C. Nothing in this Section shall apply to individually underwritten limited benefit health insurance policies.

Section 2. Any health insurance policy or benefit program in effect prior to January 1, 2000, shall be amended on its renewal date to conform to the provisions of this Section.

In bill text, brackets have special meaning:

[A> <A] contains added text, and [D> <D1
contains deleted text.

North Carolina General Assembly of NC - Session of 1999
1999 NC H
314 Enacted
06/21/1999
Boyd-
McIntyre

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 1999 HOUSE BILL 314

RATIFIED BILL

AN ACT TO REQUIRE HEALTH AND ACCIDENT INSURANCE POLICIES, HOSPITAL OR MEDICAL SERVICES PLANS, AND HMO PLANS TO PROVIDE COVERAGE FOR BONE MASS MEASUREMENT FOR THE DIAGNOSIS AND EVALUATION OF OSTEOPOROSIS.

Whereas, osteoporosis or low bone mass is a public health hazard to over one million North Carolinians age 50 and over; and

Whereas, each year more than 13,000 North Carolinians are hospitalized for hip fractures alone resulting in more than \$57 million in direct medical costs; and

Whereas, osteoporosis or low bone mass is a silent disease, typically undiagnosed until a fracture occurs, and once a fracture occurs, osteoporosis or low bone mass is already substantially advanced and has a high risk of additional fractures; and

Whereas, one of two women over age 50 and one of eight men over age 50 will suffer at least one osteoporotic fracture during late life; and

Whereas, osteoporosis or low bone mass has no cure, pharmaceutical or otherwise, but prevention, early diagnosis, and treatment can be key to reducing the prevalence of this disease as well as its negative impact on individuals; and

Whereas, osteoporosis or low bone mass not only increases the likelihood of fracture and nursing home placement but also increases the risk of depression, loss of self-esteem, anxiety, chronic pain, poor social relationships, and loss of employment; and

Whereas, it is cost-effective to mandate coverage of bone mass measurement because it leads to early diagnosis, intervention, and prevention of fracture and, therefore, reduces unnecessary health care expenditures; and

Whereas, bone mass measurement reliably detects low bone mass and helps to ascertain the extent of bone loss to determine an individual's future fracture risk which helps individuals and health care professionals to select appropriate therapies and interventions; and

Whereas, conventional X rays cannot accurately diagnose osteoporosis or low bone mass in the absence of fracture; and

9/28/9

Whereas, scientifically proven technologies for bone mass measurement and other services related to the diagnosis and treatment of osteoporosis or low bone mass can be used effectively to reduce the physical, emotional, social, and financial burden that this disease inflicts upon its victims; Now, therefore,

The General Assembly of North Carolina enacts:

Section 1. Effective January 1, 2000, Article 3 of Chapter 58 of the General Statutes is amended by adding the following new section to read:

" [A> Section 58-3-174. Coverage for bone mass measurement for diagnosis and evaluation of osteoporosis or low bone mass. <A]

[A> (a) Every entity providing a health benefit plan shall provide coverage for a qualified individual for scientifically proven and approved bone mass measurement for the diagnosis and evaluation of osteoporosis or low bone mass. The same deductibles, coinsurance, and other limitations as apply to similar services covered under the plan shall apply to coverage for bone mass measurement. <A]

[A> (b) A health benefit plan may provide that bone mass measurement will be covered if at least 23 months have elapsed since the last bone mass measurement was performed, except that a plan must provide coverage for follow-up bone mass measurement performed more frequently than every 23 months if the follow-up measurement is medically necessary. Conditions under which more frequent bone mass measurement coverage may be medically necessary include, but are not limited to: <A)

[A> (1) Monitoring beneficiaries on long-term glucocorticoid therapy of more than three months.
<A]

[A> (2) Allowing for a central bone mass measurement to determine the effectiveness of adding an additional treatment regimen for a qualified individual who is proven to have low bone mass so long as the bone mass measurement is performed 12 to 18 months from the start date of the additional regimen. <A]

benefit plans to cover screening for nonqualified individuals. <A] [A> (d) As used in

[A> (1) 'Bone mass measurement' means a scientifically proven radiologic, radioisotopic, or other procedure performed on a qualified individual to identify bone mass or detect bone loss for the purpose of initiating or modifying treatment. <A]

[A> (2) 'Health benefit plan' means an accident and health insurance policy or certificate; a nonprofit hospital or medical service corporation contract; a health **maintenance** organization subscriber contract; a plan provided by a multiple employer welfare arrangement; or a plan provided by another benefit arrangement, to the extent permitted by the Employee Retirement Income Security Act of 1974, as amended, or by any waiver of or other exception to that act provided under federal law or regulation. 'Health benefit plan' does not mean any plan implemented or administered by the North Carolina Department of Health and Human Services or the United States Department of Health and Human Services, or any successor agency, or its representatives. 'Health benefit plan' also does not mean any of the following kinds of insurance: <A]

[A> a. Accident <A]

[A> b. Credit <A]

[A> c. Disability income <A]

[A> d. Long-term care or nursing home care <A] e. Medicare

American Association of Orthopaedic Surgeons

supplement <A]

[A> f. Specified disease <A]

[A> g. Dental or vision.

[A> h. Short-term limited duration coverage

[A> i. Coverage issued as a supplement to liability insurance <A]

[A> j. Workers' compensation k. Medical payments under automobile or homeowners <A]

(A> 1. Hospital income or indemnity <A]

[A> m. Insurance under which benefits are payable with or without regard to fault and that is statutorily required to be contained in any liability policy or equivalent self-insurance. <A]

[A> (3) 'Insurer' includes an insurance company subject to this Chapter, a service corporation organized under Article 65 of this Chapter, a health maintenance organization organized under Article 67 of this Chapter, and a multiple employer welfare arrangement subject to Article 49 of this Chapter.
<A]

[A> (4) 'Qualified individual' means any one or more of the following: <A]

[A> a. An individual who is estrogen- deficient and at clinical risk of osteoporosis or low bone mass. <A]

[A> b. An individual with radiographic osteopenia anywhere in the skeleton. <A]

[A> c. An individual who is receiving long-term glucocorticoid (steroid) therapy. <A]

[A> d. An individual with primary hyperparathyroidism. <A]

[A> e. An individual who is being monitored to assess the response to or efficacy of commonly accepted osteoporosis drug therapies. <A]

[A> f. An individual who has a history of low-trauma fractures. <A]

[A> g. An individual with other conditions or on medical therapies known to cause osteoporosis or low bone mass. <A] "

Section 2. Effective January 1, 2000, G.S. 58-50-155 reads as rewritten: " Section 58-50-155. Standard and basic health care plan coverages.

(a) Notwithstanding G.S. 58-50-125(c), the standard health plan developed and approved under G.S. 58-50-125 shall provide coverage for [D> mammograms and pap smears at least equal to the coverage required by G.S. 58-51-57. <D]

[D> (a) Notwithstanding G.S. 58-50-125(c), the standard health plan developed and approved under G.S. 58-50-125 shall provide coverage for prostate-specific antigen (PSA) tests or equivalent tests for the presence of prostate cancer at least equal to the coverage required by G.S. 58-51-58. <D]

Display Text By Bill Number

[D> (a2) Notwithstanding G.S. 58-50- 123(c), the standard health plan developed and approved under G.S. 58-50-125 shall provide coverage for reconstructive breast surgery resulting from a mastectomy at least equal to the coverage required by G.S. 58-51-62. <D] [A> all of the following: <A]

(A> (1) Mammograms and pap smears at least equal to the coverage required by G.S. 58-51-57. <A]

[A> (2) Prostate-specific antigen (PSA) tests or equivalent tests for the presence of prostate cancer at least equal to the coverage required by G.S. 58-51-58. <A]

[A> (3) Reconstructive breast surgery resulting from a mastectomy at least equal to the coverage required by G.S. 58-51-62. <A]

[A> (4) For a qualified individual, scientifically proven bone mass measurement for the diagnosis and evaluation of osteoporosis or low bone mass at least equal to the coverage required by G.S. 58-3-174. <A]

(b) Notwithstanding G.S. 58-50-125(c), in developing and approving the plans under G.S. 58-50-125, the Committee and Commissioner shall give due consideration to cost-effective. and life-saving health care services and to cost-effective health care providers. [D> This section shall be effective after July 10, 1991. <D] "

Section 3. This act is effective when it becomes law and applies to health benefit plans that are delivered, issued for delivery, or renewed on and after January 1, 2000. For purposes of this act, renewal of a health benefit plan is presumed to occur on each *anniversary* of the date *on* which coverage was first effective *on* the person or persons covered by the health benefit plan. In the General Assembly read three times and ratified this the 10th day of June, 1999.

88TH DOCUMENT of Level 1 printed in FULL format.

TENNESSEE CODE ANNOTATED
Copyright (c) 1955-1997 by The State of Tennessee
All rights reserved.

*** THIS SECTION IS CURRENT THROUGH THE 1997 SUPPLEMENT ***

(1997 SESSION OF THE GENERAL ASSEMBLY) **

TITLE 56. INSURANCE
CHAPTER 7. POLICIES AND POLICYHOLDERS PART 25. MANDATED INSURER OR PLAN OPTIONS

Tenn. Code Ann. § 56-7-2506 (1997) 56-7-2506.

Bone mass measurement coverage -- Osteoporosis

(a) This section shall be known and may be cited as the "Bone Mass Measurement Coverage Act."

(b) The general assembly hereby finds the following:

(1) Osteoporosis affects twenty-five million (25,000,000) Americans and each year results in 1.5 million (1,500,000) fractures of the hip, spine, wrist, and other bones, costing the nation at least eighteen billion dollars (\$18,000,000,000).

(2) Osteoporosis progresses silently, in most cases undiagnosed until a fracture occurs, and once a fracture occurs, the disease is already advanced, and the likelihood is high that another fracture will occur;

(3) One (1) in two (2) women and one (1) in five (5) men will suffer a fracture due to osteoporosis in their lifetime;

(4) Because osteoporosis progresses silently and currently has no cure, early diagnosis and treatment are key to reducing the prevalence and devastation of this disease;

(5) Medical experts agree that osteoporosis is preventable and treatable; however, once the disease progresses to the point of fracture its associated consequences often lead to disability and institutionalization, and exact a heavy toll on the quality of life;

(6) Given the current national focus on health care reform and the reduction of unnecessary health care expenditures through the use of health promotion programs, bone mass measurement, related to the early diagnosis and the timely treatment of osteoporosis is a cost effective approach for Tennessee to embrace;

(7) Bone mass measurement is a reliable way to detect the presence of low bone mass and to ascertain the extent of bone loss to help assess the individual's risk for fracture, and this aids in selecting appropriate therapies and interventions; ordinary x-rays are not sensitive enough to detect osteoporosis until twenty-five to forty percent (25-40%) of bone mass has been

Tenn. Code Ann. § 56-7-2506 (1997)

Page 24

lost, and the disease is far advanced;

(8) While there are currently available technologies for bone mass measurement, other technologies for measuring bone mass are under investigation and may become scientifically proven technologies in the future; and

(9) Scientifically proven technologies for bone mass measurement and other services related to the

American Association of Orthopaedic Surgeons

diagnosis and treatment of osteoporosis can be used effectively to reduce the pain and financial burden that osteoporosis inflicts upon its victims.

(c) The purpose of this section is to provide coverage to individuals with a condition or medical history for which bone mass measurement (bone density testing) is determined to be medically necessary for the individual's attending physician or primary care provider for the diagnosis and treatment of osteoporosis.

(d) (1) Any individual, franchise, blanket or group health insurance policy, medical service plan, contract, hospital service corporation contract, hospital and medical service corporation contract, fraternal benefit society, or health maintenance organization which provides coverage for accident and health services, and which is delivered, issued for delivery, amended or renewed on or after July 1, 1996, may also provide coverage for a qualified individual for scientifically proven bone mass measurement (bone density testing) for the diagnosis and treatment of osteoporosis.

(2) Any increase in expenditure requirements on a municipality or a county resulting from the provisions of this subsection shall be appropriated from funds that such municipality or county receives from the state-shared taxes that are not earmarked by statute for a particular purpose.

(3) The provisions of this subsection do not apply to short-term travel, long-term care, credit insurance, dental insurance, disability income, medical surgical supplemental insurance, vision insurance, hospital indemnity, accident-only limited or specified disease policies, or to short-term nonrenewable policies of not more than **six** (6) months' duration.

(4) For the purposes of this subsection:

(A) "Bone mass measurement" means a radiologic or radioisotopic procedure or other scientifically proven technologies performed on an individual for the purpose of identifying bone mass or detecting bone loss; and

(B) "Qualified individual" means a person with a condition for which bone mass measurement is determined to be medically necessary by the person's attending physician or primary care physician.

HISTORY: Acts 1996, ch. 969, §§ 1, 3, 4.

NOTES:

EFFECTIVE DATES. Acts 1996, ch. 969, § 5. May 13, 1996.

CROSS-REFERENCES. Osteoporosis treatment and education, title 68, ch. 1, part 15.

96TH DOCUMENT of Level 1 printed in FULL format.

TEXAS STATUTES AND CODES

*** THIS DOCUMENT IS CURRENT THROUGH THE 1998 SUPPLEMENT (1997 SESSION) ***

INSURANCE CODE
CHAPTER TWENTY-ONE--GENERAL PROVISIONS
SUBCHAPTER E. MISCELLANEOUS PROVISIONS

Tex. Ins. Code art. 21.53C (1998)

Art. 21.53C. Benefits for Detection and Prevention of Osteoporosis Under Group Policies

(a) In this article, "group health insurance policy" means a group insurance, policy, group hospital service contract, or group contract issued by a health maintenance organization that is delivered, issued for delivery, or renewed in this state and that provides benefits for medical or surgical expenses incurred as a result of accident or sickness.

(b) "Qualified individual" means:

(1) a postmenopausal woman who is not receiving estrogen replacement therapy;

(2) an individual with:

(A) vertebral abnormalities;

(B) primary hyperparathyroidism; or (C) a history

of bone fractures; or (3) an individual who is:

(A) receiving long-term glucocorticoid therapy; or

(B) being monitored to assess the response to or efficacy of an approved osteoporosis drug therapy.

(c) A group health insurance policy must provide coverage for a qualified individual covered by the policy for medically accepted bone mass measurement for the detection of low bone mass and to determine the person's risk of osteoporosis and fractures associated with osteoporosis.

46TH DOCUMENT of Level 1 printed in FULL format.

THE STATE OF VERMONT
BILL TEXT
STATENET

Copyright (c) 1998 by Information for Public Affairs, Inc.

VERMONT 65TH ADJOURNED SESSION

HOUSE BILL 725

BILL AS INTRODUCED H.725

INTRODUCED BY REPRESENTATIVES ALFANO OF CALAIS AND PUGH OF SOUTH BURLINGTON
REFERRED TO COMMITTEE ON DATE:

SUBJECT: BANKING AND INSURANCE; HEALTH INSURANCE; VERMONT HEALTH ACCESS PLAN;
WOMEN'S HEALTH CARE

STATEMENT OF PURPOSE: THIS BILL PROPOSES TO REQUIRE THAT HEALTH INSURANCE
PLANS PROVIDE FAIR ACCESS TO MEDICALLY NECESSARY HEALTH CARE FOR WOMEN.

1997 VT H.B. 725

VERSION: Introduced

VERSION-DATE: January 30, 1998

SYNOPSIS:

AN ACT RELATING TO FAIR ACCESS TO WOMEN'S HEALTH CARE

NOTICE:

[A> UPPERCASE TEXT WITHIN THESE SYMBOLS IS ADDED <A]

TEXT: It is hereby enacted by the General Assembly of the State of Vermont: Sec. 1. 8 V.S.A. Section

4089d is added to read: [A> SECTION 4089D. WOMEN'S HEALTH CARE <A]

[A> (A) AS USED IN THIS SECTION: <A]

[A> (1) "DOMESTIC ABUSE" HAS THE MEANING OF THE TERM "ABUSE" AS DEFINED IN
SUBDIVISIONS 1101(1) (A) AND (B) OF TITLE 15. <A]

[A> (2) "GYNECOLOGICAL HEALTH CARE" MEANS PREVENTIVE AND ROUTINE REPRODUCTIVE
HEALTH AND GYNECOLOGICAL CARE, INCLUDING ANNUAL SCREENING, COUNSELING, IMMUNIZATION
FOR DISORDERS AND DISEASES AND TREATMENT OF GYNECOLOGICAL DISORDERS AND DISEASES IN
ACCORDANCE WITH THE MOST CURRENT PUBLISHED RECOMMENDATIONS OF THE AMERICAN
COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS. <A]

[A> (3) "GYNECOLOGICAL HEALTH CARE PROVIDER" MEANS AN OBSTETRICIAN, GYNECOLOGIST,
OR OTHER GYNECOLOGICAL HEALTH SERVICES FACILITY OR PROVIDER, INCLUDING NURSE
PRACTITIONERS, PHYSICIAN'S ASSISTANTS, CERTIFIED NURSE MIDWIVES AND GYNECOLOGICAL
HEALTH SERVICES PROVIDERS PRACTICING IN COMMUNITY CLINICS. <A]

1997 VT H.B. 725

[A> (4) "HEALTH INSURANCE PLAN" MEANS ANY INDIVIDUAL OR GROUP HEALTH INSURANCE POLICY OR HEALTH BENEFIT PLAN OFFERED BY A HEALTH INSURER, AS DEFINED IN 18 V.S.A. SECTION 9402(7), AND INCLUDES ANY HEALTH BENEFIT PLAN OFFERED OR ADMINISTERED BY THE STATE, BY ANY SUBDIVISION OR INSTRUMENTALITY OF THE STATE OR BY ANY EMPLOYER DOING BUSINESS IN THIS STATE THAT RECEIVES MORE THAN 50 PERCENT OF ITS ANNUAL GROSS REVENUES FROM STATE REVENUE SOURCES. THE TERM DOES NOT APPLY TO COVERAGE FOR A SPECIFIC DISEASE OR OTHER LIMITED BENEFIT COVERAGE. <A]

[A> (5) "OUTPATIENT CONTRACEPTIVE SERVICES" MEANS CONSULTATIONS, EXAMINATIONS, PROCEDURES, AND MEDICAL SERVICES PROVIDED ON AN OUTPATIENT BASIS, AND RELATED TO THE USE OF CONTRACEPTIVE METHODS TO PREVENT PREGNANCY. <A]

[A> (6) "RATE, TERM OR CONDITION" MEANS ANY LIFETIME OR ANNUAL PAYMENT LIMITS, DEDUCTIBLES, COPAYMENTS, COINSURANCE AND ANY OTHER COST-SHARING REQUIREMENTS, OUT-OF-POCKET LIMITS, VISIT LIMITS AND ANY OTHER FINANCIAL COMPONENT OF HEALTH INSURANCE COVERAGE THAT AFFECTS THE INSURED. <A]

[A> (7) "RECONSTRUCTIVE BREAST SURGERY" MEANS SURGERY PERFORMED AS A RESULT OF A MASTECTOMY TO REESTABLISH SYMMETRY BETWEEN TWO BREASTS, AND INCLUDES AUGMENTATION MAMMOPLASTY, REDUCTION MAMMOPLASTY, AND MASTOPEXY. <A]

[A> (B) OBSTETRICAL AND GYNECOLOGICAL HEALTH CARE. <A]

[A> (1) A HEALTH INSURANCE PLAN UTILIZING HEALTH CARE PROVIDERS UNDER CONTRACT, OR OTHERWISE AFFILIATED WITH THE PLAN, SHALL PROVIDE COVERAGE FOR GYNECOLOGICAL HEALTH CARE THAT PERMITS ANY FEMALE INSURED UNDER THE PLAN DIRECT ACCESS, WITHOUT REFERRAL TO ANY GYNECOLOGICAL HEALTH CARE PROVIDER UNDER CONTRACT TO THE PLAN FOR GYNECOLOGICAL HEALTH CARE SERVICES COVERED UNDER THE PLAN, INCLUDING MEDICALLY INDICATED FOLLOW-UP CARE. <A]

[A> (2) A HEALTH INSURANCE PLAN SHALL NOT ESTABLISH ANY RATE, TERM OR CONDITION THAT PLACES A GREATER FINANCIAL BURDEN ON AN INSURED OR BENEFICIARY FOR ACCESS TO GYNECOLOGICAL HEALTH CARE COVERAGE THAN FOR ACCESS TO TREATMENT FOR ANY OTHER HEALTH CONDITION. A HEALTH INSURANCE PLAN SHALL NOT IMPOSE ADDITIONAL COPAYMENTS OR DEDUCTIBLES FOR DIRECT ACCESS TO NETWORK-PARTICIPATING GYNECOLOGICAL HEALTH CARE PROVIDERS FOR FEMALE INSUREDS, UNLESS THE ADDITIONAL COST-SHARING IS IMPOSED ON ALL INSURANCE FOR ALL HEALTH CARE SERVICES PROVIDED UNDER THE PLAN. <A]

[A> (C) CONTRACEPTIVE SERVICES, PRESCRIPTIONS AND DEVICES. A HEALTH INSURANCE PLAN SHALL PROVIDE COVERAGE FOR OUTPATIENT CONTRACEPTIVE SERVICES, INCLUDING STERILIZATIONS, AND COVERAGE FOR THE PURCHASE OF PRESCRIPTION CONTRACEPTIVES AND CONTRACEPTIVE DEVICES APPROVED BY THE FEDERAL FOOD AND DRUG ADMINISTRATION. A HEALTH INSURANCE PLAN SHALL NOT ESTABLISH ANY RATE, TERM OR CONDITION THAT PLACES A GREATER FINANCIAL BURDEN ON AN INSURED OR BENEFICIARY FOR ACCESS TO CONTRACEPTIVE SERVICES, PRESCRIPTIONS AND DEVICES THAN FOR ACCESS TO TREATMENT, PRESCRIPTIONS OR DEVICES FOR ANY OTHER HEALTH CONDITION. <A]

[A> (D) OSTEOPOROSIS SERVICES. A HEALTH INSURANCE PLAN SHALL PROVIDE COVERAGE FOR OSTEOPOROSIS SCREENING AND SERVICES, INCLUDING ALL TECHNOLOGIES APPROVED BY THE FEDERAL FOOD AND DRUG ADMINISTRATION, AND BONE MASS MEASUREMENT SCREENING BY BONE DENSITY FOR THE DETECTION OF OSTEOPOROSIS. BENEFITS PROVIDED SHALL BE AT LEAST AS FAVORABLE AS COVERAGE FOR OTHER RADIOLOGICAL EXAMINATIONS OR OTHER SIMILAR SERVICES, AND SUBJECT TO THE SAME DOLLAR LIMITS, DEDUCTIBLES, COINSURANCE FACTORS, AND OTHER RATES, TERMS AND CONDITIONS OF THE PLAN. <A]

1997 VT H.B. 725

[A> (E) CRANIOFACIAL DISORDERS. A HEALTH INSURANCE PLAN SHALL PROVIDE COVERAGE FOR DIAGNOSIS AND TREATMENT WHICH IS MEDICALLY NECESSARY AND A RESULT OF ACCIDENT, TRAUMA, CONGENITAL DEFECT, DEVELOPMENTAL DEFECT, OR PATHOLOGY, INCLUDING SURGICAL AND NONSURGICAL PROCEDURES FOR MUSCULOSKELETAL DISORDERS AFFECTING ANY BONE OR JOINT IN THE FACE, NECK OR HEAD. THIS COVERAGE SHALL BE PROVIDED WHEN PRESCRIBED OR ADMINISTERED BY A PHYSICIAN OR A DENTIST. A HEALTH INSURANCE PLAN SHALL NOT ESTABLISH ANY RATE, TERM OR CONDITION THAT PLACES A GREATER FINANCIAL BURDEN ON AN INSURED OR BENEFICIARY FOR ACCESS TO TREATMENT OF CRANIOFACIAL DISORDERS THAN FOR ACCESS TO TREATMENT FOR ANY OTHER MUSCULOSKELETAL DISORDER. THIS SECTION SHALL NOT BE CONSTRUED TO REQUIRE COVERAGE FOR DENTAL SERVICES FOR THE DIAGNOSIS OR TREATMENT OF DENTAL DISORDERS OR DENTAL PATHOLOGY PRIMARILY AFFECTING THE GUMS, TEETH, OR ALVEOLAR RIDGE. <A]

[A> (F) RECONSTRUCTIVE BREAST SURGERY. A HEALTH INSURANCE PLAN SHALL PROVIDE COVERAGE FOR RECONSTRUCTIVE BREAST SURGERY RESULTING FROM BREAST SURGERY IN CONNECTION WITH A MASTECTOMY. SUCH COVERAGE SHALL INCLUDE COVERAGE FOR ALL STAGES OF RECONSTRUCTIVE BREAST SURGERY PERFORMED ON A NONDISEASED BREAST TO ESTABLISH SYMMETRY WITH THE DISEASED WHEN RECONSTRUCTION ON THE DISEASED BREAST IS PERFORMED. THE PLAN SHALL NOT DENY SUCH COVERAGE ON THE BASIS THAT THE COVERAGE IS FOR COSMETIC SURGERY. BENEFITS PROVIDED SHALL BE AT LEAST AS FAVORABLE AS COVERAGE FOR ANY OTHER MEDICALLY NECESSARY SURGERY, AND SUBJECT TO THE SAME DOLLAR LIMITS, DEDUCTIBLES, COINSURANCE FACTORS, AND OTHER RATES, TERMS AND CONDITIONS OF THE PLAN. <A]

[A> (G) DOMESTIC ABUSE. A HEALTH INSURANCE PLAN SHALL NOT DISCRIMINATE, WITH REGARD TO UNDERWRITING STANDARDS, RATES, OR OTHER ACTS OR PRACTICES RELATING TO HEALTH INSURANCE, AGAINST ANY APPLICANT, INSURED, BENEFICIARY, OR A PERSON AFFILIATED WITH SUCH PERSONS ON THE BASIS THAT SUCH APPLICANT, INSURED, BENEFICIARY, OR OTHER PERSON IS OR HAS BEEN SUBJECT TO DOMESTIC ABUSE. <A]

[A> (H) A HEALTH INSURANCE PLAN THAT PROVIDES COVERAGE FOR ANY MEDICATIONS AND DRUGS PRESCRIBED IN CONNECTION WITH CARE AND TREATMENT SUBJECT TO THE PROVISIONS OF THIS SECTION SHALL INCLUDE COVERAGE FOR SUCH MEDICATIONS AND DRUGS THAT ARE DISPENSED BY ANY RURAL OR OTHER HEALTH CLINICS, PLANNED PARENTHOOD CLINICS, AND SUCH OTHER DISPENSARIES AS ARE AUTHORIZED BY THE LAWS OF THIS STATE TO DISPENSE SUCH PRESCRIPTION MEDICATIONS AND DRUGS. <A]

Sec. 2. EFFECTIVE DATE; NOTICE TO INSURED

[A> (A) THIS ACT SHALL TAKE EFFECT ON PASSAGE, AND SHALL APPLY TO HEALTH INSURANCE PLANS ON AND AFTER OCTOBER 1, 1998. <A]

[A> (B) UPON RENEWAL, AND NO LATER THAN OCTOBER 1, 1999, A HEALTH INSURANCE PLAN SHALL PROVIDE TO ALL FEMALE INSURED UNDER THE PLAN WRITTEN NOTICE OF THE REQUIREMENTS OF THIS ACT, <A]

[A> INCLUDING THE APPLICABLE PROVISIONS OF THE BENEFIT HANDBOOK, ENROLLMENT FORMS, AND AN EXPLANATION OF THE TERMS AND CONDITIONS OF COVERAGE UNDER THE HEALTH INSURANCE PLAN. <A]

SPONSOR: Alfao

LOAD-DATE: January 31, 1998

PREVENTION AND EDUCATION LEGISLATION

Model prevention and treatment education legislation

Examples of actual state legislation

MODEL LEGISLATION

"Osteoporosis Prevention and Treatment Education Act"

A Bill

To amend the state _____ (public health law or appropriate law) to establish the Osteoporosis Prevention and Treatment Education Program, to authorize appropriations, and for other purposes.

Section 1: SHORT TITLE

This Act may be cited as the "Osteoporosis Prevention and Treatment Education Act."

Section 2: FINDINGS AND PURPOSES.

(A) FINDINGS. The legislature hereby finds the following:

(1) osteoporosis, a bone-thinning *disease*, is a major public health problem that poses a threat to the health and quality of life to as many as 28 million Americans,

(2) the 1.5 million fractures each year that result from osteoporosis *cause* pain, disability, immobility and social isolation, affecting quality of life and threatening people's ability to live independently;

(3) because osteoporosis progresses silently and without sensation over many years, and many cases remain undiagnosed, its first symptom is often a fracture, typically of the hip, spine, or wrist;

(4) one of two women and one of eight men will suffer an osteoporotic fracture in their lifetime;

(5) a woman's risk of hip fracture is equal to her combined risk of breast, uterine, and ovarian cancer,

(6) the annual medical costs of osteoporosis to the health care system are estimated to be nearly \$13.8 billion, and are expected to rise to \$60.8 billion by the year 2020;

American Association of Orthopaedic Surgeons

(7) since osteoporosis progresses silently and currently has no cure, prevention, early diagnosis, and treatment are key to reducing the prevalence of and devastation from this disease;

(8) although there exists a large quantity of public information about osteoporosis, it remains inadequately disseminated and not tailored to meet the needs of specific population groups;

(9) most people, including physicians, health care providers, and government agencies, continue to lack knowledge in the prevention, detection, and treatment of the disease;

(10) experts in the field of osteoporosis believe that with greater awareness among medical experts, service providers, and the public, osteoporosis can be prevented in the future, thereby reducing the costs of long-term care;

(11) osteoporosis is a multi-generational issue because building strong bones during youth and preserving them during adulthood may prevent fractures in later life; and

(12) educating the public and health care community throughout the state about this potentially devastating disease is of paramount importance and is in every respect in the public interest and to the benefit of all residents of the state of _____

(B) PURPOSES. The purposes of this Act are:

(1) to create and foster a multi-generational, statewide program to promote public awareness and knowledge about the causes of osteoporosis, personal risk factors, the value of prevention and early detection and, the options available for treatment;

(2) to facilitate and enhance knowledge and understanding of osteoporosis by disseminating educational materials, information about research results, services, and strategies for prevention and treatment to patients, health professionals, and the public;

(3) to utilize educational and training resources and services that have been developed by organizations with appropriate expertise and knowledge of osteoporosis and to use available technical assistance;

(4) to evaluate existing osteoporosis services in the community and assess the need for improving the quality and accessibility of community-based services;

American Association of Orthopaedic Surgeons

(5) to provide easy access to clear, complete, and accurate osteoporosis information and referral services;

(6) to educate and train service providers, health professionals, *and* physicians;

(7) to heighten awareness about the prevention, detection, and treatment of osteoporosis among state and local health and human service *officials*, health educators, and policy makers;

(8) to coordinate state programs and services to address the issue of osteoporosis;

(9) to promote the development of support groups for osteoporosis patients and their *families and caregivers*;

(10) to adequately fund these programs; and

(11) to provide lasting improvements in the delivery of osteoporosis health care, thus providing patients with an improved quality of life *and society* with the containment of health care costs.

Section 3. ESTABLISHMENT OF THE OSTEOPOROSIS PREVENTION AND TREATMENT EDUCATION PROGRAM. The state _____ (public health law or appropriate law) is amended by inserting at the appropriate place(s) the following new chapter:

"Osteoporosis Prevention and Treatment Education Program"

(A) IN GENERAL. The _____ (secretary or appropriate official) of the state _____ (department of public health or appropriate entity) will:

(1) provide sufficient staff to implement the Osteoporosis Prevention and Treatment Education Program,

(2) provide appropriate training for staff of the Osteoporosis Prevention and Treatment Education Program,

(3) identify the appropriate entities to carry out the program.

(4) base the program on the most up-to-date scientific information and

American Association of Orthopaedic Surgeons

findings,

(5) work to improve the capacity of community-based services available to osteoporosis patients,

(6) work with governmental offices, community and business leaders, community organizations, health care and human service providers, and national osteoporosis organizations to coordinate efforts and maximize state resources in the areas of prevention., education and treatment of osteoporosis,

(7) identify and when appropriate replicate or use successful osteoporosis programs and procure related materials and services from organizations with appropriate expertise and knowledge of osteoporosis, as described in Section 3.(B)(8) a) and b).

(B) Program. The state _____ (department of public health or appropriate entity) shall establish, promote, and maintain an osteoporosis prevention and treatment education program in order to raise public awareness, educate consumers, educate and train health professionals, teachers, and human service providers, and for other purposes.

(1) PUBLIC AWARENESS. The department shall use, but is not limited to, the following strategies for raising public awareness on the causes and nature of osteoporosis, personal risk factors, value of prevention and early detection, and options for diagnosing and treating the disease:

- a) an outreach campaign utilizing print, radio, and television public service announcements, advertisements, posters, and other materials;
- b) community forums;
- c) health information and risk factor assessment at public events;
- d) targeting at-risk populations;
- e) providing reliable information to policy makers;
- f) distributing information through county health departments, schools, area agencies on aging, employer wellness programs, physicians, hospitals and health maintenance organizations, women's groups, non-profit organizations, community-based

American Association of Orthopaedic Surgeons

organization, and departmental regional offices.

(2) CONSUMER EDUCATION. The department shall use, but is not limited to, the following strategies for educating consumers about risk factors, diet and exercise, diagnostic procedures and their indications for use, risks and benefits of drug therapies

currently approved by the U.S. Food and Drug Administration, environmental safety and injury prevention, and the availability of diagnostic, treatment, and rehabilitation services:

- a) identify and obtain educational materials including brochures and videotapes which translate accurately the latest scientific information on osteoporosis in easy-to-understand terms;
- b) build a statewide capacity to provide information and referral on all aspects of osteoporosis, including educational materials and counseling;
- c) establish state linkage with an existing toll-free hotline for consumers; d) facilitate the development and maintenance of osteoporosis support groups;
- e) conduct workshops and seminars for lay audiences;

(3) PROFESSIONAL EDUCATION. The department shall use, but is not limited to, the following strategies for educating physicians and health professionals and training community service providers on the most up-to-date, accurate scientific and medical information on osteoporosis prevention, diagnosis, and treatment, therapeutic decision-making, including guidelines for detecting and treating the disease in special populations, risks and benefits of medications, and research advances:

- a) identify and obtain education materials for the professional which translates the latest scientific and medical information into clinical applications;
- b) raise awareness among physicians and health and human services professionals as to the importance of osteoporosis prevention, early detection, treatment, and rehabilitation;
- c) identify and use available curricula for training health and human service providers and community leaders on osteoporosis prevention, detection and treatment;

American Association of Orthopaedic Surgeons

4) provide workshops and seminars for in-depth professional. development in the field of the care and management of the patient with osteoporosis;

e) conduct a statewide conference on osteoporosis at appropriate intervals.

(4) NEEDS ASSESSMENT.

a) The department shall conduct a needs assessment to identify_

1) research being conducted within the state;

2) available technical assistance and educational materials and programs nationwide;

3) the level of public and professional awareness about osteoporosis;

4) the needs of osteoporosis patients, their families and caregivers;

5) needs of health care providers, including physicians, nurses, managed care organizations, and other health care providers;

6) the services available to *the* osteoporosis patient;

7) existence of osteoporosis treatment programs;

8) existence of osteoporosis support groups;

9) existence of rehabilitation services; and

10) number and location of bone density testing equipment.

b) Based on the needs assessment, the department shall develop and maintain a list of osteoporosis-related services and osteoporosis health care providers with specialization in services to prevent, diagnose, and treat osteoporosis. This list will be disseminated with a description of diagnostic testing procedures, appropriate indications for their use, drug therapies currently approved by the U.S. Food and Drug Administration, and a cautionary statement about the current status of osteoporosis research, prevention and treatment. Such a statement shall also indicate that the department does not license, certify, or in any way approve osteoporosis programs or centers in the state.

(5) INTERAGENCY COUNCIL ON OSTEOPOROSIS.

American Association of Orthopaedic Surgeons

a) Establishment. The department will establish an interagency Council on Osteoporosis. The _____ (secretary or appropriate official) of the _____ (department of public health or appropriate entity) shall chair the interagency council. The council will have representatives from appropriate state departments and agencies including but not limited to: the entities with responsibility foraging, health care reform implementation, education, public welfare and women's programs.

b) Functions. The council shall:

- 1) coordinate osteoporosis programs conducted by or through the department;
- 2) establish a mechanism for sharing information on osteoporosis among all officials and employees involved in carrying out osteoporosis-related programs;
- 3) review and coordinate the most promising areas of education, prevention, and treatment concerning osteoporosis;
- 4) assist the department and other offices in developing and coordinating plans for education and health promotion on osteoporosis;
- 5) establish mechanisms to use the results of research concerning osteoporosis in the development of relevant policies and programs;
- 6) prepare a report that describes educational initiatives on osteoporosis sponsored by the state and makes recommendations for new educational initiatives on osteoporosis, and transmit the report to the state legislature and make the report available to the public

c) Advisory Panel on Osteoporosis. The Interagency Council on Osteoporosis will establish and coordinate an Advisory Panel on Osteoporosis which will provide non-governmental input regarding the Osteoporosis Prevention and Treatment Education Program.

- 1) Membership shall include, but is not limited to, persons with osteoporosis, women's health organizations, public health educators, osteoporosis experts, providers of osteoporosis health care, persons knowledgeable in health promotion and education, and representatives of national osteoporosis organizations or their state/regional affiliates.

American Association of Orthopaedic Surgeons

6) TECHNICAL ASSISTANCE.

a) The department may replicate and use successful osteoporosis programs and enter into contracts and/or purchase materials or services from organizations with appropriate expertise and knowledge of osteoporosis for such services and materials as, but not limited to, the following:

- 1) educational information and materials on the causes, prevention, detection, treatment, and management of osteoporosis;
- 2) training of staff;
- 3) physicians and health care professional education and training, and clinical conferences;
- 4) conference organization and staffing;
- 5) regional office development and staffing;
- 6) nominations for advisory panels;
- 7) support group development;
- 8) consultation
- 9) resource library facilities;
- 10) training home health aides and nursing home personnel; and
- 11) training teachers.

b) The department may enter into an agreement(s) to work with a national organization(s) with expertise in osteoporosis to establish and staff an office(s) of that organization in the state to implement parts of the osteoporosis program.

Section 4: FUNDING.

(A) AUTHORIZATION OF APPROPRIATIONS. The appropriate section(s) of the state (public health law or appropriate law) is amended to authorize to be appropriated \$_____ for the _____ (appropriate fiscal years) to carry out the Osteoporosis Prevention and Treatment Education Program.

(B) CONTRIBUTIONS. The secretary may accept grants, services, and property from the federal government, foundations, organizations, medical schools, and other entities as may be available for the purposes of fulfilling the obligations of this program.

(C) WAIVERS. The secretary shall seek any federal waiver or waivers that may be nece'cry to maximize funds from the federal government to implement this program.

National Osteoporosis Foundation (1/97)

American Association of Orthopaedic Surgeons

In bill text, brackets have special meaning:

[A> <A] contains added text, and
[D> <D] contains deleted text.

California 1999-00 Regular Session
1999 CA AB 161 Enrolled 09/07/1999 Alquist

ASSEMBLY BILL No. 161

INTRODUCED BY Assembly Member Alquist
(Principal coauthor: Senator Solis)
(Coauthors: Assembly Members Havice, Honda, Jackson, Knox, Kuehl, Leach,
Mazzoni, Romero, Scott, Strom-Martin, Thomson, and Wildman)
(Coauthor: Senator Alpert)

PASSED THE ASSEMBLY SEPTEMBER 7, 1999
PASSED THE SENATE SEPTEMBER 3, 1999
AMENDED IN SENATE SEPTEMBER 2, 1999 AMENDED IN SENATE AUGUST 16, 1999
AMENDED IN SENATE JUNE 15, 1999
AMENDED IN ASSEMBLY MAY 28, 1999 AMENDED IN ASSEMBLY MARCH 18, 1999

JANUARY 15, 1999

CHAPTER

An act to add Chapter 1 (commencing with Section 125700) to Part 8 of Division 106 of the Health and Safety Code, relating to osteoporosis, and making an appropriation therefor.

LEGISLATIVE COUNSEL'S DIGEST

AB 161, Alquist. Osteoporosis.

Under existing law, the State Department of Health Services is responsible for the administration and oversight of various health care programs.

This bill would establish the California Osteoporosis Prevention and Education Program within the department. The bill would appropriate \$250,000 to the department from the General Fund for purposes of the bill. The bill would provide that this fund shall consist of money accepted by the department from private grants and donations and money appropriated by the Legislature.

Appropriation: yes.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares as follows:

- (a) Osteoporosis is a disease that causes the bones to lose mass and break easily.
- (b) More than 28 million persons are affected by osteoporosis in the United States.
- (c) According to a national report, more than five million Californians, 50 years of age or older, either have osteoporosis or are at high risk of developing this debilitating disease. By the year 2015, this number is projected to rise to 8.5 million Californians.
- (d) Although osteoporosis is most prevalent among women, men suffer from the disease as well.
- (e) In May 1998, the National Institute of Child Health and Human Development identified osteoporosis as a preventable health issue for adolescents.

SEC. 2. Chapter 1 (commencing with Section 125700) is added to Part 8 of Division 106 of the Health and Safety Code, to read:

CHAPTER 1. CALIFORNIA OSTEOPOROSIS PREVENTION AND EDUCATION ACT

American Association of Orthopaedic Surgeons

125700. This chapter shall be known and may be cited as the "California Osteoporosis Prevention and Education Act."

125701. It is the intent of the Legislature to promote public awareness of the causes of and options for the prevention of osteoporosis, to educate the public regarding the prevention and management of osteoporosis, and to improve management of osteoporosis, and thereby to minimize the impact of this debilitating disease.

125702. There is hereby created within the department the California Osteoporosis Prevention and Education Program. The target population for this program shall be persons of age 50 years or older.

125703. The department shall, in consultation with the California Department of Aging, do all of the following in the establishment of the program:

(a) Promote public awareness concerning the causes and nature of, the personal risk factors for, the value of prevention of, and the options for management of osteoporosis.

(b) Work with other state and local agencies to promote osteoporosis educational and training programs for physicians and other health professionals.

(c) Convene an advisory panel of individuals with knowledge and expertise in osteoporosis research, women's health, healthy aging, prevention strategies, educational programs, and consumer needs to guide program development.

125704. In consultation with the advisory panel convened pursuant to subdivision (c) of Section 125703, the department shall develop effective protocols for the prevention of falls and fractures and establish these protocols in community practice to improve the prevention and management of osteoporosis.

125710. The director shall seek private sector financial support, grants, and other appropriate moneys to support the California Osteoporosis Prevention and Education Program.

SEC. 3. The sum of two hundred fifty thousand dollars (\$250,000) is hereby appropriated from the General Fund to the State Department of Health Services to implement the California Osteoporosis Prevention and Education Act, Chapter 1 (commencing with Section 125700) of Part 8 of Division 106 of the Health and Safety Code.

9TH DOCUMENT of Level 1 printed in FULL format.

DEERING'S CALIFORNIA CODES ANNOTATED
Copyright (c) 1995, Bancroft-Whitney Company

*** ARCHIVE DATA ***

*** THIS SECTION IS CURRENT THROUGH THE 1995 SUPPLEMENT (1994 SESSION)

INSURANCE CODE

DIVISION 2. Classes of Insurance

PART 2. LIFE AND DISABILITY INSURANCE

CHAPTER 11A. Nonprofit Hospital Service Plans

ARTICLE 6. The Contract

Cal Ins Code § 11512.24 (1995) §

11512.24. Coverage for osteoporosis

Every nonprofit hospital service plan contract that provides hospital, medical, or surgical coverage, that is issued, amended, delivered, or renewed in this state on or after January 1, 1994, shall be deemed to include coverage for services related to diagnosis, treatment, and appropriate management of osteoporosis. The services may include, but need not be limited to, all Food and Drug Administration approved technologies, including bone mass measurement technologies as deemed medically appropriate.

HISTORY:

Added Stats 1993 ch 1208 § 4 (AB 547).

30TH DOCUMENT of Level 1 printed in FULL format.
DEERING'S CALIFORNIA CODES ANNOTATED
Copyright 1998 LEXIS Law Publishing, a division of Reed Elsevier Inc.
All Rights Reserved.

*** THIS SECTION IS CURRENT THROUGH THE 1998 SUPPLEMENT (1997 SESSION)

*** INCLUDING URGENCY LEGISLATION THROUGH CHAPTER 3, 3/2/98 ***

INSURANCE CODE
DIVISION 2. Classes of Insurance
PART 2. LIFE AND DISABILITY INSURANCE
CHAPTER 11A. Nonprofit Hospital Service Plans

Cal Ins Code § 11512.24 (1997) § 11512.24.

[Section repealed 1996.]

HISTORY:

Added Stats 1993 ch 1208 § 4 (AB 547).

Repealed Stats 1996 ch 484 § 1 (SB 1866) The repealed section related to osteoporosis under hospital plans.

29TH DOCUMENT of Level 1 printed in FULL format.

DEERING'S CALIFORNIA CODES ANNOTATED
Copyright 1998 LEXIS Law Publishing, a division of Reed Elsevier Inc.
All Rights Reserved.

*** THIS SECTION IS CURRENT THROUGH THE 1998 SUPPLEMENT (1997 SESSION)

*** INCLUDING URGENCY LEGISLATION THROUGH CHAPTER 3, 3/2/98 ***

INSURANCE CODE
DIVISION 2. Classes of Insurance
PART 2. LIFE AND DISABILITY INSURANCE
CHAPTER 1. The Contract
ARTICLE 1. General Provisions

Cal Ins Code § 10123.185 (1997) §

10123.185. Coverage for osteoporosis

(a) Every policy of disability insurance that covers hospital, medical, or surgical expenses and is issued, amended, delivered, or renewed in this state and certificate of group disability insurance issued, amended, delivered, or renewed in this state pursuant to a master group policy issued, amended, delivered, or renewed in another state on or after January 1, 1994, shall be deemed to include coverage for services related to diagnosis, treatment, and appropriate management of osteoporosis. The services may include, but need not be limited to, all Food and Drug Administration approved technologies, including bone mass measurement technologies as deemed medically appropriate.

(b) This section shall not apply to specified accident, specified disease, hospital indemnity, Medicare supplement, or long-term care health insurance policies.

HISTORY:

Added Stats 1993 ch 1208 § 3 (AB 547).

NOTES:

CROSS REFERENCES:

Coverage for osteoporosis: Ins C § 11512.24.

COLLATERAL REFERENCES:

Cal Jur 3d (Rev) Insurance Contracts and Coverage § 280.

28TH DOCUMENT of Level 1 printed in FULL format.

DEERING'S CALIFORNIA CODES ANNOTATED
Copyright 1998 LEXIS Law Publishing, a division of Reed Elsevier Inc.
All Rights Reserved.

*** THIS SECTION IS CURRENT THROUGH THE 1998 SUPPLEMENT (1997 SESSION)

*** INCLUDING URGENCY LEGISLATION THROUGH CHAPTER 3, 3/2/98 ***

HEALTH AND SAFETY CODE
DIVISION 2. Licensing Provisions
CHAPTER 2.2. Health Care Service Plans
ARTICLE 5. Standards

Cal Health & Saf Code § 1367.67 (1997) §

1367.67. Coverage for osteoporosis

Every health care service plan contract that provides hospital, medical, or surgical coverage, that is issued, amended, delivered, or renewed in this state on or after January 1, 1994, shall be deemed to include coverage for services related to diagnosis, treatment, and appropriate management of osteoporosis. The services may include, but need not be limited to, all Food and Drug Administration approved technologies, including bone mass measurement technologies as deemed medically appropriate.

HISTORY:

Added Stats 1993 ch 1208 § 2 (AB 547).

American Association of Orthopaedic Surgeons

In bill text, brackets have special meaning:

[A> <A] contains added text, and [D>
<D] contains deleted text.

Connecticut 1999 Regular Session of the General Assembly 1999 CT S
1250
Enacted
06/23/1999
Committee on Aging

STATE OF CONNECTICUT

Substitute Senate Bill No. 1250

Special Act No. 99-9

AN ACT CREATING AN OSTEOPOROSIS EDUCATION AND AWARENESS ADVISORY COUNCIL.
Be it enacted by the Senate and House of Representatives in General Assembly convened:

(a) Not later than January 1, 2000, the Commissioner of Public Health shall convene an Osteoporosis Advisory Council. The Osteoporosis Advisory Council shall seek to meet the following goals: (1) Establish a coordinated effort for osteoporosis prevention activities including, but not limited to, assessment of the extent of osteoporosis, advocacy, policy, public and medical education; (2) institute a state-wide media educational and publicity campaign on osteoporosis prevention that targets high risk groups among young adolescents, the elderly and women; (3) prepare and distribute materials to reach high-risk groups and work with managed care organizations, as defined in section 38a-478 of the general statutes, to enhance education and prevention efforts; and (4) hold annual regional conferences for public education about the risk factors and prevention of osteoporosis. The Osteoporosis Advisory Council shall utilize a private-public partnership in which private resources shall be used to achieve the goals set forth in subdivisions (1) to (4), inclusive, of this subsection. The Osteoporosis Advisory Council shall use an interactive approach toward enhancing public and medical community awareness by involving members of the public, the medical and pharmaceutical community and community organizations. Members of the Osteoporosis Advisory Council shall be appointed by the Commissioner of Public Health and shall include, but not be limited to, representatives of the Department of Public Health, the Department of Social Services, the Permanent Commission on the Status of Women, consumer groups and the medical and pharmaceutical community. The Osteoporosis Advisory Council shall terminate two years from the date of its inception.

(b) Any private or corporate funding received by the Department of Public Health to effectuate the goals set forth in subdivisions (1) to (4), inclusive, of subsection (a) of this section, shall be utilized pursuant to section 19a-32 of the general statutes and shall be subject to the annual reporting requirements provided for in said section 19a-32.

9/28/99

34TH DOCUMENT of Level 1 printed in FULL format.

FLORIDA STATUTES 1997

*** THIS DOCUMENT IS CURRENT THROUGH THE 1997 REGULAR LEGISLATIVE SESSION ***

TITLE XXXVII INSURANCE
CHAPTER 627 INSURANCE RATES AND CONTRACTS
PART VI HEALTH INSURANCE POLICIES

Fla. Stat. § 627.6409 (1997)

627.6409 Coverage for osteoporosis screening, diagnosis, treatment, and management.

Any health insurance policy that covers a resident of this state and that is issued, amended, delivered, or renewed in this state after October 1, 1996, must provide coverage for the medically necessary diagnosis and treatment of osteoporosis for high-risk individuals, including, but not limited to, estrogen-deficient individuals who are at clinical risk for osteoporosis, individuals who have vertebral abnormalities, individuals who are receiving long-term glucocorticoid (steroid) therapy, individuals who have primary hyperparathyroidism, and individuals who have a family history of osteoporosis. This section does not apply to specified-accident, specified-disease, hospital-indemnity, Medicare supplement, or long-term-care health insurance policies or to the state employee health insurance program.

HISTORY: s. 2, ch. 96-282.

36TH DOCUMENT of Level 1 printed in FULL format.

FLORIDA STATUTES 1997

*** THIS DOCUMENT IS CURRENT THROUGH THE 1997 REGULAR LEGISLATIVE
SESSION ***

TITLE XXXVII INSURANCE
CHAPTER 641 HEALTH CARE SERVICE PROGRAMS
PART I HEALTH MAINTENANCE ORGANIZATIONS

Fla. Stat. § 641.31 (1997) 641.31

Health maintenance contracts.

(1) Any entity issued a certificate and otherwise in compliance with this part may enter into contracts in this state to provide an agreed-upon set of comprehensive health care services to subscribers in exchange for a prepaid per capita sum or a prepaid aggregate fixed sum. Each subscriber shall be given a copy of the applicable health maintenance contract, certificate, or member handbook. Whichever document is provided to a subscriber shall contain all of the provisions and disclosures required by this section.

(2) The rates charged by any health maintenance organization to its subscribers shall not be excessive, inadequate, or unfairly discriminatory. The department, in accordance with generally accepted actuarial practice as applied to health maintenance organizations, may define by rule what constitutes excessive, inadequate, or unfairly discriminatory rates and may require whatever information it deems necessary to determine that a rate or proposed rate meets the requirements of this subsection.

(3) (a) If a health maintenance organization desires to amend any contract with its subscribers or any certificate or member handbook, or desires to change any rate charged for the contract or to change any basic health maintenance contract, certificate, grievance procedure, or member handbook form, or application form where written application is required and is to be made a part of the contract, or printed amendment, addendum, rider, or endorsement form or form of renewal certificate, it may do so, upon filing with the department the proposed change, amendment, or change in rates. Any proposed change shall be effective immediately, subject to disapproval by the department. Following receipt of notice of such disapproval or withdrawal of approval, no health maintenance organization shall issue or use any form or rate disapproved by the department or as to which the department has withdrawn approval. Any change in the rate requires at least 30 days' advance written notice to the subscriber. In the case of a group member, there may be a contractual agreement with the health maintenance organization to have the employer provide the required notice to the individual members of the group.

(b) The department shall disapprove any form filed under this subsection, or withdraw any previous approval thereof, if the form:

1. Is in any respect in violation of, or does not comply with, any provision of this part or rule adopted thereunder.

Fla. Stat. §641.31 (1997)

Contains or incorporates by reference, where such incorporation is otherwise permissible, any inconsistent, ambiguous, or misleading clauses or exceptions and conditions which deceptively affect the risk purported to be assumed in the general coverage of the contract.

3. Has any title, heading, or other indication of its provisions which is misleading.
4. Is printed or otherwise reproduced in such a manner as to render any material provision of the form substantially illegible.
5. Contains provisions which are unfair, inequitable, or contrary to the public policy of this state or which encourage misrepresentation.
6. Charges rates that are determined by the department to be inadequate, excessive, or unfairly discriminatory, or the rating methodology followed by the health maintenance organization is determined by the department to be inconsistent, indeterminate, ambiguous, or encouraging misrepresentation or misunderstanding. Use of the rating methodology must be discontinued immediately upon disapproval unless the health maintenance organization seeks administrative relief. If a new rating methodology is filed with the department, the premiums determined by such newly filed rating methodology may apply prospectively only to new or renewal business written on or after the effective date of the responsive filing made by the health maintenance organization.
7. Excludes coverage for human immunodeficiency virus infection or acquired immune deficiency syndrome or contains limitations in the benefits payable, or in the terms or conditions of such contract, for human immunodeficiency virus infection or acquired immune deficiency syndrome which are different than those which apply to any other sickness or medical condition.

(c) It is not the intent of this subsection to restrict unduly the right to modify rates in the exercise of reasonable business judgment.

(4) Every health maintenance contract, certificate, or member handbook shall clearly state all of the services to which a subscriber is entitled under the contract and must include a clear and understandable statement of any limitations on the services or kinds of services to be provided, including any copayment feature or schedule of benefits required by the contract or by any a clear and understandable description organization for resolving subscriber forth in the contract, certificate, and also furnish, at the time of initial enrollment and when necessary due to substantial changes to the grievance process a separate and additional communication prepared or approved by the department notifying the contract holder of a group contract or subscriber of individual contract of their rights and responsibilities under the grievance process.

(5) Every subscriber shall receive a clear and understandable description of the method of the health maintenance organization for resolving subscriber grievances, and the method shall be set forth in the contract, certificate, and member handbook. The organization shall also furnish, at the time of initial enrollment and when necessary due to substantial changes to the grievance process a separate and additional communication prepared or approved by the department notifying the contract holder of a group contract or subscriber of an individual contract of their rights and responsibilities under the grievance process.

Fla. Stat. § 641.31 (1997)

(6) The rate of payment for a health maintenance contract shall be a part of the contract and shall be stated in individual contracts issued to subscribers.

(7) A health maintenance organization is entitled to coordinate benefits on the same basis as an insurer under s. 627.4235.

(8) A health maintenance organization providing medical benefits or payments to a subscriber who suffers injury, disease, or illness by virtue of the negligent act or omission of a third party is entitled to reimbursement from the subscriber in accordance with s. 768.76(4).

American Association of Orthopaedic Surgeons

(9) All health maintenance contracts that provide coverage, benefits, or services for a member of the family of the subscriber must, as to such family member's coverage, benefits, or services, provide also that the coverage, benefits, or services applicable for children must be provided with respect to a newborn child of the subscriber, or covered family member of the subscriber, from the moment of birth. However, with respect to a newborn child of a covered family member other than the spouse of the insured or subscriber, the coverage for the newborn child terminates 18 months after the birth of the newborn child. The coverage, benefits, or services for newborn children must consist of coverage for injury or sickness, including the necessary care or treatment of medically diagnosed congenital defects, birth abnormalities, or prematurity, and transportation costs of the newborn to and from the nearest appropriate facility appropriately staffed and equipped to treat the newborn's condition, when such transportation is certified by the attending physician as medically necessary to protect the health and safety of the newborn child.

(a) A contract may require the subscriber to notify the plan of the birth of a child within a time period, as specified in the contract, of not less than 30 days after the birth, or a contract may require the preenrollment of a newborn prior to birth. However, if timely notice is given, a plan may not charge an additional premium for additional coverage of the newborn child for not less than 30 days after the birth of the child. If timely notice is not given, the plan may charge an additional premium from the date of birth. The contract may not deny coverage of the child due to failure of the subscriber to timely notify the plan of the birth of the child or to preenroll the child.

(b) If the contract does not require the subscriber to notify the plan of the birth of a child within a specified time period, the plan may not deny coverage of the child nor may it retroactively charge the subscriber an additional premium for the child; however, the contract may prospectively charge the member an additional premium for the child if the plan provides at least 45 days' notice of the additional charge.

(10) No alteration of any written application for any health maintenance contract shall be made by any person other than the applicant without his or her written consent, except that insertions may be made by the health maintenance organization, for administrative purposes only, in such manner as to indicate clearly that such insertions are not to be ascribed to the applicant.

(11) No contract shall contain any waiver of rights or benefits provided to or available to subscribers under the provisions of any law or rule applicable to health maintenance organizations.

Fla. Stat. § 641.31 (1997)

(12) Each health maintenance contract, certificate, or member handbook shall state that emergency services and care shall be provided to subscribers in emergency situations not permitting treatment through the health maintenance organization's providers, without prior notification to and approval of the organization. Not less than 75 percent of the reasonable charges for covered services and supplies shall be paid by the organization, up to the subscriber contract benefit limits. Payment also may be subject to additional applicable copayment provisions, not to exceed \$ 100 per claim. The health maintenance contract, certificate, or member handbook shall contain the definitions of "emergency services and care" and "emergency medical condition" as specified in s. 641.19(7) and (8), shall describe procedures for determination by the health maintenance organization of whether the services qualify for reimbursement as emergency services and care, and shall contain specific examples of what does constitute an emergency. In providing for emergency services and care as a covered service, a health maintenance organization shall be governed by s. 641.513.

(13) In addition to the requirements of this section, with respect to a person who is entitled to have payments for health care costs made under Medicare, Title XVIII of the Social Security Act ("Medicare"), parts A and/or S:

(a) The health maintenance organization shall mail or deliver notification to the Medicare beneficiary of the date of enrollment in the health maintenance organization within 10 days after receiving notification of enrollment approval from the United States Department of Health and Human Services, Health Care Financing Administration. When a Medicare beneficiary who is a subscriber of the health maintenance organization requests disenrollment from the organization, the organization shall mail or deliver to the beneficiary notice of the effective date of the disenrollment within 10 days after receipt of the written disenrollment request. The health maintenance organization shall forward the disenrollment request to the United States Department of Health and Human Services, Health Care Financing Administration, in a timely manner so as to effectuate the next available disenrollment date, as prescribed by such federal agency.

(b) The health maintenance contract, certificate, or member handbook shall be delivered to the subscriber no later than the earlier of 10 working days after the health maintenance organization and the Health Care Financing Administration of the United States Department of Health and Human Services approve the subscriber's enrollment application or the effective date of coverage of the subscriber under the health maintenance contract. However, if notice from the Health Care Financing Administration of its approval of the subscriber's enrollment application is received by the health maintenance organization after the effective coverage date prescribed by the Health Care Financing Administration, the health maintenance organization shall deliver the contract, certificate, or member handbook to the subscriber within 10 days after receiving such notice. When a Medicare recipient is enrolled in a health maintenance organization program, the contract, certificate, or member handbook shall be accompanied by a health maintenance organization identification sticker with instruction to the Medicare beneficiary to place the sticker on the Medicare identification card.

(14) Whenever a subscriber of a health maintenance organization is also a

Medicaid recipient, the health maintenance organization's coverage shall be primary to the recipient's Medicaid benefits and the organization shall be a third party subject to the provisions of s. 409.910(4).

(15) (a) All health maintenance contracts, certificates, and member handbooks shall contain the following provision:

"Grace Period: This contract has a (insert a number not less than 10) day grace period. This provision means that if any required premium is not paid on or before the date it is due, it may be paid during the following grace period. During the grace period, the contract will stay in force."

(b) The required provision of paragraph (a) shall not apply to certificates or member handbooks delivered to individual subscribers under a group health maintenance contract when the employer or other person who will hold the contract on behalf of the subscriber group pays the entire premium for the individual subscribers. However, such required provision shall apply to the group health maintenance contract.

(16) The contracts must clearly disclose the intent of the health maintenance organization as to the applicability or nonapplicability of coverage to preexisting conditions. If coverage of the contract is not to be applicable to preexisting conditions, the contract shall specify, in substance, that coverage pertains solely to accidental bodily injuries resulting from accidents occurring after the effective date of coverage and that sicknesses are limited to those which first manifest themselves subsequent to the effective date of coverage.

(17) All health maintenance contracts that provide coverage for a member of the family of the subscriber, shall, as to such family member's coverage, provide that coverage, benefits, or services applicable for children shall be provided with respect to an adopted child of the subscriber, which child is placed in compliance with chapter 63, from the moment of placement in the residence of the subscriber. Such contracts may not exclude coverage for any preexisting condition of the child. In the case of a newborn child, coverage shall begin from the moment of birth if a written agreement to adopt such child has been entered into by the subscriber prior to the birth of the child, whether or not such agreement is enforceable. However, coverage for such child shall not be required in the event that the child is not ultimately placed in the residence of the subscriber in compliance with chapter 63.

(18) (a) Health maintenance contracts that provide coverage, benefits, or services for maternity care must provide, as an option to the subscriber, the services of nurse-midwives and midwives licensed pursuant to chapter 467, and the services of birth centers licensed pursuant to ss. 383.30-383.335, if such services are available within the service area.

(b) Any health maintenance contract that provides maternity or newborn coverage may not limit coverage for the length of a maternity or newborn stay in a hospital or for followup care outside of a hospital to any time period that is less than that determined to be medically necessary, in accordance with prevailing medical standards and consistent with guidelines for perinatal care of the American Academy of Pediatrics or the American College of Obstetricians and Gynecologists, by the treating obstetrical care provider or the pediatric

Fla. Stat. § 641.31 (1997)

care provider.

(c) This section does not affect any agreement between a health maintenance organization and a hospital or other health care provider with respect to reimbursement for health care services provided, rate negotiations with providers, or capitation of providers, and this section does not prohibit appropriate utilization review or case management by a health maintenance organization.

(d) Any health maintenance contract that provides coverage, benefits, or services for maternity or newborn care must provide coverage for postdelivery care for a mother and her newborn infant. The postdelivery care must include a postpartum assessment and newborn assessment and may be provided at the hospital, at the attending physician's office, at an outpatient maternity center, or in the home by a qualified licensed health care professional trained in mother and baby care. The services must include physical assessment of the newborn and mother, and the performance of any medically necessary clinical tests and immunizations in keeping with prevailing medical standards.

(e) A health maintenance organization subject to paragraph (b) shall communicate active case questions and concerns regarding postdelivery care directly to the treating physician or hospital in written form, in addition to other forms of communication. Such organization shall also use a process that includes a written protocol for utilization review and quality assurance.

(f) Any health maintenance organization subject to paragraph (b) may not:

1. Deny to a mother or her newborn infant eligibility, or continued eligibility, to enroll or to renew coverage under the terms of the contract for the purpose of avoiding the requirements of this section.

2. Provide monetary payments or rebates to a mother to encourage the mother to accept less than the minimum protections available under this section.

3. Penalize or otherwise reduce or limit the reimbursement of an attending provider solely because the attending provider provided care to an individual participant or beneficiary in accordance with this section.

4. Provide incentives, monetary or otherwise, to an attending provider solely to induce the provider to provide care to an individual participant or beneficiary in a manner inconsistent with this section.

5. Subject to paragraph (i), restrict benefits for any portion of a period within a hospital length of stay required under paragraph (b) in a manner that is less favorable than the benefits provided for any preceding portion of such stay.

(g) This subsection does not require a mother who is a participant or beneficiary to:

1. Give birth in a hospital.

2. Stay in the hospital for a fixed period of time following the birth of her infant.

Fla. Stat. § 641.31 (1997)

(h) This subsection does not apply with respect to any coverage offered by a health maintenance organization that does not provide benefits for hospital lengths of stay in connection with childbirth for a mother or her newborn infant.

(i) This subsection does not prevent a health maintenance organization from imposing deductibles, coinsurance, or other cost sharing in relation to benefits for hospital lengths of stay in connection with childbirth for a mother or her newborn infant under the contract or under health insurance coverage offered in connection with a group health plan, except that such coinsurance or other cost sharing for any portion of a period within a hospital length of stay required under paragraph (b) may not be greater than such coinsurance or cost sharing for any preceding portion of such stay.

(19) Notwithstanding any other provision of law, health maintenance policies or contracts which provide coverage, benefits, or services as described in s. 463.002(5), shall offer to the subscriber the services of an optometrist licensed pursuant to chapter 463.

(20) Notwithstanding any other provision of law, health maintenance policies or contracts which provide coverage, benefits, or services which are performed by physicians who are ophthalmologists, licensed pursuant to chapter 458 or chapter 459, shall offer the subscriber the services of an ophthalmologist. For purposes of this subsection, ophthalmologists are physicians specializing in the diagnosis and treatment of diseases and injuries of the eye.

(21) Notwithstanding any other provision of law, health maintenance policies or contracts which provide anesthesia coverage, benefits, or services shall offer to the subscriber, if requested and available, the services of a certified registered nurse anesthetist licensed pursuant to chapter 464.

(22) Each health maintenance organization that offers a group plan within this state must have at least one open enrollment period of not less than 30 days every 18 months. Such open enrollment periods are required for as long as the group exists unless the health maintenance organization and the employer mutually agree to a shorter period of time than 18 months.

(23) The contract shall include the following provision:

"Time limit on certain defenses: Relative to a misstatement in the application, after 2 years from the issue date, only fraudulent misstatements in the application may be used to void the policy or deny any claim for loss incurred or disability starting after the 2-year period."

(24) Each health maintenance organization that provides for inpatient and outpatient services by allopathic hospitals shall provide as an option of the subscriber similar inpatient and outpatient services by hospitals accredited by the American Osteopathic Association when such services are available in the same service area of the HMO and the osteopathic hospital agrees to provide the services as specified herein. As a condition precedent to providing osteopathic inpatient and outpatient services through an osteopathic hospital that has not entered into a written contract with the HMO, the HMO may require the subscriber

Ha. Stat. § 641.31 (1997)

or any other person receiving osteopathic services to release the HMO from any liability arising from any act of omission or commission constituting malpractice in the delivery of osteopathic care from that hospital. The osteopathic hospital providing the inpatient and outpatient services for the HMO shall charge rates that do not exceed the osteopathic hospital's usual and customary rates less the average discount provided by allopathic hospitals providing the HMO services in the same service area of the HMO.

(25) If a subscriber is a resident of a continuing care facility certified under chapter 651 or a retirement facility consisting of a nursing home and residential apartments, the subscriber's primary care physician must refer the subscriber to that facility's skilled nursing unit if the primary care physician

American Association of Orthopaedic Surgeons

finds that it is in the best interest of the patient to do so; if the facility agrees to be reimbursed at the health maintenance organization's contract rate negotiated with similar providers for the same services and supplies; and if the facility meets all guidelines established by the health maintenance organization related to quality of care, utilization, referral authorization, risk assumption, use of the health maintenance organization's network, and other criteria applicable to providers under contract for the same services and supplies.

(26) (a) Each health maintenance organization and prepaid health plan shall provide coverage for all medically appropriate and necessary equipment, supplies, and services used to treat diabetes, including outpatient self-management training and educational services, if the patient's primary care physician, or the physician to whom the patient has been referred who specializes in treating diabetes, certifies that the equipment, supplies, or services are necessary.

(b) The contract may require that diabetes outpatient self-management training and educational services be provided under the direct supervision of a certified diabetes educator or a board-certified endocrinologist under contract with or designated by the health maintenance organization or prepaid health plan.

(c) The Agency for Health Care Administration shall adopt standards for outpatient self-management training and educational services, taking into consideration standards approved by the American Diabetes Association.

(27) Any health maintenance contract, that covers a resident of this state and that is issued, amended, delivered, or renewed in this state after October 1, 1996, must provide cover ge for the medically necessary diagnosis and treatment of osteoporosis for high-risk individuals, including, but not limited to, estrogen-deficient individuals who are at clinical risk for osteoporosis, individuals who have vertebral abnormalities, individuals who are receiving long-term glucocorticoid (steroid) therapy, individuals who have primary hyperparathyroidism, and individuals who have a family history of osteoporosis. This subsection shall not apply to the state employee health insurance program.

(28) A health maintenance organization may not discriminate against or fail to contract with a hospital, based solely on the fact that the hospital's medical staff is comprised of physicians licensed under chapter 459. Nothing in

this subsection shall mandate that a health maintenance organization contract with a hospital.

(29) If a health maintenance contract provides that coverage of a dependent child of the subscriber will terminate upon attainment of the limiting age for dependent children which is specified in the contract, the contract must also provide in substance that attainment of the limiting age does not terminate the coverage of the child while the child continues to be both:

- (a) Incapable of self-sustaining employment by reason of mental retardation or physical handicap, and
- (b) Chiefly dependent upon the employee or member for support and maintenance.

If the claim is denied under a contract for the stated reason that the child has attained the limiting age for dependent children specified in the contract, the notice or denial must state that the subscriber has the burden of establishing that the child continues to meet the criteria specified in paragraphs (a) and (b).

(30) (a) All health maintenance contracts which provide coverage, benefits, or services for a member of the family of the subscriber must, as to such family member's coverage, benefits, or services, also provide that the benefits applicable for children include coverage for child health supervision services from the moment of birth to age 16 years.

(b) As used in this subsection, the term "child health supervision services" means physician-delivered or physician-supervised services that include, at a minimum, services delivered at the intervals and scope stated in this subsection.

1. Child health supervision services must include periodic visits which shall include a history, a physical examination, a developmental assessment and anticipatory guidance, and appropriate immunizations and laboratory tests. Such services and periodic visits shall be provided in accordance with prevailing medical standards consistent with the Recommendations for Preventive Pediatric Health Care of the American Academy of Pediatrics.

2. Minimum benefits may be limited to one visit payable to one provider for all of the services provided at each visit cited in this subsection.

(31) (a) Health maintenance contracts that provide coverage, benefits, or services for breast cancer treatment may not limit inpatient hospital coverage for mastectomies to any period that is less than that determined by the treating physician under contract with the health maintenance organization to be medically necessary in accordance with prevailing medical standards and after consultation with the covered patient. Such contract must also provide coverage for outpatient postsurgical followup care in keeping with prevailing medical standards by a licensed health care professional under contract with the health maintenance organization qualified to provide postsurgical mastectomy care. The treating physician under contract with the health maintenance organization, after consultation with the covered patient, may choose that the outpatient care be provided at the most medically appropriate setting, which may include the hospital, treating physician's office, outpatient center, or home of the covered patient.

(b) A health maintenance organization subject to this subsection may not:

1. Deny to a covered person eligibility, or continued eligibility, to enroll or to renew coverage under the terms of the contract for the purpose of avoiding the requirements of this subsection;

2. Provide monetary payments or rebates to a covered patient to accept less than the minimum protections available under this subsection;

3. Penalize or otherwise reduce or limit the reimbursement of an attending provider solely because the attending provider provided care to a covered patient under this subsection;

4. Provide incentives, monetary or otherwise, to an attending provider solely to induce the provider to provide care to a covered patient in a manner inconsistent with this subsection; or

American Association of Orthopaedic Surgeons

5. Subject to the other provisions of this subsection, restrict benefits for any portion of a period within a hospital length of stay or outpatient care as required by this subsection in a manner that is less than favorable than the benefits provided for any preceding portion of such stay.

(c) 1. This subsection does not require a covered patient to have the mastectomy in the hospital or stay in the hospital for a fixed period of time following the mastectomy.

2. This subsection does not prevent a contract from imposing deductibles, coinsurance, or other cost sharing in relation to benefits pursuant to this subsection, except that such cost sharing shall not exceed cost sharing with other benefits.

(d) Except as provided in paragraph (b), this subsection does not affect any agreement between a health maintenance organization and a hospital or other health care provider with respect to reimbursement for health care services provided, rate negotiations with providers, or capitation of providers, and does not prohibit appropriate utilization review or case management by the health maintenance organization.

(e) As used in this subsection, the term "mastectomy" means the removal of all or part of the breast for medically necessary reasons as determined by a licensed physician.

(32) A health maintenance contract that provides coverage for mastectomies must also provide coverage for prosthetic devices and breast reconstructive surgery incident to the mastectomy. As used in this subsection, the term "breast reconstructive surgery" means surgery to reestablish symmetry between the two breasts. Such surgery must be in a manner chosen by the treating physician under contract with the health maintenance organization, consistent with prevailing medical standards, and in consultation with the patient. The health maintenance organization may charge an appropriate additional premium for the coverage required by this subsection. The coverage for prosthetic devices and breast

F1 a. Stat. § 611.31 (1997)

reconstructive surgery shall be subject to any deductible and coinsurance conditions.

(33) Notwithstanding any provision of this section to the contrary, a health maintenance organization which offers dermatological services shall provide direct patient access, for office visits and minor procedures and testing, to a dermatologist who is under contract with the health maintenance organization. The term "direct patient access" means the ability of a subscriber to obtain such services without a referral or other authorization before receiving services. The health maintenance organization shall, by July 1, 1997, develop criteria for compliance with the provisions of this subsection which do not impede or inhibit access to dermatological services for policyholders of the health maintenance organization. The criteria may include a maximum of five office visits to a dermatologist without prior authorization for a dermatological problem within a 12-month period.

HISTORY: s. 15, ch. 72-264; s. 3, ch. 76-168; s. 1, ch. 77-457; s. 21, ch. 78-95; ss. 2, 3, ch. 81-318; ss. 794, 804, 809(1st), ch. 82-243; s. 11, ch. 83-198; s. 9, ch. 84-313; s. 21, ch. 85-177; ss. 2, 11, ch. 87-236; s. 2, ch. 87-273; s. 3, ch. 88-269; s. 52, ch. 88-380; s. 14, ch. 88-388; s. 4, ch. 89-190; s. 1, ch. 89-357; s. 9, ch. 90-232; s. 38, ch. 90-295; ss. 121, 187, 188, ch. 91-108; s. 61, ch. 91-110; s. 3, ch. 91-185; s. 69, ch. 91-282; s. 4, ch. 91-429; s. 2, ch. 93-245; s. 27, ch. 95-418; s. 3, ch. 96-195; s. 25, ch. 96-199; ss. 3, 5, ch. 96-279; s. 4, ch. 96-282; s. 12, ch. 97-48; s. 1752, ch. 97-102; s. 4, ch. 97-166; s. 2, ch. 97-171; s. 23, ch. 97-179.

NOTES:

nl

A. Section 6, ch. 96-195, provides that "[t]his act shall take effect October 1, 1996, and shall apply to policies and contracts issued or renewed on or after that date."

B. Section 34(1), ch. 97-179, provides that "[e]xcept as provided in subsection (2) and as otherwise provided in this act, the changes made by this act apply to policies or contracts with plan years that begin on or after July 1, 1997."

C. Section 13, ch. 97-48, provides that "[t]his act fulfills an important state interest."

D. Section 14, ch. 97-48, provides that "[t]his act shall take effect October 1, 1997, and shall apply to policies and contracts issued or renewed after that date."

40TH DOCUMENT of Level 1 printed in FULL format.

GEORGIA ADVANCE LEGISLATIVE SERVICE
STATENET
Copyright (c) 1998 by Information for Public Affairs, Inc.

GEORGIA 144TH GENERAL ASSEMBLY -- 1997-98 REGULAR SESSION

ACT 862

HOUSE BILL NO. 1086

1998 Ga. ALS 862; 1998 Ga. Laws 862; 1998 Ga. Act 862; 1997 Ga. HE
1086

SYNOPSIS: A BILL TO BE ENTITLED AN ACT To amend Title 31 of the Official Code of Georgia Annotated, relating to health, so as to provide legislative findings and declarations relative to osteoporosis occurrence, prevention, detection, and treatment; to provide for patient education relative to osteoporosis prevention and treatment; to make available certain insurance coverage for bone mass measurement for the prevention, diagnosis, and treatment of osteoporosis; to define certain terms; to provide for related matters; to provide a short title; to repeal conflicting laws; and for other purposes.

To view the next section, type .np* TRANSMIT.
To view a specific section, transmit p* and the section number. e.g. p*1

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1 The General Assembly finds and declares that:

- (1) Osteoporosis affects 28 million Americans and each year results in 1.5 million fractures of the hip, spine, wrist, and other bones, costing the nation \$ 14 billion annually;
- (2) Osteoporosis progresses silently, in many cases undiagnosed until a fracture occurs, and once a fracture occurs, the disease is already advanced, and the likelihood is high that another fracture will occur;
- (3) One in two women and one in eight men 50 years of age and over will suffer a fracture due to osteoporosis;
- (4) Since osteoporosis progresses silently and currently has no cure, prevention, early diagnosis, and treatment are key to reducing the prevalence devastation of this disease;

Page 20

1998 Ga. ALS 862. *2: 1998 Ga. Laws 862:
1998 Ga. Act 862: 1997 Ga. HB 1086

and performed on an individual for the purpose of identifying bone mass or detecting bone loss.

(3) 'Qualified individual' means an:

(A) Estrogen-deficient woman or individual at clinical risk of osteoporosis as determined directly or indirectly by a physician and who is considering treatment;

(B) Individual with osteoporotic vertebral abnormalities;

American Association of Orthopaedic Surgeons

(C) Individual receiving long-term glucocorticoid (steroid) therapy; (D) Individual with primary hyperparathyroidism; or

(E) Individual being monitored directly or indirectly by a physician to assess the response to or efficacy of approved osteoporosis drug therapies.

31-15A-3.

(a) Every group or individual accident or sickness insurance benefit plan, policy, or contract that provides hospital, medical, or surgical coverage that is issued, amended, delivered, or renewed in this state on or after July 1, 1998, shall make available as a part of the plan, policy or contract or as an optional endorsement to the plan, policy or contract coverage for qualified individuals for reimbursement for scientifically proven bone mass measurement (bone density testing) for the prevention, diagnosis, and treatment of osteoporosis.

(b) Every person or entity providing an accident or sickness insurance benefit plan, policy, or contract which is subject to the provisions of subsection (a) of this Code section shall identify and use scientifically accurate educational materials to increase patient awareness and knowledge of osteoporosis and encourage the prevention and treatment of osteoporosis."

[*3]

SECTION 3

All laws and parts of laws in conflict with this Act are repealed.

HISTORY:

Approved by the Governor on April 14, 1998

SPONSOR: Representatives Henson of the 65th, Orrock of the 56th, Trense of the 44th, Hugley of the 133rd, McClinton of the 68th and others

American Association of Orthopaedic Surgeons

In bill text, brackets have special meaning:

[A> <A] contains added text, and [D> <D]
contains deleted text.

Indiana 111th General Assembly -- First Regular Session
1999 IN H 1356
Enacted
04/23/1999
Crosby

First Regular Session 111th General Assembly (1999)

HOUSE ENROLLED ACT No. 1356
AN ACT to amend the Indiana Code concerning health.
Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 16-18-2-96 IS AMENDED TO READ AS FOLLOWS {EFFECTIVE JULY 1, 1999}: Sec. 96.
(a) [A> "Director", for purposes of IC 16-19-13, refers to the director of the office of women's health established by IC 16-19-13. <A]

[A> (b) <A] "Director", for purposes of IC 16-28, IC 16-29, and IC 16-30, means the individual acting under the authority of and assigned the responsibility by the state health commissioner to implement IC 16-28, IC 16-29, and IC 16-30.

[D> (b) <D] [A> (c) <A] "Director", for purposes of IC 16-31, refers to the director of the state emergency management agency established under IC 10-8-2-1.

[D> (c) <D] [A> (d) <A] "Director", for purposes of IC 16-35-2, refers to the director of the program for children with special health care needs.

SECTION 2. IC 16-18-2-254.5 IS ADDED TO THE INDIANA CODE AS A [A> NEW <A] SECTION TO READ AS FOLLOWS {EFFECTIVE JULY 1, 1999}: [A> Sec. 254.5.
"Office", for purposes of IC 16-19-13, refers to the office of women's health established by IC 16-19-13. <A]

SECTION 3. IC 16-19-13 IS ADDED TO THE INDIANA CODE AS A [A> NEW <A] CHAPTER TO READ AS FOLLOWS {EFFECTIVE JULY 1, 1999}:

[A> Chapter 13. Office of Women's Health <A]

[A> Sec. 1. As used in this chapter, "office" refers to the office of women's health established by this chapter. <A]

[A> Sec. 2. The office of women's health is established within the state department. <A]

[A> Sec. 3. The office is established for the following purposes: <A]

[A> (1) To educate and advocate for women's health by requesting that the state department, either on its own or in partnership with other entities, establish appropriate forums, programs, or initiatives designed to educate the public regarding women's health, with an emphasis on preventive health and healthy lifestyles. <A]

[A> (2) To assist the state health commissioner in identifying,

coordinating, and establishing priorities for programs, services, and resources the state should provide for women's health issues and concerns relating to the reproductive, menopausal, and postmenopausal phases of a woman's life, with an emphasis on postmenopausal health. <A]

[A> (3) To serve as a clearinghouse and resource for information regarding women's health data, strategies, services, and programs that address health issues, including the following: <A]

<A] [A> (A) Diseases that significantly impact women, including heart disease, cancer, and osteoporosis.

[A> (B) Menopause. <A]

[A> (C) Mental health. <A]

[A> (D) Substance abuse. <A]

[A> (E) Sexually transmitted diseases. <A]

[A> (F) Sexual assault and domestic violence. <A]

[A> (4) To collect, classify, and analyze relevant research information and data conducted or compiled by: <A]

[A> (A) the state department; or <A]

[A> (B) other entities in collaboration with the state department; and to provide interested persons with information regarding the research results, except as prohibited by law. <A]

[A> (5) To develop and recommend funding and program activities for educating the public on women's health initiatives, including the following: <A]

[A> (A) Health needs throughout a woman's life. <A]

<A] [A> (B) Diseases that significantly affect women, including heart disease, cancer, and osteoporosis.

[A> (C) Access to health care for women. <A] (D) Poverty

and women's health.

[A> (E) The leading causes of morbidity and mortality for women. <A] [A> (F) Special health

concerns of minority women. <A]

[A> (6) To make recommendations to the state health commissioner regarding programs that address women's health issues for inclusion in the state department's biennial budget and strategic planning. <A]

[A> (7) To seek funding from private or governmental entities to carry out the purposes of this chapter. <A]

<A] [A> (8) To prepare materials for publication and dissemination to the public on women's health.

[A> (9) To conduct public educational forums in Indiana to raise public awareness and to educate citizens about women's health programs, issues, and services. <A]

[A> (10) To coordinate the activities and programs of the office with other entities that focus on women's heart.^ or women's issues, including the Indiana commission for women (IC 4-23-25-3)

American Association of Orthopaedic Surgeons

[A> (11) To represent the state health commissioner, upon request, before the general assembly and the Indiana commission for women established by IC 4-23-25-3. <A]

[A> (12) To provide an annual report to the governor, the legislative council, and the Indiana commission for women regarding the successes of the programs of the office, priorities and services needed for women's health in Indiana, and areas for improvement. This section does not allow the director or any employees of the office to advocate, promote, refer to, or otherwise advance abortion or abortifacients. <A]

[A> Sec. 4. (a) The state health commissioner shall appoint persons to staff the office, including: <A]

[A> (1) the director of the office; and <A]

[A> (2) any other employees that the state health commissioner determines are necessary. <A]

[A> (b) The employees appointed under subsection (a) (2) shall report to the director. The director shall report to the state health commissioner. <A]

[A> (c) The director shall supervise the employees assigned to the office. <A]

[A> (d) The director shall oversee the administrative functions of the office. <A]

[A> Sec. 5. (a) The state health commissioner shall appoint an advisory committee on women's health to assist in advising the director regarding the duties required under this chapter. <A]

[A> (b) The advisory committee is comprised of persons with an expertise in and a knowledge of women's health issues in Indiana. <A]

[A> (c) The state health commissioner shall: <A]

[A> (1) determine the number of persons to serve on the advisory committee; <A]

[A> (2) appoint a chairperson or co-chairpersons for the advisory committee; and <A]

[A> (3) establish the policies and procedures under which the advisory committee operates. <A]

48TH DOCUMENT of Level 1 printed in FULL format.

ANNOTATED CODE OF MARYLAND
Copyright (c) 1957-1997 by Michie,
a division of Reed Elsevier Inc. and Reed Elsevier Properties Inc.
All rights reserved.

*** THIS SECTION IS CURRENT THROUGH THE 1997 SUPPLEMENT
*** (1997 REGULAR SESSION) ***

INSURANCE
TITLE 15. HEALTH INSURANCE
SUBTITLE 8. REQUIRED HEALTH INSURANCE BENEFITS

Md. INSURANCE Code Ann. § 15-823 (1997)
§ 15-823. Coverage for osteoporosis prevention and treatment. (a) Definitions. --

(1) In this section the following words have the meanings indicated.

(2) "Bone mass measurement" means a radiologic or radioisotopic procedure or other scientifically proven

American Association of Orthopaedic Surgeons

technology performed on a qualified individual for the purpose of identifying bone mass or detecting bone loss.

(3) "Qualified individual" means:

(i) an estrogen deficient individual at clinical risk for osteoporosis;

(ii) an individual with a specific sign suggestive of spinal osteoporosis, including roentgenographic osteopenia or roentgenographic evidence suggestive of collapse, wedging, or ballooning of one or more thoracic or lumbar vertebral bodies, who is a candidate for therapeutic intervention or for an extensive diagnostic evaluation for metabolic bone disease;

(iii) an individual receiving long-term glucocorticoid (steroid) therapy;

(iv) an individual with primary hyperparathyroidism; or

(v) an individual being monitored to assess the response to or efficacy of an approved osteoporosis drug therapy.

(b) Scope of section. -- This section applies to:

(1) each individual hospital or major medical insurance policy of an insurer that is delivered or issued for delivery in the State and is written on an expense-incurred basis;

(2) each group or blanket health insurance policy of an insurer that is issued or delivered in the State and is written on an expense-incurred basis; and

(3) each individual or group medical or major medical contract or certificate of a nonprofit health service plan that is issued or delivered in the State and is written on an expense incurred basis.

(c) Coverage required. -- A policy, contract, or certificate subject to this section shall include coverage for qualified individuals for reimbursement for bone mass measurement for the prevention, diagnosis, and treatment of osteoporosis when the bone mass measurement is requested by a health care provider for the qualified individual.

HISTORY: 1997, ch. 217.

NOTES:

SPECIAL REVISOR'S NOTE.

Chapter 217, Acts of 1997, added this section.

DEFINED TERMS:

"Health insurance"	§ 1-101
"Insurer"	§ 1-101
"Policy"	§ 1-101

EDITOR'S NOTE. --Section 2, ch. 217, Acts 1997, provides that "this Act shall apply to policies, contracts, or certificates issued, delivered, or renewed on or after October 1, 1997."

Section 3, ch. 217, Acts 1997, provides that the act shall take effect Oct. 1, 1997.

USER NOTE: For more generally applicable notes, see notes under the first section of this part, subtitle, title, division or article.

American Association of Orthopaedic Surgeons

In bill text, brackets have special meaning:

[A> <A] contains added text, and
[D> <D) contains deleted text.

Oklahoma 1st Session of the 47th Legislative Session 1999 OK S 330
Enacted
05/24/1999
Weedn

STATE OF OKLAHOMA

1st Session of the 47th Legislature (1999)

SENATE BILL No. 330

By: Weedn and Monson of the Senate
and
Boyd, Easley, Askins and Staggs
of the House

An Act relating to health; creating the Osteoporosis Prevention and Treatment Education Act; citing act; stating purposes of act; requiring promulgation of rules; requiring the State Department of Health provide certain services according to fund availability; requiring the State Department of Health to take certain actions to effectuate the purposes of the act; requiring the use of certain strategies for specified purposes; requiring the State Department of Health to conduct a needs assessment to identify specified resources and needs; requiring the Department to develop and maintain list of specified services and health care providers; requiring dissemination of list and other information; stating specified contents of certain document; establishing Interagency Council on Osteoporosis; providing for chair and composition of membership; stating duties of council; requiring preparation and transmission of report; requiring establishment and coordination of Advisory Panel on Osteoporosis; stating purpose of panel; providing for composition of membership; allowing the State Department of Health to take certain actions; allowing the State Department of Health to contract with specified entity for certain services; allowing the State Commissioner of Health to accept specified funds; requiring the Commissioner to seek waivers to maximize funds; providing for codification; and providing effective date. BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

SECTION 1. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 1-260.1 of Title 63, unless there is created a duplication in numbering, reads as follows:

This act shall be known and may be cited as the "Osteoporosis Prevention and Treatment Education Act".

SECTION 2. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 1-260.2 of Title 63, unless there is created a duplication in numbering, reads as follows:

A. The purposes of this act are:

1. To design and implement a multigenerational, statewide program of public awareness and knowledge about:

- a. the causes of osteoporosis,
- b. Personal risk factors,
- c. the value of prevention and early detection,
- d. the options available for treatment;

American Association of Orthopaedic Surgeons

2. To facilitate and enhance knowledge and understanding of osteoporosis by disseminating educational materials, information about research results, services, and strategies for prevention and treatment to patients, health professionals, and the public;

3. To utilize educational and training resources and services that have been developed by organizations with appropriate expertise and knowledge of osteoporosis, and to use available technical assistance;

4. To evaluate existing osteoporosis services in the community and assess the need for improving the quality and accessibility of community-based services;

5. To provide easy access to clear, complete, and accurate osteoporosis information and referral services;

6. To educate and train service providers, health professionals, and physicians;

7. To heighten awareness about the prevention, detection, and treatment of osteoporosis among state and local health and human service officials, health educators, and policymakers;

8. To coordinate state programs and services to address the issue of osteoporosis;

9. To promote the development of support groups for osteoporosis patients and their families and caregivers;

10. To adequately fund these programs; and 11. To provide lasting improvements in the delivery of osteoporosis health care that affect the quality of life of osteoporosis patients and that contain health care costs.

B. 1. The State Board of Health shall promulgate rules necessary to enact the provisions of the Osteoporosis Prevention and Treatment Education Act.

2. The State Department of Health, as funds are available, shall:

a. provide sufficient staff to implement the Osteoporosis Prevention and Treatment Education Program,

b. provide appropriate training for staff of the Osteoporosis Prevention and Treatment Education Program,

c. identify the appropriate entities to carry out the program,

d. base the program on the most up-to-date scientific information and findings,

e. work to improve the capacity of community-based services available to osteoporosis patient_

f. work with governmental offices, community and business leaders, community organizations, health care and human service providers, and national osteoporosis organizations to coordinate efforts and maximize state resources in the areas of prevention, education, and treatment of osteoporosis, and

g. identify and, when appropriate, replicate or use successful osteoporosis programs and procure related materials and services from organizations with appropriate expertise and knowledge of osteoporosis.

SECTION 3. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 1-260.3 of Title 63, unless there is created a duplication in numbering, reads as follows:

The State Department of Health shall establish, promote, and maintain an osteoporosis prevention and treatment education program in order to effectuate the purposes of this act as follows:

1. The Department shall use, but is not limited to, the following strategies for:

a. raising public awareness on the causes and nature of osteoporosis, personal risk factors, value of prevention and early detection, and options for diagnosing and treating the disease:

American Association of Orthopaedic Surgeons

(1) an outreach campaign utilizing print, radio, and television public service announcements, advertisements, posters, and other materials,

(2) community forums,

(3) health information and risk factor assessment at public events, (4) targeting at-risk populations,

(5) providing reliable information to policymakers, and

(6) distributing information through county health departments, schools, area agencies on aging, employer wellness programs, physicians, hospitals and health maintenance organizations, women's groups, nonprofit organizations, community-based organizations, and departmental regional offices,

b. educating consumers about risk factors, diet and exercise, diagnostic procedures and their indications for use, risks and benefits of drug therapies currently approved by the U.S Food and Drug Administration, environmental safety and injury prevention, and the availability of diagnostic, treatment, and rehabilitation services:

(1) identify and obtain educational materials, including brochures and videotapes, which accurately translate the latest scientific information on osteoporosis in easy-to-understand terms,

(2) build a statewide system of resources to provide information and referral on all aspects of osteoporosis, including educational materials and counseling,

(3) establish state linkage with an existing toll-free hotline for consumers,

(4) facilitate the development and maintenance of osteoporosis support groups, and

(5) conduct workshops and seminars for lay audiences, and

c. educating physicians and health professionals and training community service providers on the most up-to-date, accurate scientific and medical information on osteoporosis prevention, diagnosis, and treatment, therapeutic decision-making, including guidelines for detecting and treating the disease in special populations, risks and benefits of medications, and research advances:

(1) identify and obtain education materials for the health care provider which translates the latest scientific and medical information into clinical applications,

(2) raise awareness among physicians and health and human services professionals as to the importance of osteoporosis prevention, early detection, treatment, and rehabilitation,

(3) identify and use available curricula for training health and human service providers and community leaders on osteoporosis prevention, detection, and treatment,

(4) provide workshops and seminars for in-depth professional development in the field of the care and management of the patient with osteoporosis, and

(5) conduct a statewide conference on osteoporosis at appropriate intervals;

2. a. The Department shall conduct a needs assessment to identify: (1) research being conducted within the state,

(2) available technical assistance and educational materials and programs nationwide,

(3) the level of public and professional awareness about osteoporosis, (4) the needs of osteoporosis patients, their families, and caregivers,

American Association of Orthopaedic Surgeons

(5) needs of health care providers, including physicians, nurses, managed care organizations, and other health care providers,

(6) the service available to the osteoporosis patient,

(7) existence of osteoporosis treatment programs,

(8) existence of osteoporosis support groups,

(9) existence of rehabilitation services, and

(10) number and location of bone density testing equipment.

b. Based on the needs assessment, the Department shall develop and maintain a list of osteoporosis-related services and osteoporosis health care providers with specialization in services to prevent, diagnose, and treat osteoporosis. This list shall be disseminated with a description of diagnostic testing procedures, appropriate indications for their use, drug therapies currently approved by the U.S. Food and Drug Administration, and a cautionary statement about the current status of osteoporosis research, prevention, and treatment. Such cautionary statement shall also indicate that the Department does not license, certify, or in any way approve osteoporosis programs or centers in the state.

SECTION 4. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 1-260.4 of Title 63, unless there is created a duplication in numbering, reads as follows:

A. There is hereby established within the State Department of Health an Interagency Council on Osteoporosis. The State Commissioner of Health shall chair the interagency council. The council shall be composed of representatives from appropriate state departments and agencies including, but not limited to, the entities with responsibility for aging, health care delivery, education, public welfare, and women's programs, who shall be appointed by the director or chief operating officer of such entity.

American Association of Orthopaedic Surgeons

In bill text, brackets have special meaning:

[A> <A) contains added text, and [D> <D]
contains deleted text.

Mississippi 1999 Regular Session of Mississippi Legislature

1999 MS SCR 611

Adopted

03/12/1999

9 Gollott

MISSISSIPPI LEGISLATURE

1999 Regular Session

To: Rules

By: Senator(s) Gollott, Gordon, Canon, Woodfield, Little, Harvey, Johnson (19th), Smith, White (29th), Bean, Turner, Ferris, Dearing, White (5th), Horhn, Jordan (24th), Minor, Blackmon, Simmons, Tollison, Hamilton, Hall, Burton, Canton, Frazier, Carter, Mettetal, Ross, Furniss, Posey, Harden, Dickerson, Hewes, Jackson, Cuevas, Rayborn, Hawks, Kirby, Nunnelee, Walls

Senate Concurrent Resolution 611

(As Adopted by Senate)

A CONCURRENT RESOLUTION TO DESIGNATE MAY AS OSTEOPOROSIS AWARENESS MONTH IN MISSISSIPPI AND TO ENCOURAGE THE STATE DEPARTMENT OF HEALTH TO IMPLEMENT THE PROVISIONS OF SECTIONS 41-93-1 THROUGH 41-93-9, MISSISSIPPI CODE OF 1972.

WHEREAS, osteoporosis is a bone-thinning disease that is a major health concern; and

WHEREAS, osteoporosis is a "silent disease" that typically progresses without symptoms until fractures occur; and

WHEREAS, it is estimated that some 77% of the approximately 400,000 Mississippi women over the age of 50 remain untreated and undiagnosed for osteoporosis; and

WHEREAS, osteoporosis is generally regarded as a preventable, but not reversible, disease; and

WHEREAS, early detection of osteoporosis among at-risk individuals is crucial to the prevention of the disease; and

WHEREAS, the 1994 Regular Session of the Mississippi Legislature expanded the state's role in women's health with the passage of Sections 41-93-1 through 41-93-9, Mississippi Code of 1972, enabling the State Department of Health to create a statewide program to promote public awareness about osteoporosis:

NOW, THEREFORE, BE IT RESOLVED BY THE MISSISSIPPI STATE SENATE, THE HOUSE OF REPRESENTATIVES CONCURRING THEREIN, That we do hereby designate May as Osteoporosis Awareness Month in Mississippi.

BE IT FURTHER RESOLVED, That the Mississippi Legislature encourages the State Department of Health to use, but not be limited to, the following strategies toward the prevention, diagnosis, education and treatment of osteoporosis:

(1) Establish and coordinate an advisory panel on osteoporosis, which shall provide nongovernmental input regarding the osteoporosis prevention and treatment education programs provided for by Section 41-93-3 et seq., Mississippi Code of 1972. Membership of this panel should include, but not be limited to, persons with osteoporosis, women's health organizations, public health educators, osteoporosis experts, and providers of osteoporosis health care.

American Association of Orthopaedic Surgeons

(2) The Department of Health is hereby requested to file a report, at least annually, setting forth all the department's osteoporosis-related activities for the previous year. The reports shall include, but not be limited to, the activities and recommendations of the advisory committee, the activities of the department on a monthly basis to accomplish the objectives contained in Section 41-93-1 et seq., and the number of Peripheral Dual X-ray Absorptiometry (PDEXA) screenings conducted by the department as a means of detecting and diagnosing this disease among Mississippi citizens. The report requested by this resolution shall be filed with the Chairman of the Public Health and Appropriations Committees of the State Senate and House of Representatives, and shall be available to the general public. The first of said reports is requested by December 1, 1999, with subsequent reports by the same date in each succeeding year thereafter.

BE IT FURTHER RESOLVED, That copies of this resolution be furnished to the National Osteoporosis Foundation and the Capitol Press Corps.

ARTICLES & OTHER OSTEOPOROSIS INFORMATION

"Osteoporosis: The Role of the Orthopaedist,"
Journal of the American Academy of Orthopaedic Surgeons

"Editorial,"
The Journal of Bone and Joint Surgery

"The Osteoporosis Interest Group," December, 1998
newsletter

"Focus on Prevention, Orthopaedists Told,"
The American Academy of Orthopaedic Surgeons Bulletin

"Bone Density Tests,"
The American Academy of Orthopaedic Surgeons Bulletin

"Musculoskeletal Conditions in the U.S."
The American Academy of Orthopaedic Surgeons Bulletin

Osteoporosis: The Role of the Orthopaedist

Tyler S. Lucas, MD. and Thomas A. Einborn, MD

Abstract

Osteoporosis is one of the most prevalent musculoskeletal disorders encountered in orthopaedic practice today. This review provides an update on the pathophysiology of bone metabolism leading to osteoporosis, describes the latest methodology in the diagnostic workup of patients with low bone mass, and summarizes the current status of osteoporosis treatment regimens. The special needs of the osteoporotic fracture patient are also addressed. In general, load-sharing devices and sliding nail-plate constructs are preferred over rigid internal fixation systems. Prolonged immobilization should be avoided.

J .Am Acad Orthop Surg 1993;1:48-56

Osteoporosis ranks as a major health problem affecting more than 8 million Americans and leading to more than 1.5 million fractures each year. One of every two women over the age of 50 years will have an osteoporosis-related fracture, and one in every three men over the age of 75 years will be affected by this disease. A single hip fracture is estimated to cost between \$26,000 and \$30,000, and the overall cost of acute and long-term care associated with osteoporosis exceeds \$10 billion annually.'

Because a substantial number of patients will encounter an orthopaedist for an osteoporosis-related problem, an understanding of the pathophysiology, diagnostic approach, and medical and surgical treatment options is essential. This article will provide a summary update for each of these issues, as well as a discussion of preventive strategies that the orthopaedist can offer to patients who may be at risk for developing this disease.

Defining the Problem

Osteoporosis is a disease characterized by low bone mass, microarchitectural deterioration of bone tissue leading to bone fragility, and a consequent increase in fracture risk. Although fractures of the spine, hip, and wrist are most typical of this condition, fractures of other bones, such as the ribs, humerus, and pelvis, are not uncommon)

Two categories of osteoporosis have been identified: primary and secondary. Primary osteoporosis is by far the more common form of the disease and includes postmenopausal osteoporosis (type I); age-associated osteoporosis (type II), previously termed senile osteoporosis, which affects a majority of individuals over the age of 70 to 80 years; and idiopathic osteoporosis, a disorder of unknown cause that affects premenopausal women and men who are middle-aged or younger. In secondary osteoporosis, loss of bone is caused by an identifiable agent or disease process, such as an inflammatory disorder, a disorder of bone marrow cellularity, corticosteroid use, or a disorder of endocrine control of bone remodeling (Table 1).'- It is important to recognize that the type I and type II variants of primary osteoporosis are not mutually exclusive. On the contrary, patients who have one type of osteoporotic fracture are likely to have another osteoporotic fracture of a different type.

Osteoporosis reflects the inadequate accumulation of bone tissue during growth and maturation, excessive losses thereafter, or both. Since residual bone density is the net result of these factors, and since there are no safe, effective ways to rebuild the osteoporotic skeleton, prevention emerges as the crucial strategy) Consequently, a knowledge of preventive approaches is essential, including awareness of the efficacy and safety of estrogen and progestin therapy, intake of calcium and other nutrients, exercise, calcitonin, bisphosphonates, and other modalities on the horizon. Prevention also requires an understanding of predictive factors, so that the likelihood of osteoporosis can be judged and an awareness of indications for estimating bone density can be developed (Table 2).

Bone Metabolism and Osteoporosis

Regulation of bone metabolism depends on the delicate balance

Dr. Lucas is Resident, Department of Orthopaedics, Mount Sinai School of Medicine, New York. Dr. Einhorn is Professor of Orthopaedics and Director of Orthopaedic Research. Mount Sinai School of Medicine.

Reprint requests: Dr. Ehdron, Department of Orthopaedics, Mount Shun School of Medicine, 5 East 98th Street, Neca York, NY 10029-6574.

American Association of Orthopaedic Surgeons

Tyler S. Lucas, MD, and Thomas A. Einborn, MD

Table 1

Types of Involutional Osteoporosis

Feature	Type I (Postmenopausal)	Type 1 (Age-Associated)
Age, yr	51-75	>70
Sex ratio (F: M)	6:1	2:1
Type of bone loss	Mainly trabecular	Trabecular and cortical
Fracture site	Vertebrae (crushed), distal radius, hip (mainly intertrochanteric)	Vertebrae (multiple wedged), hip (mainly femoral neck)
Main causes	Factors related to menopause	Factors related to aging

between the functions of several endocrine organs and their effects on the cell types found in bone (osteoblasts, osteoclasts, and osteocytes). Endocrine organs that are important to bone metabolism include the skin, parathyroid glands, liver, kidneys, gonads, adrenals, and thyroid. In addition, in certain pathologic states, pituitary and hypothalamic function also affect bone physiology. The activities of the endocrine system as they apply to bone are to maintain normal serum calcium levels.

Table 2

Osteoporosis Risk Factors

Genetic and biologic

- Family history
- Fair skin and hair
- Northern European background
- Scoliosis
- Osteogenesis imperfecta
- Early menopause
- Slender body build

Behavioral and environmental

- Excessive alcohol use
- Cigarette smoking
- Inactivity
- Malnutrition
- Low calcium intake
- Exercise-induced amenorrhea
- High-fiber diet
- High phosphate diet
- High-protein diet

Vitamin D

Vitamin D modulates calcium homeostasis, either directly or by affecting various calcium-regulating cell systems. In Caucasian persons, 15 minutes of exposure to bright sunlight on the hands and face per day produces enough vitamin D₃ (cholecalciferol) to satisfy the minimum requirement (10 mg) of this hormone. Dark-skinned persons may require longer exposure. The major source of vitamin D is the diet, which provides vitamin D₂ (ergocalciferol). All vitamin D metabolites are fat-soluble vitamins. Because some individuals may lack sufficient exposure to sunlight as well as dietary exposure to foods naturally containing vitamin D, most milk in the United States is supplemented with vitamin D. The only significant natural source of vitamin D is cod liver oil.'

In vitamin D metabolism, precursor molecules are converted to the active form. After formation in the skin, cholecalciferol circulates to the liver, where it is hydroxylated to produce the major circulating prohormone, 25-hydroxycholecalciferol (calcifediol). Conditions that affect hepatic function and drugs that induce P-450 microsomal enzymes (e.g., phenytoin) will interrupt this conversion pathway and lead to the production of inactive polar metabolites of cholecalciferol.³ These conditions can increase the risk of osteoporosis and, if severe, can lead to various forms of

American Association of Orthopaedic Surgeons

osteomalacia.

The next step in the metabolism of vitamin D is the 1 α -hydroxylation of 25-hydroxycholecalciferol to form 1,25-dihydroxycholecalciferol (calcitriol)-the physiologically active form of the vitamin. The enzyme for this reaction, located in the mitochondria of renal tubular cells, is activated by parathyroid hormone. Although parathyroid hormone is the major molecule that controls 1 α -hydroxylase function, phosphate, ionized calcium, and specific levels of 1,25-dihydroxycholecalciferol itself can regulate this activity."

The major target tissues of 1,25-dihydroxycholecalciferol are bone, kidney, and intestine. In the kidney, it increases proximal tubular reabsorption of phosphate. It also acts as a feedback regulator of its own formation. In the intestine, calcitriol induces production of the critical calcium-binding protein responsible for active calcium transport.³

The physiologic role of vitamin D is less well understood. At pharmacologic doses, it accelerates bone resorption by increasing the activity and number of osteoclasts. However, vitamin D probably modulates bone physiology by acting on the osteoblast. The osteoblast then influences the osteoclast via cytokines acting as regional second messengers.³

Parathyroid Hormone

Parathyroid hormone and vitamin D together form a parathyroid hormone-1,25-dihydroxycholecalciferol axis, which is the major metabolic regulator of calcium and phosphate fluxes in the body.⁴ The three major target organs of parathyroid hormone are bone, kidneys, and intestines.

In bone, parathyroid hormone is generally regarded as a bone-resorbing hormone. However, receptors for parathyroid hormone are found, not on osteoclasts, but on osteoblasts, osteoblast precursors, and very early osteoblast precursors. Parathyroid hormone causes osteoblasts to (1) stimulate the release of neutral proteases, which degrade surface osteoid and initiate the bone remodeling cycle; (2) stimulate the release of unknown factors from osteoblasts, which stimulate osteoclasts to resorb bone; and (3) stimulate osteoblasts to synthesize osteoid and form bone.

The rate of synthesis and release of parathyroid hormone by the cell is related to the extracellular ionized calcium concentration. Increased levels of parathyroid hormone have been noted in the elderly, possibly because of a decrease in fractional calcium absorption in the intestine. These findings support the conclusion that the parathyroid hormone-1,25-dihydroxycholecalciferol axis may aggravate the progressive loss of bone mass in the aged.⁴

Calcitonin

Calcitonin is an important calcium-regulating hormone, the exact physiologic role of which remains controversial. It does not regulate directly the functions of parathyroid hormone or vitamin D metabolites, but its ability to modulate serum calcium and phosphate levels is significant. Calcitonin is produced and secreted by the C cells (parafollicular cells) of the thyroid gland. The major target tissues for Calcitonin seem to be bone, kidney, and the gastrointestinal tract. In bone, the major defined action is the inhibition of osteoclastic bone resorptions.

Estrogen and Corticosteroids

The association between bone loss, fracture risk, and a postmenopausal state (naturally occurring or surgically induced) is well known. Many studies have shown that bone loss is accelerated after menopause; when ovarian hormone production ceases and circulating levels fall to 20% of previous levels, this bone loss can be reversed only by administration of estrogen. Although estrogens are known to inhibit bone resorption, the mechanisms responsible for this effect are not understood. Only recently has the presence of specific estrogen receptors in osteoblast-like cells been confirmed? Although the level of such receptors is very low, the fact that they appear to be active in osteoblasts and osteoblast-like cells provides the first real evidence that bone is a target tissue for estrogen action. Preliminary evidence also suggests that osteoclasts possess estrogen receptors. If this is true, it is possible that estrogen may exert direct control over both bone formation and resorption.

Both men and women experience age-related bone loss, particularly from cortical bone. In women, the rate of trabecular bone loss increases in the first few years after menopause, associated with a decrease in endogenous estrogens. Not only does estrogen replacement block this bone loss in the early postmenopausal years (years 3 to 6), but a decrease in fracture rates in the appendicular skeleton has also been documented. When used alone, 0.625 mg of conjugated estrogen per day is the lowest effective dose for retarding bone loss. Some studies have suggested that a lower dose may be effective when combined with calcium supplementation. Patients who undergo bilateral oophorectomy before natural menopause also respond to estrogen therapy. To obtain maximal benefit from estrogen replacement therapy, it should be

American Association of Orthopaedic Surgeons

started as soon as possible after surgical or natural menopause.⁶

It is well accepted that any factor that increases a patient's exposure to estrogen (early menarche, late menopause, estrogen replacement therapy) can increase the risk of breast or endometrial cancer. Combined cyclical estrogen-progestin therapy is believed to decrease the occurrence of endometrial, but not breast, cancer. In patients who have undergone hysterectomy, unopposed estrogen treatment (i.e., without the use of a progestational agent) is indicated⁶

The most important factors to consider in determining whether a patient should take estrogen is the relative risk-benefit ratio. In general, patients who have a strong family history of breast cancer or endometrial cancer may be at increased risk of developing cancer or stroke as a result of estrogen treatment. Any form of estrogen is contraindicated in patients with hypertension or a history of congestive heart failure, because its effect on the renin-angiotensin axis increases sodium retention.⁶ In addition, the use of estrogen is known to exacerbate benign breast diseases and cholecystitis. Estrogen is strongly beneficial not only in the prevention of osteoporosis and hip fractures but also in the prevention of heart disease in women.

Corticosteroids can cause bone loss by directly inhibiting calcium absorption, increasing renal calcium excretion, and indirectly stimulating secondary hyperparathyroidism. Their principal effects are to decrease production of the intestinal binding proteins required for calcium absorption. Very high doses of steroids decrease both bone formation and resorption. Even with doses as low as 10 mg of prednisone per day, significant bone loss occurs.⁸

Thyroid Hormones

Patients with hyperthyroidism and those who are receiving exogenous thyroid treatment may develop osteoporotic bone disease. Both bone resorption and formation are stimulated, but resorption seems to occur at a slightly faster rate than formation. Patients with hyperthyroidism and those who take thyroid supplements for the treatment of a hypothyroid condition are also at increased risk for sustaining a hip fracture independent of bone density. Hence, thyroid hormone may have an effect on bone quality as well as bone mass.¹

Diagnosis

Any patient over the age of 50 who presents to an orthopaedist with a hip, distal radial, or vertebral compression fracture should be evaluated for the presence of osteoporosis. A comprehensive medical evaluation should seek potential causes of secondary osteoporosis, such as hyperthyroidism, Cushing's disease, disuse, or the use of drugs known to be associated with osteoporosis (e.g., glucocorticoids, thyroid hormone supplements, phenytoin, immunosuppressants). The extent of bone loss and fractures should be assessed, and baseline biochemical data should be obtained. A careful history should include notation of the chronology, location, type, and severity of back pain (if back pain is a symptom); previous treatment; age at onset and type of menopause (natural or surgical); family history of osteoporosis; amount of tobacco or alcohol used; level of physical activity; and amount of habitual calcium intake.

Physical examination should include an accurate measurement of height and a thorough investigation to rule out systemic disease. In all patients, a complete blood cell count, differential count, and blood chemistry profile should be performed (Table 3). Thyroid function should also be assessed. In patients who are receiving thyroid hormone supplements, determination of the thyroid-stimulating hormone level is useful to be certain that thyroid replacement is not excessive. Since primary osteoporosis generally presents with a normal serum biochemical profile, abnormalities in any of these studies suggest that osteoporosis may be secondary to an underlying disease. Serum protein electrophoresis should be performed on all potentially osteoporotic patients at initial evaluation. A normal pattern excludes the presence of multiple myeloma or a related lymphoproliferative disorder in 90% of patients.

An analysis of urinary calcium excretion, normalized for creatinine (24-hour collection), and the level of urinary pyridinium crosslinks (2-hour fasting sample) is considered to be part of the state-of-the-art approach to diagnosing and managing an actively resorbing osteoporotic process. (Pyridinium cross-links are specific components of the types of

Table 3 Laboratory Tests

Routine

- Complete blood cell count
- Sedimentation rate
- Electrolytes
- Creatinine

American Association of Orthopaedic Surgeons

- Blood urea nitrogen
- Calcium
- Phosphorus
- Protein
- Albumin
- Alkaline phosphatase
- Liver enzymes
- 24-hour urine calcium
- Serum protein electrophoresis
- Special
 - 25-Hydroxycholecalciferol
 - 1,25-Dihydroxycholecalciferol Osteocalcin
 - Urine pyridinium cross-links
- Recommended for further workup based on initial history
 - Gastrointestinal malabsorption
 - Serum carotene
 - Thyroid function
 - Plasma cortisol
 - Serum testosterone (men)
 - Urine immunoelectrophoresis
 - Bence Jones protein

collagens found in bone and cartilage tissues.) In the case of collagen breakdown, the measurement of hydroxyproline excretion has been essentially replaced by the measurement of pyridinium cross-links. In addition, since osteoblastic bone formation follows osteoclastic resorption, states of high bone turnover are accompanied by increased osteoblastic activity as well. In those instances, analysis of the serum for osteocalcin, a specific osteoblast product, is another way to ascertain bone metabolic activity.

Radiography

The most characteristic feature of osteoporosis is decreased radiodensity. The apparent radiodensity, however, *may vary* by up to 30% because of differences in several factors, such as film development, patient weight, and the amount of x-ray exposure. A lateral radiograph is the best way to image an osteoporotic spinal deformity. The usual findings are vertebral collapse (reduction of anterior and posterior height), anterior wedging (reduction in anterior height), and biconcave compression of the end plates ("ballooning"), which usually occurs in the lumbar spinal column. The nucleus pulposus also may herniate into the vertebral body (Schmorl's node).

Bone Densitometry

The most effective way of screening for osteoporosis and then following the results of treatment is by the measurement of bone density. Several methods exist for assessing skeletal density, all of which offer a dramatic improvement over previously available methods, such as standard radiography (Table 4).¹⁰ Although measurements of bone density in different parts of the skeleton may correlate, it is generally believed that the direct measurement of bone density at the actual site of a fracture is of the greatest clinical interest.

Journal of the American Academy of Orthopaedic Surgeons

Table 4
Techniques for the Measurement of **Bone Mass**

Technique	Site	Precision,*	Accuracy,+	Examination Time, min	Dose of Radiation, mrem	Approximate Cost, \$
Single-photon absorptiometry	Proximal and distal radius, calcaneus	1-3	5	15	10-20	75-100
Dual-photon absorptiometry	Spine, hip, total body	2-4	4-10	20-40	5	150-200
Dual-energy <i>x-ray</i> absorptiometry	Spine, distal radius, hip, total body	0.5-2.0	3-5	3-7	1-3	150-200
Quantitative computed tomography	Spine	2-5	5-20	10-15	100-1,000	150-200
Radiographic absorptiometry	Phalanges	1-2	4	2	100	75-100

*Precision is the coefficient of variation for repeated measurements over a short period of time in young, healthy persons.

[†]Accuracy is the coefficient of variation for measurements in a specimen the mineral content of which has been determined by other means.

Single-photon absorptiometry is a useful method for determining the amount of bone substance present at the distal radius, forearm, and calcaneus. It is relatively inexpensive and takes only about 15 minutes to perform. It results in a relatively low dose of radiation to the patient.

Dual-photon absorptiometry (DPA) uses transmission scanning with photons from a radioisotope source, such as gadolinium 153, that emits two energy peaks, thus allowing bone density to be measured independently from soft-tissue density. It allows measurement of the spine, hip, and total body and requires approximately 20 to 40 minutes to perform. Systems for performing DPA are no longer being manufactured because they have been replaced by the more accurate dual-energy x-ray absorptiometry (DXA) apparatus.

Dual-energy x-ray absorptiometry is an x-ray-based scanning procedure that is often used to detect bone loss in the spine, distal radius, hip, or total body. This technique is rapid, taking only 3 to 7 minutes, and delivers a radiation dose that is so low (1 to 2 mrem) as to be equivalent to approximately 5% of the radiation dose of one chest radiograph. Precision and accuracy estimates for DXA are excellent. Currently, this may be the preferred method for assessing bone loss clinically.

Quantitative computed tomography (QCT) is a sophisticated procedure that makes it possible to measure the trabecular bone compartment only, thus allowing targeted analysis of trabecular bone loss. However, it exposes the patient to a radiation dose equivalent to that of several radiographs. This may make this technique less acceptable for use in repeated bone-mass measurements.

Radiographic absorptiometry is a method of noninvasive measurement of bone mineral from radiographs of the hands. In this method, radiographs taken with standard x-ray equipment are subjected to computer-controlled analysis.

Presently, the Health Care Financing Administration (the federal agency that administers Medicare) recognizes only single-photon absorptiometry and radiographic absorptiometry as reimbursable health care costs. This agency is currently reassessing its coverage policy for these tests, as well as considering reimbursement for DPA, DXA, and QCT. In addition, third-party payers, such as Blue Cross/Blue Shield, are reassessing their coverage policies on bone-mass measurement. Charges for DPA, DXA, and QCT may be reimbursed by some insurers, but orthopaedists should advise their patients that reimbursement is not guaranteed. Since the monetary issues surrounding health care are in a state of evolution, physicians and patients must check the local and federal reimbursement policies to determine the coverage status of these relatively expensive tests. The American Academy of Orthopaedic Surgeons and the National Osteoporosis Foundation are working with federal regulatory agencies, congressional policy makers, and private insurers

American Association of Orthopaedic Surgeons

to develop strategies that will make these tests available to patients who need them (Table 5).

Journal of the American Academy of Orthopaedic Surgeons

52

Vol. 1, No. 1, Sept/Oct. 1993

Table 5
Indications for Bone-Mass Measurement

In estrogen-deficient women, to make decisions about estrogen replacement therapy

In patients with spinal osteopenia, to diagnose osteoporosis and make decisions about further workup and treatment

In patients on long-term steroid treatment, to diagnose decreased bone mass in order to adjust dose

In patients with asymptomatic primary hyperparathyroidism, to identify need for surgical parathyroidectomy

Prevention

Prevention of osteoporosis is of primary importance, since there are no safe and effective methods for restoring healthy bone tissue and normal bone architecture once they have been lost. Preventive approaches include ensuring maximal accumulation of bone during skeletal growth and maturation and reducing or eliminating bone loss after the skeleton matures. In addition, good nutrition, modifications of lifestyle (e.g., moderation in use of alcohol and cessation of cigarette smoking), and regular physical activity are important adjuncts to any prevention and treatment program. Because most orthopaedists are exposed to a cross section of patients with respect to age, playing a proactive role in osteoporosis prevention is possible.

Adolescence and Young Adulthood

Adequate calcium nutrition during growth and maturation are key determinants of adult bone mass. Weight-bearing exercise, such as walking, jogging, and dancing, for 3 to 4 hours per week is also recommended. Skeletal integrity may be jeopardized by entities associated with premenopausal estrogen deficiency, such as anorexia, bulimia, excessive athleticism, prolactinoma, and hyperthyroidism, and by taking drugs that impair skeletal metabolism, such as glucocorticoids and antiepileptic agents. It is important for the orthopaedist to recognize these risks and to initiate preventive measures where possible.

Perimenopause and Postmenopause

Prevention of bone loss in the postmenopausal period is of the utmost importance for women at risk for osteoporosis. A strong family history of osteoporosis or a medical and social history that suggests an increased risk of osteoporosis (Table 2) should lead to the performance of a bone density examination. If low bone mass is detected, a high calcium intake alone will not significantly mitigate the accelerated spinal loss of the postmenopausal period. Estrogen is the therapy of choice. While the best exercise regimen to promote skeletal health has not yet been determined, evidence indicates that weight-bearing exercise can reduce bone loss in this group. Preliminary studies suggest that injectable calcitonin is effective in reducing postmenopausal bone loss; however, it has not been approved by the Food and Drug Administration (FDA) for this indication.

Advancing Age

Patients who do not experience rapid bone loss at menopause but present with moderate to severe osteoporosis beginning in the seventh decade of life (type II osteoporosis) can still benefit from prophylactic measures. Appropriate calcium, vitamin D, and exercise are necessary, and cigarette smoking and excessive alcohol intake should be avoided.

Treatment

The treatment of patients who have sustained osteoporotic fractures includes maintaining their quality of life, encouraging mobilization, controlling pain safely, and promoting social interaction. Prolonged bed rest, inadequate attention to nutrition, and social isolation are avoidable pitfalls. Drugs that impair motor function, such as sedatives, tranquilizers, and hypnotic agents, should be avoided, since they may predispose to falls and fractures.

For the patient who has low bone mass or a typical osteoporotic fracture, a complete history and physical examination are necessary, and a thorough laboratory workup should be ordered to exclude common medical disorders known to cause bone loss. Osteomalacia, which can masquerade as osteoporosis, must be excluded. Treatment mainstays include adequate calcium intake, mild weight-bearing exercise, and the use of calcitonin, etidronate (Didronel), or estrogen in selected patients. The indications for bone biopsy are few and are limited to those situations in which histologic examination of bone is the only means by which osteomalacia, hyperparathyroidism, or neoplasia can be excluded with

American Association of Orthopaedic Surgeons

certainty. The routine use of bone biopsy in patients with osteoporosis is not recommended except when patients are being followed up as part of an experimental protocol.

Calcium

Adequate calcium in the diet is required during growth because the body does not make calcium. It continues to be an essential nutrient after full skeletal growth has been achieved because the body loses calcium every day through shedding of skin, nails and hair as well as sweat, urine and feces. When the diet does not contain enough calcium to offset these losses, bone is catabolized in order to scavenge calcium. The current recommendation dietary allowance in the United States is 1,200 mg/day in adolescence through age 24 and 800 mg/day for older adults. It is recommended that men and premenopausal women ingest 1,000 mg/day and that postmenopausal women not receiving estrogen ingest 1,500 mg/day. As already mentioned, high calcium intake will not protect a woman against bone loss caused by estrogen deficiency (type 1 osteoporosis), physical inactivity, alcohol abuse, smoking, or various medical disorders and treatments.

Calcitonin

Calcitonin has been repeatedly shown to decrease osteoclast activity. It may also have an analgesic effect; the mechanism causing this pain relief is unclear. Calcitonin is inherently safe. It is available in the United States only as an intramuscular or subcutaneous injection. Use of the injectable form may be associated with nausea, vomiting, a flushing sensation over the face, and irritation at the injection site. Injectable salmon calcitonin is approved by the FDA for treating established osteoporosis at a dosage of 100 IU daily. Lower dosages are, however, commonly utilized in practice. Human calcitonin is not FDA approved for the treatment of osteoporosis, but it is approved for the treatment of Paget's disease. A nasal spray form of calcitonin is under investigation. Patients should be advised that the cost of calcitonin treatment is high, averaging approximately \$120 per month.

Estrogens and Hormone Replacement

Loss of estrogen production at any age results in increased bone remodeling, which is associated with loss of bone tissue. In patients with an intact uterus, estrogen can increase the risk of endometrial cancer unless either intermittent or continuous progestin therapy is given to prevent this complication. Estrogen replacement therapy returns bone remodeling to the level seen in premenopausal women, prevents bone loss, and reduces fracture risk. Estrogen replacement therapy, if recommended by an orthopaedist, should be used in conjunction with the consultation of an obstetrician-gynecologist or endocrinologist. Patients should be monitored for uterine response and followed yearly with mammography. There may be a small increase in the risk of breast cancer, particularly with long-term use (more than 10 years) and high doses.

Bisphosphonates

The bisphosphonates, originally called disphosphonates, are a group of synthesized chemical compounds with structures similar to that of pyrophosphate. This property renders them chemically attractive to bone mineral surfaces. Once bound to bone mineral, bisphosphonates inhibit bone resorption. A number of bisphosphonates are involved in ongoing research protocols.

Published double-blind controlled studies utilizing the bisphosphonate etidronate, given 2 weeks of every 3-month period, demonstrated increased spinal bone mass and a possible decrease in the number of spinal fractures. However, etidronate, if administered continuously, will cause a mineralization defect with an adverse effect on bone. Orthopaedists who prescribe this drug should advise patients that it is experimental and not FDA approved for the treatment of osteoporosis. If this experimental form of therapy is chosen, etidronate should be administered in a dose of 400 mg/day and should be taken on an empty stomach with a glass of water only. Food should not be ingested for at least an hour, because of the poor absorbability of bisphosphonates from the gastrointestinal tract. It is important to administer this drug in a noncontinuous cyclical pattern (e.g., 2 weeks on, and so on) to avoid the mineralization defect associated with continuous use. Long term studies are required to determine the ultimate utility of this cyclical therapy.

Fluoride

Although fluoride has been used for approximately 30 years, it remains an experimental drug for the treatment of osteoporosis. Recent data suggest that fluoride may increase spinal bone mass but without a reduction in vertebral fracture rate. Of greater concern is the fact that an increased incidence of appendicular fractures may occur in certain patients. The fracture incidence may be due to the toxicity of sodium fluoride in the dosage used. At present, there are no data to determine whether lower doses will be safe and effective. Until such data are available, fluoride administration should be considered highly experimental. On the basis of published reports and a careful prospective analysis of cohort of patients, the senior author (T.A.E.) has discontinued this drug.

Vitamin D

Most multivitamin supplements contain 400 IU of vitamin D, and milk contains 100 IU per cup. It seems reasonable for elderly persons to take a multivitamin with 400 IU of vitamin D. More than 800 IU of vitamin D per day is not recommended because of its potential toxic side effects. Although an increase in bone mineral content has been reported in patients receiving active forms of vitamin D, it is still considered experimental in the treatment of prevention of osteoporosis.

Evolving Therapies

Several drugs are currently in clinical trials to test their safety and efficacy in the treatment of osteoporosis. These include a variety of new bisphosphonates, nasal spray calcitonin, and active 1,25-dihydroxycholecalciferol. In the future, growth factors and other recombinant peptides may be shown to be safe and effective in restoring bone mass. Exercise remains a potentially important form of therapy that has been insufficiently studied. It is conceivable that the appropriate type, intensity, and frequency of exercise therapy will be found effective in preventing bone loss and increasing bone mass. Biophysical modalities such as electromagnetic stimulation and ultrasound are currently under study. While none of these is recommended for use at this time, the orthopaedist should remain aware of these investigations, since patients frequently ask their doctors about emerging technologies that may benefit them.

Rehabilitation

Back pain is frequently reported by patients with spinal osteoporosis. In many cases, the symptoms are produced by compression fractures in the thoracic and lumbar spine. Microfractures can also occur in trabeculae even when the vertebrae appear architecturally normal. Regardless of whether a macrofracture or a microfracture exists, muscle spasm is often the major cause of the patient's symptoms. To address these problems, a comprehensive spinal rehabilitation program should be developed.

In terms of prevention, patients should be instructed in the proper techniques of posture and body mechanics. They should avoid lifting heavy objects and should learn proper bending motions.¹⁷ The use of a cane often provides the patient with better balance and reduces the possibility of falls. Patients should also be instructed in pectoral stretching, deep breathing, and back extension exercises.¹⁷ Swimming and bicycling are excellent means of maintaining aerobic fitness and do not place undue stresses on the vertebral column.

Management of acute and chronic pain can be more difficult. Extended bed rest is not recommended in a comprehensive treatment program for osteoporotic patients. A properly fitted back support is occasionally appreciated, although these braces should be discarded as soon as symptoms improve. Management of chronic pain secondary to microfractures and kyphotic or scoliotic changes in the spine requires a program of back extension exercises and specific physical therapy tailored to the patient's needs.

Osteoporotic Fractures

The treatment of fractures in patients who have osteoporosis requires special care and attention because of the special problems associated with bone with deficient mechanical properties and fractures that are excessively comminuted. Fracture healing does not seem to be impaired in elderly persons or in patients with idiopathic osteoporosis. Hence, once an acceptable reduction and an appropriate degree of stabilization of the fragments have been achieved, fracture healing should progress normally.

Fractures to the spinal column in osteoporotic patients generally occur within the bodies of the vertebrae and usually do not affect the posterior elements. Thus, the vast majority of these fractures are stable and rarely require surgical stabilization. The temporary use of a lowprofile corset or polypropylene brace may reduce muscle spasm and symptoms. The orthosis should be constructed so that it does not compromise chest expansion and pulmonary function. In most cases, patients do not require a brace in order to become comfortable.

In rare cases, unstable fractures do occur in the osteoporotic skeleton, and these may require surgical intervention (e.g., when there is neurologic compromise). The major problem in treating these unstable fractures is gaining adequate purchase for implants in osteoporotic bone.

The majority of fractures of the long bones in elderly osteoporotic patients are best managed by early surgical stabilization. Surgery should be kept simple to minimize operative time, blood loss, and physiologic stress. The goal of operative intervention is to achieve early weight-bearing status for the lower extremity and rapid restoration of functional

capacity in the upper extremity.

Fracture-fixation devices that allow compaction of fracture fragments into stable patterns, minimize stresses at bone-implant interfaces, and reduce stress shielding are preferred. Because of the inability of the skeleton to hold plates and screws securely, sliding nail-plate devices, intramedullary rods, and tension-band wire constructs that share loads between implants and bone are preferred. Methylmethacrylate can be used to enhance the stability of screws in plate-fixation systems if necessary. Several manufacturers are attempting to develop new and improved fracture grout materials that not only will serve to stabilize orthopaedic implants but also may be osteoconductive and potentially resorbable.

Prolonged immobilization associated with "conservative fracture management" places the patient at risk for medical complications. Pneumonia, congestive heart failure, thromboembolic disease, decubitus ulceration, and further generalized musculoskeletal deterioration are frequent complications in bedridden elderly patients. In addition, the delicate, poor-quality skin of many elderly patients is prone to sloughing, particularly when there is a peripheral neuropathy or vascular disease. This can lead to serious complications when casts are applied, particularly to the lower extremities. In these instances, particular attention should be paid, with well-padded casts being used.

One of the problems commonly associated with osteoporosis is the occurrence of stress fractures leading to pain, angular deformity, and, in many cases, complete fractures of the vertebrae or long bones. Although the question of stress fractures is beyond the scope of this report, it is important for the orthopaedist to recognize that osteoporotic patients who describe pain at specific skeletal sites may be experiencing a stress fracture even when the radiographs appear normal. A bone scan, CT scan, or MR imaging study may be required to make the definitive diagnosis. When stress fractures occur in parts of the skeleton that experience significant loads, prophylactic internal fixation may be required to avoid a catastrophic event, such as a displaced femoral neck fracture.

Conclusion

Unless the orthopaedist is subspecialized in an area of musculoskeletal medicine that deals strictly with young patients, it is likely that osteoporosis will become part of the day-to-day clinical experience. A comprehensive working knowledge of diagnostic modalities, medical therapeutics, and the special needs of the osteoporotic surgical patient will become more important as the population continues to age. Despite our best efforts at large-scale osteoporosis prevention, one can anticipate that the consequences of osteoporosis will affect orthopaedic surgical practice well into the 21st century.

References

1. Riggs BL, Melton LJ III: The prevention and treatment of osteoporosis. *N Engl J Med* 1992;327:620-627.
2. Riggs BL, Melton LJ III: Evidence for two distinct syndromes of involutional osteoporosis. *Am J Med* 1983;75:899-901.
3. Eastell R, Riggs BL: Calcium homeostasis and osteoporosis. *Endocrinol Metab Clin North Am* 1987;16(4):829-842.
4. Silverberg SJ, Shane E, de la Cruz L, et al: Abnormalities in parathyroid hormone secretion and 125-dihydroxyvitamin D₃ formation in women with osteoporosis. *N Engl J Med* 1989;320: 277-281.
5. Hurlev DL, Tiegs RD, Wahner HW, et al: Axial and appendicular bone mineral density in patients with long-term deficiency or excess of calcitonin. *N Engl J Med* 1987;317:537-541.
6. Barzel US: Estrogen in the prevention and treatment of postmenopausal osteoporosis A review. *Am J Med* 1988;85:847-850.
7. Eriksen EF, Colvard DS, Berg NJ, et al: Evidence of estrogen receptors in normal human osteoblast-like cells. *Science* 1988;241:8.1-86.
8. Baylink DJ: Glucocorticoid-induced osteoporosis. *N Engl J Med* 1983;309: 306-308.
9. Bauer DC, Cummings SR, Tao JL, et al: Hyperthyroidism increases the risk of hip fractures: A prospective study. *J Bone Miner Res* 1992;7:S121.
10. Johnston CC Jr, Slemenda CW, Melton LJ III: Clinical use of bone densitometry. *N Engl J Med* 1991;324:1105-1109.
11. Prince RL, Smith M, Dick IM, et al: Prevention of postmenopausal osteoporosis: A comparative study of exercise, calcium supplementation, and hormone-replacement therapy. *N Engl J Med* 1991;325:1189-1195.

12. Riis B, Thomsen K, Christiansen C: Does calcium supplementation prevent postmenopausal bone loss? A double blind, controlled study. *N Engl J Med* 1987;316:173-177.
13. Steinberg KK, Thacker SB, Smith SJ, et al: A meta-analysis of the effect of estrogen replacement therapy on the risk of breast cancer. *JAMA* 1991;265:1985-1990.
14. Riggs BL: A new option for treating osteoporosis. *N Engl J Med* 1990;323: 1241-25.
15. Riggs BL, Hodgson SF, O'Fallon WM, et al: Effect of fluoride treatment on the fracture rate in postmenopausal women with osteoporosis. *N Engl J Med* 1990;322:802-809.
16. Tilyard MW, Spears GFS, Thomson J, et al: Treatment of postmenopausal osteoporosis with calcitriol or calcium. *N Engl J Med* 1992;326:357-362.
17. Sinaki M: Postmenopausal spinal osteoporosis: Physical therapy and rehabilitation principles. *Mayo Clin Proc* 1982;57:699-703.

The Journal of Bone and Joint Surgery

American Volume

VOLUME 80-A, NO. 11

NOVEMBER 1998

Copyright 1998 by The Journal of Bone and Joint Surgery, Incorporated

Editorial

Osteoporosis Prevention and the Orthopaedic Surgeon: When Fracture Care is Not Enough

Osteoporosis - which threatens the health and independence of the elderly, especially postmenopausal women - is now on the radar screen of the general public and health-care providers. "Milk mustache" commercials are ubiquitous. Virtually every women's magazine as well as periodicals for senior citizens feature stories about investing in one's "bone bank."

These concerns are well founded. A woman's risk for a fracture about the hip is equal to her combined risk for breast, uterine, and ovarian cancer, and the morbidity and mortality associated with fractures about the hip are staggering". The mortality rate in the first year after a fracture about the hip has been shown to increase considerably compared with the expected rate, depending on the age of the patient at the time of the fracture, the gender of the patient, and the presence of comorbidities⁷. Using a population-based model of the impact of osteoporosis over a lifetime. Chrischilles et al: estimated that 10 percent of postmenopausal white women older than fifty years of age who sustain a fracture about the hip become permanently functionally dependent in activities of daily living and 19 percent need long-term nursing-home care. In a sample of seventy-five patients who were sent for rehabilitation training after a fracture about the hip. Jette et al found that twenty-two (29 percent) died and less than a third of the survivors returned to baseline functional status. Although the risk of fracture in men is lower, it is certainly not inconsequential, and men are more likely to die after a fracture about the hip. In many studies. the risk of fracture in men parallels that in women: it simply occurs five to ten years later".

Medical editors, writers, and scientists are making a Herculean effort to educate health-care providers about the prevention, diagnosis, and treatment of this potentially life-threatening condition that often robs patients of their independence. We applaud the decision to publish the Current Concepts Review of techniques for measuring bone density by Mirsky and Einhorn. Bone mass is the single most important indicator of osteoporosis. This, in turn, is a strong predictor of the risk of a fragility fracture and the possible need for intervention with respect to diet, exercise, medication, or a combination of these. Thorough and timely, the article provides an excellent reference for *The Journal's* readers.

Advertisements and articles in the medical and lay press, however, do not necessarily translate into behaviors to prevent osteoporosis. A recent telephone survey⁸ of 543 women who were forty-five years of age or older, by the National Osteoporosis Foundation, documented the current gap between awareness of the disease and changes in behavior. The survey revealed that, although almost all (97 percent) of the women who were interviewed were aware of osteoporosis, most were unclear about what should be done to prevent the disease. The women who were most at risk for osteoporosis were no more likely to take action to prevent the disease than were the women who were less at risk. The respondents believed that exercise was more important than diet in the prevention of osteoporosis, even though both are essential. The gravity of the findings of this survey is underscored by reports of low consumption of calcium by all Americans. Thus, if behaviors are not changed, the harsh reality is that, given our aging population, we can expect the number of fragility fractures to rise notably.

Improvements in orthopaedic hardware and technology make the technical aspects of fracture care relatively

American Association of Orthopaedic Surgeons

routine. Historically, orthopaedic surgeons have readily treated fragility fractures, but they have rarely followed through and initiated care and treatment of the porous skeleton. In these times of outcome analysis, fixation of fractures is not enough. We must strive to prevent fractures rather than treating them once they occur.

We believe that the orthopaedic surgeon, as the recognized expert on bone injury and disease, has a unique opportunity to initiate strategies for the prevention, diagnosis, and treatment of osteoporosis. In the past, this was easier said than done. Orthopaedic surgeons, like most clinicians, were not instructed, during their training, in the care of patients who have osteoporosis: the literature offered a maze of conflicting protocols; and the cost of diagnostic workups was frequently not reimbursed by insurance companies. However, three recent events have made this task substantially easier for orthopaedic surgeons.

First, the National Osteoporosis Foundation recently published the *Physician's Guide to Prevention and Treatment of Osteoporosis*¹⁰. This comprehensive evidence-based guide provides detailed algorithms for the evaluation and management of patients. The guide reflects the experience of treating white postmenopausal women because most research has focused on this population. However, it provides an intellectual framework for the assessment of other populations.

Second, in the past, access to bone-density analysis was limited by the availability of machines, cost, and physician awareness. However, the prices of the machines are falling rapidly and payment for bone-density evaluations has now been guaranteed for certain Medicare beneficiaries who are at risk. The Balanced Budget Act of 1997⁵, effective July 1, 1998, includes a section entitled "Standardization of Medicare Coverage of Bone Mass Measurement." It states that Medicare will pay for bone-density technologies approved by the Food and Drug Administration for people in any one of five diagnostic categories: (1) estrogen-deficient women who are at clinical risk for osteoporosis, (2) patients who have vertebral abnormalities (such as a fracture of the spine as shown on a radiograph), (3) patients who are receiving long-term glucocorticoid therapy, (4) patients who have primary hyperparathyroidism, and (5) patients who are being monitored to assess the response to, or the efficacy of, an approved drug for osteoporosis. In addition, Medicare will pay for a follow-up measurement every two years. It will cover the measurement of bone mass more frequently under special circumstances, such as when a patient is receiving long-term glucocorticoid therapy (for more than three months), or to allow confirmatory baseline measurements of bone mass "to permit monitoring of beneficiaries in the future if the initial test was performed with a technique that is different from the proposed monitoring method."

Third, the Current Concepts Review by Mirsky and Einhorn⁸ provides a thorough overview of the types of bone-density testing that are available and explains how the test results are associated with the risk of fracture.

These three items represent a major step forward in the prevention and identification of osteoporosis as well as in the care of patients who have osteoporosis. However, there are numerous issues that still need to be addressed.

Although the various methods of determining bone density appear to be capable of identifying a population at risk for low-energy fracture, not all of the methods are alike. The tests vary with regard to the information that they provide, and it is essential to recognize the strengths and weaknesses of each. On the basis of its precision and cost, and the amount of radiation to which the patient is exposed, dual-energy x-ray absorptiometry is currently believed to be the so-called gold standard of bone-density testing¹². However, the machines that are necessary for this test are not universally available and are expensive, so other studies are frequently used. Many of the other techniques involve the evaluation of peripheral bone sites, such as the wrist or the heel, but it is well known that site-specific analysis best determines the risk of fracture at that site. Thus, although the findings of a wrist single-bone determination are associated with fractures about the hip, this association is considerably weaker than that of the findings of dual-energy x-ray absorptiometry of the proximal part of the femur. Also, most methods for testing the density of peripheral bones measure cortical bone, which is notably less active metabolically than trabecular bone. Because cortical bone is slow to demonstrate a therapeutic benefit from drug intervention, the analysis of this bone is less helpful for long-term monitoring of the patient. Ultrasound is quicker, is less expensive, and requires no radiographic exposure and therefore is an excellent technique for screening large populations. However, ultrasound measurements have only a 73 percent association ($p < 0.001$) with the findings of dual-energy x-ray absorptiometry⁹. Thus, ultrasound measures other attributes of bone. Patients who are receiving antiosteoporotic agents have only limited changes on ultrasound, yet they have major accretion of bone on dual-energy x-ray absorptiometry.

Although quantitative computed tomography scans work best when performed by experts, precision decreases sharply when they are carried out by teams that do not use dedicated bone quantitative computed tomography. In addition, there is a twentyfold increase in the dose of radiation to which the patient is exposed compared with that associated with dual-energy x-ray absorptiometry. As a result of these issues, most treating physicians use dual-energy x-ray absorptiometry for the long-term management of patients.

American Association of Orthopaedic Surgeons

The interpretation of the results of dual-energy x-ray absorptiometry is not always straightforward³. Accurate testing of bone density with dual-energy x-ray absorptiometry requires the identification of potential artifacts that may interfere with the analysis. A previous operation on the spine can either increase or decrease the value for the bone density. Osteoarthrotic spurs artificially increase bone density. Vertebral crush fractures collapse to the point of reestablishing normal bone density. The bone density of the spine can appear normal in patients who have compression fractures. Thus, it is essential to analyze the hip preferentially in patients who have spinal artifacts or eliminate the vertebral segments in question from the analysis. Physicians cannot simply read the summary of dual-energy x-ray absorptiometry analysis: they must request the computer readout so that they can directly evaluate the sites of interest. In other words, thorough training in the appropriate ordering and interpretation of these studies is essential.

The issue of access to diagnostic testing and treatment after diagnosis has not been fully resolved. If we are to advocate the management of patients before they sustain a fracture and need an operation, we must recognize that the insurance company that has authorized payment for testing bone density (Medicare) does not pay for the medications to prevent the disease from progressing to the point of fracture or other morbidities. In addition, strategies for prevention and treatment such as hormone replacement therapy are much more effective when they are initiated at menopause. Thus, the best time for the first bone-density test is at the onset of menopause, but menopause usually occurs many years before a patient is eligible for Medicare. Moreover, many health-care insurers do not yet pay for bone-density testing, which makes it more difficult for perimenopausal women to make informed choices.

Perhaps most important, the current data permit consensus recommendations only for white postmenopausal women who have a high risk of fracture'. Many questions remain about what to do for men and for women who fall outside these parameters. Diagnosis alone is not enough. A great deal of additional research is needed to identify the most appropriate lifestyle and medical interventions that prevent bones from becoming truly osteoporotic.

Longevity, in and of itself, may be good. Far better, however, is an advanced age that is free from pain and offers the highest possible degree of independence. Orthopaedic surgeons know firsthand the dreadful consequences of osteoporosis. Our unique expertise carries with it a particular responsibility. It is up to us not just to repair fractures but to be certain that diagnostic studies for osteoporosis are performed and that effective preventative measures and treatment are initiated. Bone-density measurement must not be seen as a generator of revenue or as an end unto itself but rather as an important part of a total program of prevention, diagnosis, and treatment of osteoporosis. We must use our special expertise to argue for broader access to diagnostic testing for osteoporosis as well as for treatment for all men and women who need it. Most important, we need to push for increased funding for osteoporosis research so that we are sure that the diagnostic and treatment strategies that we recommend are the most suitable for each patient. The appropriate care of patients who have osteoporosis will guide them toward a vigorous and independent old age.

Laura L. Tosi, M.D.

Joseph M. Lane, M.D.

Co-chairs, American Academy of Orthopaedic Surgeons Oversight Panel on Women's Health Issues

References

1. Anderson, G. B.; Bostrom, M. P.; Eyre, D. R.; Glaser, D. L.; Hu, S. S.; Lane, J. M.; Melton, L. J., III; Myers, E. R.; Seeger, L. La and Weinstein, J. N.: Consensus summary on the diagnosis and treatment of osteoporosis. *Spine*. 22(24S): S63-S65. 1997.
2. Baran, D. T. Faulkner, K. G.; Genant, H. Ka Miller, P D.; and Pacitici, R: Diagnosis and management of osteoporosis: guidelines for the utilization of bone densitometry. *Calcif. Tissue Internat.*. 61:433-440.1997.
3. Chrischilles, E. A.; Butler, C. D.; Davis, C. S.; and Wallace, R B.: A model of lifetime osteoporosis impact. *Arch. Intern. Med.*. 151: 2026-2032.1991.
4. Cooper, C: The crippling consequences of fractures and their impact on quality of life. *Am. J. Med.*. 103(2A):125-175.1997.
5. Health Care Financing Administration: Medicare Program: Medicare coverage of and payment for bone mass measurements (42 CFR Part 410). *Fed. Reg.*, 63:34320-34328.1998.
6. Jette, A. M.; Harris, B. A.; Cleary, P D.; and Campion, E. Ws Functional recovery after hip fracture. *Arch. Phys. filed. and Rehab.*, 68: 735-740.1987.
7. Melton, L. J., III: Epidemiology of spinal osteoporosis. *Spine*. 22(24S): S2-S11.1997.
8. Musky, E. C., and Einhorn, T. Aa Current concepts review. Bone densitometry in orthopaedic practice. *J. Bone and Joint Surg.*, 80-A: 1687-1698, Nov. 1998.
9. National Osteoporosis Foundation: Osteoporosis action poll. Telephone survey, New York, Wirthlin Worldwide, Sept. 1997. Unpublished data.
10. National Osteoporosis Foundation: *Physician's Guide to Prevention and Treatment of Osteoporosis*. Washington, D.C., National Osteoporosis Foundation. 1998.
11. Poor, G.; Atkinson, E. J.; O'Fallon, W. M.; and Melton, L. J., III: Determinants of reduced survival following hip fractures in men. *Clin. Orthop.*, 319: 260-265.1995.
12. Schneider E. L., and Guralnik, J. M.: The aging of America. Impact on health care costs *J. Am. Med. Assn.*. 263:2335-2340,1990. 13. Seeger, L. L: Bone density determination. *Spine*. 22(24S): S49-S57.1997.
14. Waud, C. E.; Lew, R4 and Baran, D. T: The relationship between ultrasound and densitometric measurements of bone mass at the calcaneus in women. *Calcif. Tissue Internat.*. 51:415-418.1992.

THE OSTEOPOROSIS INTEREST GROUP

Volume 1 Issue 1, December 1998

Parathyroid Hormone and the future Treatment of Osteoporosis

In this issue

Since the FDA approval of Fosamax, there seems to have been a geometric increase in articles on osteoporosis. It is our intention to discuss what's exciting and new in the literature in these newsletters and in this issue I would like to focus on parathyroid hormone.

As you may know, at the present time, the FDA treatment options for osteoporosis are all anti-resorptives, including estrogen, alendronate, (°icitonin and raloxifene. There is a effect to the maximum increase in bone from any and-resorptive, because they work by decreasing the number of remodeling sites, thus decreasing the remodeling space and not by increasing bone formation, per se. Filling in this space accounts for the 5-10% increase in bone density seen with anti-resorptives.

Unlike these presently approved anti-resorptive therapies, parathormone appears to primarily have an anabolic effect on the skeleton. This has been shown in animal models for years. As orthopedists, we have always thought of parathormone in terms of hyperparathyroidism with severe loss of bone density. It is true that continuous infusion of suprphysiologic doses of PTH decreases bone mass as is evident in hyperparathyroidism. However, intermittent daily injections of smaller one's appear to increase formation greater than resorption in animals. This intermittent parathormone prevents castration-induced bone loss and completely reverses established osteopenia in animals. There are receptors for PTH on the osteoblast cell line; PTH increases osteoblast numbers and osteoid formation in vitro. The anabolic action appears to be mediated by local production of growth factors such as IGF-1 which is a protein that stimulates collagen synthesis.

Early studies in humans suggest that parathormone may increase trabecular bone, but cause net loss

American Association of Orthopaedic Surgeons

of cortical bone. Newer studies seem to refute this. There is a theoretical benefit to combining parathyroid hormone with anti-resorptives to reduce turnover and resorption while allowing the anabolic effect; this is also being studied in clinical trials and preliminary data indicate that an anti-resorptive may not be helpful or necessary.

Parathyroid hormone and treatment of osteoporosis
by Barbara J. Campbell, MD 1

Recent References About Parathyroid Hormone 1-4

Editor's Note by John
Kaufman, MD2

Journal Summaries 2-5

Upcoming Events6

Osteoporosis on the
Internet6

Membership Sign Up6

Barbara J. Campbell, M.D.

PTH Plus Estrogen Increases BMD More than Estrogen Alone

This was a three year randomized controlled trial on 17 women on the effect of 1-34hPTH (400 units or 25 mcg.) sub-Q daily in osteoporotic, postmenopausal women who were on estrogen. The controls were on estrogen alone. All were calcium and D replete. Findings were that, compared to the control group, the estrogen plus PTH group had continuous increased vertebral bone mineral density over the three years. There was a 13% increase in the spine bone density, 2.7% increase in the hip and 8% total body increase. There was no significant change in the BMD in the control group. PTH plus estrogen did decrease the rate of vertebral fractures (symptomatic and asymptomatic). There were 10 new vertebral fractures in the estrogen-only group as opposed to three new fractures in the PTH/estrogen group.

Lindsay, R., et al. "Randomized Controlled Study of Parathyroid Hormone on Vertebral Bone Mass and Fracture Incidence Among Postmenopausal Women on Estrogen With Osteoporosis". The Lancet. 1997 August 23; 350:550-5.

Editor's Note

Over the last few years. The management of osteoporosis has changed dramatically. We now have the availability of bone density testing to accurately diagnose and monitor treatment, and powerful new drugs that can easily be prescribed by orthopedic surgeons. It is time for orthopedic surgeons to learn that the diagnosis and treatment of osteoporosis is well within their scope of practice. We must first become aware that osteoporosis is now both treatable and preventable and we must then learn the new tools and medications that are available to us.

The Osteoporosis Interest Group was formed with these goals in mind. The response has been excellent. We now have over 170 members and the list continues to grow. Many orthopedic surgeons have written to me expressing their interest to learn more about this fast-moving field, while others have already been involved for many years. As awareness of osteoporosis increases among Americans, we must become informed and available to our patients to answer questions and provide information on diagnosis, prevention and treatment of osteoporosis. As bone doctors, we are frequently the first healthcare providers patients will think of when in need of osteoporosis information. We are also frequently the first physicians to identify patients with osteoporotic fractures and we must join the front line of the osteoporosis specialists.

"We must first become aware that osteoporosis is now both treatable and preventable and we must learn the new tools and medications that are available."

The Osteoporosis Interest Group will be primarily an educational group. At some point in the future, perhaps we can become an Osteoporosis Society, including other metabolic bone diseases. With all this in mind, we are initiating the first issue of the newsletter. My plan for this newsletter is to provide the most current information on all aspects of osteoporosis management. This will include articles on specific topics in osteoporosis diagnosis, treatment and prevention along with reviews of recent pertinent information from leading journals. If there are any particular subjects that anyone feels should be included in the newsletter, please let me know. We want to make this publication valuable to our membership and therefore your input will be greatly appreciated.

I hope to have this newsletter published on a quarterly basis. We also plan to have a meeting of the Interest Group during the Academy meeting in Anaheim in February 1999. The meeting will be held Friday, February 5, from 5-6:30 p.m. at the Disneyland Hotel. I welcome any suggestions or comments from you on any activities that you feel would be valuable for the Interest Group. Please keep in touch with me.

John D. Kaufman, M.D.

PTH and Calcitonin Treatment

This randomized trial tested 30 women using PTH alone vs. PTHcalcitonin as the anti-resorptive. A two-year protocol was used with 28 days of hPTH (1-34) 800 units sub-Q daily. This dosing was repeated at

American Association of Orthopaedic Surgeons

three month intervals. Half of the patients were randomized to then get sequential calcitonin. 75 units a day for 42 days (after receiving the PTH). After two years on this regimen, the lumbar bone mineral density increased 10% in the PTH group alone vs. 7.9% in the PTH plus calcitonin group. There was no significant difference in femoral BMD and it appeared that patients on the combination gained bone mass at a slower rate. The incidence of vertebral fractures in the PTH group alone was 4.5/100 patient years and in the combination group was 23/100 patient years. The conclusion was that patients on intermittent PTH had a significant increase in lumbar BMD, no significant change in femoral BMD, a low incidence of vertebral fractures and there was no evidence that sequential PTH plus calcitonin had any significant benefits over PTH alone.

Hodsworth, et al. "A Randomized Controlled Trial to Compare the Efficacy of Cyclical Parathyroid Hormone vs. Cyclical Parathyroid Hormone Plus Sequential Calcitonin To Improve Bone Mass in Postmenopausal Women With Osteoporosis". *The Journal of Clinical Endocrinology and Metabolism*. 1997

Feb.; 82 (2): 620-8.

IV Ibandronate Effective in Osteoporosis Treatment

Compliance with some of the anti-resorptive drugs used in the treatment of osteoporosis may be a problem. This European study tested the efficacy of bolus IV injections of ibandronate in postmenopausal osteoporosis. One hundred twenty-five postmenopausal women (mean age 64 years) with osteoporosis received either an intravenous injection of ibandronate or placebo once every three months for one year. The treatment group received either 0.25, 0.5, 1.0 or 2.0 mg. Lumbar spine BMD increased significantly compared to placebo with the higher doses of ibandronate as did total hip BMD. Assays of urinary N-telopeptides were significantly reduced three months after the first injection of 2.0 mg ibandronate indicating persistent inhibition of bone resorption. There were no significant differences in the number of adverse effects of the treatment group compared to placebo.

This study shows that ibandronate administered as an IV bolus injection every three months would be an effective therapeutic approach in postmenopausal women who have difficulties taking oral medication.

Thiebaud, et al. "Three Monthly Intravenous Injections of Ibandronate in the Treatment of Postmenopausal Osteoporosis". *The American Journal of Medicine*. 1997 Oct.; 103:298-307

OSTEOPOROSIS

INTEREST GROUP

President John D. Kaufman M.D.
Vice President Barbara J. Campbell, MD
Secretary Joseph Lane M.D.
Treasurer Laura L. Tosi M.D.

Prevention of Bone Loss With PTH

This study looked at women with endometriosis who were rendered estrogen deficient by treatment with a long acting gonadotropin-releasing hormone analog (GnRH). A previous study had shown that short term intermittent administration of hPTH(1-34) prevents spinal bone loss, (Finklestein, et al. "PTH Hormone for the Prevention of Bone Loss Induced by Estrogen Deficiency". *NM*, 1994.331:15181623.) The longer term effects on bone mineral density, especially the femoral neck and total body were not known, and so this study was to look at these questions.

Forty-three women with endometriosis were treated with the gonadotropin releasing hormone analog alone vs. the gonadotropin analog plus parathormone for one year. Earlier studies had shown, as expected, that with induced estrogen deficiency, bone mineral density decreased in trabecular bone (by 6%) and in cortical bone (by 1-2%). In the present study, the control group, i.e., without PTH, had this decreased bone mineral density with 5 % loss in the spine, 4.7% loss in the femoral neck, 4.3% loss in the trochanter and 2% loss total body. In patients treated with gonadotropin releasing hormone plus parathormone, the bone mineral density increased by 2% in the AP spine and 7.5% in the lateral spine. The femoral neck and trochanter remained at base line at the end of one year and the total body was unchanged.

The conclusion of this study was that twice a day PTH prevented bone loss from the proximal femur and total body in young women rendered severely estrogen deficient for one year.

Finklestein, J. et al. "Prevention of Estrogen Deficient Related Bone Loss With Human Parathormone (1-34)". *JAMA*. 1998 Sept.; 280:23-30 No. 12

PTH Response Continues Through Three Year Study

There is concern about using supraphysiological doses of a hormone because we know that endocrine systems can be permanently affected, as for example in the adrenal axis. This study looked for any permanent effect on responsivity in the PTH axis with the use of parathormone. A three-year study was conducted on women given daily injections of PTH, 400 units a day, plus estrogen. These women were studied prior to the three years with a hypocalcemic challenge to gauge their PTH response and this was repeated after the three year trial. The researchers found no difference in PTH response to induced hypocalcemia after the three years of PTH and they concluded that PTH, 400 units a day up to three years, does not suppress PTH responsivity adversely.

Cosman, et al. "Parathyroid Responsivity in Postmenopausal Women With Osteoporosis During Treatment With Parathyroid Hormone". *The Journal of Clinical Endocrinology Metabolism*. 1998 Nov.; 83(3):788-90.

Alendronate and Glucocorticoid Induced Osteoporosis

A multi-center study lead by Kenneth G. Saag, M.D., during a 48-week, randomized placebo controlled study of alendronate, in the dose of both 5 and 10 mg, showed that bone density in the lumbar spine and the femoral neck increased significantly. This is compared to placebo in patients taking an average of 10 mg of prednisone daily. Although there were fewer fractures in the treatment group, the result was not significantly lower than placebo. This study showed that alendronate has a beneficial effect on bone density in patients taking chronic glucocorticoids.

Sang, KG, et al. "Alendronate for the Prevention and Treatment of Glucocorticoid Induced Osteoporosis". *New England Journal of Medicine*. 1998 July 30;339:292-9.

Hip Fractures Are Influenced by Physical Inactivity

In a prospective eight-year study, following over 9,000 community based women over 64 years of age, the women involved in more physical activity were less likely to suffer a hip fracture. The more active women reduced their risk by 36%. No benefit was found to the rate of vertebral or wrist fractures in this study. It is suggested that physical activity may be helpful in preventing osteoporotic hip fractures.

Gregg EW, et al. "Physical Activity and Osteoporotic Fracture Risk in Older Women." *Annals of Internal Medicine* 1998 July 15; 129:81-8.

More on Fractures and Fluoride

Fluoride increases bone density, but its effect on fracture rates is unclear. Women receiving sodium monofluorophosphate plus calcium were compared to those taking calcium alone. Ten percent in each group were also taking estrogen. At four year follow up, there were no differences in hip BMD, but bone mineral density of the spine had increased 10% in the fluoride group. The fluoride group also had a significantly lower rate of new vertebral fractures (2% versus 10%). The authors state that fluoride may not be effective once fractures have occurred, but contend that fluoride may have some role in the management of early osteoporosis.

Reginster, JY, et al. "The Effect of Sodium Monofluorophosphate Plus Calcium on Vertebral Fracture Rate in Postmenopausal Women With Moderate Osteoporosis: A Randomized, Controlled Trial". *Annals of Internal Medicine* 1998, July 1; 129:1-8.

HRT and Hip Fracture Protection

It is well known that HRT both raises bone mineral density and can reduce the rate of hip and vertebral fractures. This Swedish study showed, however, that HRT is effective in reducing hip fractures only during the duration of its use. Five years after discontinuance of HRT, most of its protective effect of hip fractures is lost.

Michaelsson K, et al. "The Swedish Hip Fracture Study Group. Hormone Replacement Therapy and Risk of Hip Fracture: Population Based, Case Controlled Study". *BMJ* 1998 June 20; 316:1858-63.

Spontaneous Vertebral Fracture May Affect Quality of Life

Most vertebral fractures occur without patients seeking medical attention. In this study, over 7,000 women (mean age 71) were analyzed for vertebral fractures, pain and disability. Women with fractures were more likely to have back pain, disability, increased days of bed rest and limited activity. This included women whose fractures were found radiographically, not reporting them to their physicians. This study showed the benefits of treatment in preventing vertebral fractures.

Nevis. MC, et al. "The Association of Radiographically Detected Vertebral Fractures With Back Pain and Function: A Prospective Study". *Annals of Internal Medicine*. 1998 May 15; 128:793-800.

Hospitalized Patients Have - Low Levels of Vitamin D

American Association of Orthopaedic Surgeons

In this study of adult inpatients at Massachusetts General Hospital in Boston, 290 patients admitted to general medical wards had serum 25 hydroxy vitamin D measurements. Approximately 34% were found to have moderately low levels of vitamin D and 22% to have severe hypovitaminosis D. This study showed the importance of advocating additional vitamin D intake for our patients through either foods or vitamin supplements.

Thomas MK, et al. "Hypovitaminosis D in Medical Inpatients". *New England Journal of Medicine*. 1998 March 19; 338:777-83.

Review of PTH

This review article noted that treatment with parathormone induces significant gains in bone mineral density, mainly axially, but that long term studies are needed to compare different parathyroid hormone peptica the dosing and regimens needed. Other investigational agents being studied are growth hormone, insulin-like growth factors: iprivlavone and strontium (which appears to decuple resorption and formation, and increase lumbar bone mineral density).

Reginster. JY, "Miscellaneous and Experimental Agents." *The American Journal of the Medical Sciences*. 1997 Jan.; 313:33-40.

Additive Effect of HRT and Etidronate in Women with Postmenopausal Osteoporosis

This study randomized 72 postmenopausal women into four treatment groups. Women received either HRT, etidronate, combined HRT and etidronate or placebo. The study showed an additive effect of etidronate and HRT on hip and spine BMD in these women. Patients who received the combined therapy showed BMD increases in the lumbar spine of 10.4% and in the hip of 7.0% at four years. In patients treated with etidronate alone, these increases were 7.3% and 0.9%. With HRT alone, the increases were 7.0% and 4.8%. The group treated with placebo along with calcium and vitamin D lost BMD of 2.5% and 4.4% in the spine and hip, respectively. Height loss was significantly less in all treatment groups. In the combined therapy group, there was no significant height loss. This study demonstrated the effects of combining a bisphosphonate along with HRT in producing higher increases in BMD over a four year period.

Wimalawansa, S, et al. "A Four-Year Randomized Controlled Trial of Hormone Replacement and Bisphosphonate, AIO" or in Combination, in Women Postmenopausal Osteoporosis". *American Journal of Medicine*. 1998 March; 219-226.

Additive Effect of Alendronate and HRT Presented in Berlin

In a multi-center American study headed by Robert Lindsay, M.D., a group of 428 postmenopausal women already on HRT for at least one year, were randomly assigned to two treatment groups. The first group received 10 mg of alendronate daily and the second group received placebo. Both groups continued their HRT. The following results were obtained:

Skeletal Site	ALN+HRT % ± SE	PBO+HRT % ± SE	P-value ALN vs PBO
Lumbar Spine	3.6* ± 0.3	1.0* ± 0.3	<0.001
Hip Trochanter	2.7* ± 0.4	0.5 ± 0.4	<0.001
Femoral Neck	1.7* ± 0.4	0.8* ± 0.4	0.072

* p<0.05 vs baseline within treatment

The study concluded that the addition of aendronate to ongoing HRT in women with postmenopausal osteoporosis produced increases in bone mineral density at the lumbar spine and hip trochanter that were significantly greater than those seen with HRT alone.

Lindsay R., et al. "Effect of Alendronate Added to Ongoing Hormone Replacement Therapy in the Treatment of Postmenopausal Osteoporosis". Presented at the European Congress on Osteoporosis. 1998 September 11-15, Berlin.

Genetic Markers of Osteoporosis

We have known for many years that there is a strong genetic component associated with osteoporosis. The genetic cause of osteoporosis is further strengthened by this study out of Rotterdam with the finding that low bone density and increased osteoporotic vertebral fractures were associated with a polymorphism in a sequence of DNA in a specific gene. Variations in this sequence may change the synthesis of collagen and affect bone matrix protein. Genetic markers for osteoporosis might be helpful in identifying family members of osteoporotic patients. Might genetic screening someday be just as helpful in the management of osteoporosis as DXA.'

Uitterlinden, AG, et al. "Relation of Alleles of the Collagen Type I Alpha-1 Gene to Bone Density and the Risk of osteoporotic Fractures in Postmenopausal Women". *New England Journal of Medicine*. 1998 April 9; 338:1016-1021.

Upcoming Events

January 12-13
ISCD DXA Certification Course
New Orleans, LA
(360) 694-5010

January 14-17
5th Annual Meeting of International
Society
of Clinical Densitometry
New Orleans, LA
(202) 828-6056

February 4-6
American Academy of Orthopedic
Surgeons
Anaheim, CA
(847) 823-7186

February 7-12
11th International Workshop on Calcified
Tissues
Eilat, Israel

February 8-9
Clinical Applications of Bone Densitometry
Winston-Salem, NC
(800) 277-7654

March 15-20
Molecular Pathogenesis of Bone Disease
Granlibakken, NV
(970) 262-1230

March 28 - April 3
3rd International Conference on
Osteoporosis

Xi'an, Peoples Republic of China
00-86-10-649-76420

March 31 - April 4
2nd International Conference on Cancer
Induced Bone Diseases
Davos, Switzerland

April 15-17
Bone Ultrasonometry 3
Key Largo, FL
(360) 694-5010

April 16-17
Women's Health After Menopause
Washington, DC
(800) 679-6338

April 28 - May 2
American Association of Clinical
Endocrinologists

San Diego, CA
(904) 353-7878

May 2-5
20th Annual Meeting of Society for
Clinical Trials
Anaheim, CA

May 4-7
1st International Conf. On Children
Bone Health
Masstricht, The Netherlands
31-71-514-8203

May 7-11
26th European Symposium on
Calcified Tissues
Masstricht, The Netherlands
00-31-71-514-8203

Osteoporosis on the Internet

American Society for Bone and Mineral Research www.asbmr.org

Endocrine Society www.endo-society.org

European Foundation for Osteoporosis www.effo.org

Federation of American Societies for Experimental Biology www.faseb.org

International Myeloma Foundation www.myeloma.org/imf.html International Society for
Clinical Densitometry www.iscd.org National Osteoporosis Foundation www.nof.org

Osteogenesis Imperfecta Foundation, Inc. www.oif.org

Osteoporosis and Related Bone Diseases www.osteoporosis.org

Pagers Foundation of Pager's Disease of Bone and Related Disorders www.pager.org

THE OSTEOPOROSIS INTEREST GROUP
24355 LYONS AVENUE, Suite 240
Santa Clarita, CA 91321

Interested in membership in the Osteoporosis Interest Group? Get the latest information on all aspects of osteoporosis management. Write to us at the address on this page or call us at: 805.259.3412

THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
BULLETIN

Volume 46, No. 6 ■ December 1998

Focus on prevention, orthopaedists told
Specialty has unique opportunity to initiate diagnostic studies, push for research

Orthopaedic surgeons must deal with osteoporosis by preventing fractures, rather than only treating them once they occur.

Orthopaedists, as the recognized expert in bone injury and disease, have a unique opportunity to initiate effective preventative measures and treatments for osteoporosis, Laura L. Tosi, MD, and Joseph M. Lane, MD, said in an editorial in the November issue of *The Journal of Bone and Joint Surgery*.

Dr. Tosi and Dr. Lane, cochairs of the Academy's Oversight Panel on Women's Health Issues, urged orthopaedic surgeons to initiate diagnostic studies for osteoporosis and also to push for increased funding for osteoporosis research on diagnostic and treatment strategies.

They cite the dramatic mortality and morbidity rates associated with hip fractures, pointing out that a woman's risk for a hip fracture is equal to the combined risk for breast, uterine and ovarian cancer. Studies that show 10 percent of postmenopausal white women older than 50 years of age who sustain a hip fracture will become permanently functionally dependent in daily living activities and 19 percent will need long-term nursing home care. Further, many studies show the risk of fracture in men parallels that in women, although it occurs five to 10 years later.

"Historically, orthopaedic surgeons have readily treated fragility fractures, but they have rarely followed through and initiated care and treatment of the porous skeleton," Dr. Tosi and Dr. Lane said. "In these times of outcome analysis, fixation of fractures is not enough."

They observed that "orthopaedic surgeons, like most other clinicians, were not instructed during their training in the care of patients with osteoporosis; the literature offered a maze of conflicting protocols; and the cost of diagnostic work-ups was frequently not reimbursed by insurance companies."

However, three recent events have enhanced the opportunity for orthopaedic surgeons to initiate strategies for the prevention, diagnosis and treatment of osteoporosis, the authors said.

The national Osteoporosis Foundation's *Physician's Guide to Prevention and Treatment of Osteoporosis*, a comprehensive evidence-based guide that they believe reflects the experience of treating white postmenopausal women and provides an intellectual framework for assessing other populations.

The fact that the cost of bone-density analysis machines is declining and Medicare will pay for bone-

American Association of Orthopaedic Surgeons

density evaluations for beneficiaries who are at risk.

A thorough overview of the types of bone-density testing that appeared in the November 1998 issue of JBJS. The Current Concepts Review on "Bone Densitometry in Orthopaedic Practice" was written by E.C. Mirsky, MD, and Thomas A. Einhorn, MD.

Not all issues are resolved. The authors point out that Medicare does not pay for the medications to prevent the disease from progressing to the point of a fracture or other morbidity. Also, the best time for the first bone-density test is at the onset of menopause, but menopause usually occurs many years before the patient is eligible for Medicare. Further, many other health insurers do not pay for bone-density testing.

"Bone density measurement must not be seen as a generator of revenue or as an end unto itself, but rather as an important part of a total program of prevention, diagnosis and treatment of osteoporosis," said Dr. Tosi and Dr. Lane. "We must use our special expertise to argue for broader access to diagnostic testing for osteoporosis."

THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
BULLETIN

Volume 47, No. 3 ■ August 1999

A Microsoft Word version 7.0 of this article can be [downloaded](#) to your hard drive.

Osteoporosis

Bone density tests



John D. Kaufman, MD, explains bone density test to Helene Kaufman, as Carol Hauenstein, technologist, at computer gets ready to begin test.

By John D. Kaufman, MD

The history of bone density measurement goes back to the 1940s. Attempts to measure bone density at that time utilized plain radiographs. Since demineralization of bone is not apparent on a plain X-ray until about 40 percent of the bone has been lost, different methods of bone density determination were developed by measuring size or shape of different anatomical structures.

Grading systems were developed based on the appearance of trabecular patterns. The Singh Index was based on the trabecular pattern in the proximal femur. Radiographs were graded 1 through 6 based on the disappearance of the normal trabecular pattern usually seen in the femoral neck. Studies showed a correlation between a Singh Index of less than 3 and fractures of the hip, wrist and spine. Radiographic absorptiometry was developed during the late 1980s as an easy way to determine BMD with plain X-rays. An X-ray of the hand is taken incorporating an aluminum reference wedge. This film is then analyzed and the density of the bone compared to the reference wedge. The correlation between the RA values and the actual density is excellent.

Single photon absorptiometry

In the early 1960s, a new method of determining bone density using a radioactive isotope was developed—single photon absorptiometry (SPA). A single energy photon beam was passed through bone and soft tissue to a detector. The amount of mineral in the path could then be quantified. The amount of soft tissue the beam had to penetrate needed to be small so the distal radius was usually utilized. SPA measurements are accurate and the test usually takes about 10 minutes. The radioactive

source gradually decays, however, and must be replaced after a time.

Dual photon absorptiometry

The principle of dual photon absorptiometry (DPA) is the use of a photon beam that has two distinct energy peaks. One energy peak will be more absorbed by soft tissue and the other by bone. The soft tissue component then can be mathematically subtracted and the BMD thus determined. For the first time, BMD of the spine and proximal femur could be determined. Although accurate for predicting fracture risk, precision is poor due to decay of the isotope, and the machine has limited usefulness in monitoring BMD changes over time.

Dual-energy X-ray absorptiometry

Dual-energy X-ray absorptiometry (DXA) works in a similar fashion to DPA, but uses an X-ray source instead of an isotope. This is superior because the radiation source does not decay and the energy stays constant over time. Scan times are much shorter than with DPA and radiation dose is very low. The skin dose for an AP spine scan is in the range of 3 mrem. DXA scans are extremely precise. Precision in the range of 1 percent to 2 percent has been reported. DXA can be used as an accurate and precise method to monitor changes in bone density in patients undergoing treatments. The first generation DXAs used a pencil beam type scanner. The X-ray source moves with a single detector. Second generation machines use a fan beam scanner that incorporates a group of detectors instead of a single one. These machines are considerably faster and produce a higher resolution image. DXA has become the "gold standard" for BMD measurement today.

Quantitative computed tomography

Measurement of BMD by quantitative computed tomography (QCT) uses most standard CT scanners with software packages that allow them to determine bone density in the hip or spine. This technique is unique in that it provides for true three-dimensional imaging and reports BMD as true volume density measurements. The advantage of QCT is its ability to isolate the area of interest from surrounding tissues. It can, therefore, localize an area in a vertebral body of only trabecular bone leaving out the elements most affected by degenerative change and sclerosis. The QCT radiation dose is about 10 times that of DXA and QCT tests may be more expensive than DXA.

Peripheral bone density testing

Lower cost portable devices that determine bone mineral density at peripheral sites, such as the radius, the phalanges or the calcaneus are being utilized more and more for osteoporosis screening. The advantage of these devices is the ability to bring bone density assessment to a large portion of the population who otherwise would not be able to have the test. These machines cost considerably less than those that measure the hip and spine.

The Norland pDXA is a true dual energy X-ray device that is dedicated to measure BMD in the distal radius. It is portable and weighs about 59 pounds.

Hologic makes a quantitative ultrasound (QUS) unit, called the Sahara. This device measures the speed of sound and the attenuation of the sound signal through the calcaneus. It gives an "estimated" BMD. In two recent prospective studies of postmenopausal women over age 65, QUS predicted hip

fractures as well as BMD measurements of the hip by DXA.

One of the problems with peripheral testing is that only one site is tested and low bone density in the hip or spine may be missed. This results because of discordance of bone density between different skeletal sites. Although these peripheral machines are considered accurate, there have been doubts raised about their precision. The reproducibility of peripheral machines may not be good enough to monitor patients undergoing treatment for osteoporosis.

Discordance in BMD among various skeletal sites is more common in the years just following menopause. BMD may be normal at one site and low at another site. In these early postmenopausal years, bone density in the spine decreases first because the turnover in this highly trabecular bone is higher than other skeletal sites. Bone density at various skeletal sites begins to coincide at about age 70.

In early post menopausal women, therefore, up to the age of about 65, the most accurate site to measure is probably the spine. In older women over the age of 65, the concordance of skeletal sites is much closer and it may not make much difference which site is measured. Caution must be used in interpreting spine scans in elderly patients because of degenerative changes falsely elevating the BMD values. Measurements are, however, mostly site specific and the most accurate predictor of fracture risk at any site is a bone density measurement at that site.

The peripheral devices are, at present, good screening devices because of their portability, availability and lower cost, but patients may still need central testing, even in light of a normal peripheral test. The following can be used as a guide to which patients with a normal peripheral test should be tested centrally:

Bone density report interpretation

The main purpose of obtaining a bone density test is determining fracture risk. The bone mineral density correlates very well with risk of fracture. It is more powerful in predicting fractures than cholesterol is in predicting myocardial infarction or blood pressure in predicting stroke.

1. Postmenopausal patients not on hormone replacement therapy (HRT), concerned about osteoporosis and concerned about prevention, who would consider HRT, bisphosphonates or SERMs, if a low bone mass is discovered
2. Maternal history of hip fracture, smoking, tallness (more than 5'7") or thinness (less than 125 pounds)
3. Patients on medications associated with bone loss
4. Patients with secondary conditions associated with low bone mass (hyperthyroidism, posttransplantation, malabsorption, hyperparathyroidism, alcoholism, etc.)
5. Patients found to have high urinary collagen crosslinks (NTx, etc.)
6. History of previous fragility fracture

Adapted from Miller PD et al, *J of Clin*

Densitometry, vol. 1, no3, 214, 1998

T-score

The T-score is the number of standard deviations (SD) above or below the young adult mean. The young adult mean is the expected normal value for the patient compared to others of the same sex and ethnicity in a reference population the manufacturer builds into the DXA software. It is approximately what the patient should have been at their peak bone density at about age 20.

As a general rule, for every SD below normal the fracture risk doubles. Thus, a patient with a BMD of 1 SD below normal (a T-score of - 1) has 2 times the risk of fracture as a person with a normal BMD. If the T-score is -2 the risk of fracture is 4 times normal. A T-score of -3 is 8 times the normal fracture risk. Patients with a high risk can then be treated and future fractures prevented.

Different manufactures of DXA equipment report the hip BMD differently. In LunarTM machines, the average value for the femoral neck (designated as "Neck" in the report) is usually the most accurate for the hip. In HologicTM machines, the "Total" value should be used. In the spine, the most accurate T-score is the average of the first four lumbar vertebrae (L1-L4) in all manufactures of DXA machines.

There are other factors that determine fracture risk such as a person's eyesight, balance, leg strength, and conditions that might cause them to fall more easily. Age itself is an independent risk factor for fracture independent of bone density. Anyone with osteoporosis that has had a previous fragility fracture is considered to have severe osteoporosis and has a very high risk for future fractures.

Z-score

The Z-score is the number of standard deviations the patient's bone density is above or below the values expected for the patient's age. By comparing the patient to the expected BMD for his or her own age, the Z score can help classify the type of osteoporosis. Primary osteoporosis is age-related where no secondary causes are found. Secondary osteoporosis occurs when underlying agents or conditions induce bone loss. Some common causes of secondary osteoporosis are thyroid or parathyroid abnormalities, malabsorption, alcoholism, smoking and the use of certain medications especially corticosteroids.

A Z-score lower then -1.5 should make you suspicious of secondary osteoporosis. If secondary causes are suspected, the patient should usually undergo further work up including laboratory testing to find out if there is an underlying reason for the osteoporosis. This is important because treating the underlying condition may be necessary to correct the low bone density.

John D. Kaufman, MD, is chairman of the Academy's Osteoporosis Interest Group and is in private practice in Santa Clarita, Calif.

THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS
BULLETIN

Volume 47, No. 5 ■ October 1999

A Microsoft Word version 7.0 of this article can be [downloaded](#) to your hard drive.

**Musculoskeletal conditions in the U.S.
Academy publication documents huge
impact on society**



Millions of Americans-young and old, sturdy and frail-are afflicted with musculoskeletal conditions that limit their productivity, distract them with pain, rob some of their independent living and cost the economy billions of dollars each year.

The impact on the quality of life and the nation is so huge that it's difficult to grasp. Musculoskeletal conditions and injuries are usually viewed individually-arthritis, osteoporosis, back sprain. They are often accepted stoically as the consequence of aging or just another hazard of the workplace. Because musculoskeletal conditions are generally not fatal, they don't get the same attention from policymakers and the media as other "deadly" diseases. When musculoskeletal conditions and injuries are reckoned in the aggregate-in terms of people, costs, health care resources-the impact on society and the nation is staggering.

The full dimensions are disclosed in the Academy's just-published *Musculoskeletal Conditions in the U.S. (second edition)*. It's a comprehensive, up-to-date view of the impact on the well being of Americans, the health care system and the economy. Using the latest available statistics and expert analysis, the Academy's department of research and scientific affairs documents the significance of musculoskeletal diseases and injuries.

Musculoskeletal conditions cost the United States economy more than \$215 billion a year. Arthritis and other rheumatic conditions, alone, have an annual economic impact on the nation roughly equivalent to a moderate recession, with a total cost of about 1.1 percent of the gross national product, says Edward H. Yelin, PhD, professor of medicine and health policy, University of California, San Francisco.

There's the human toll, too. One in every 7 Americans, or 36.4 million people, have a musculoskeletal impairment that limits or decreases their ability to function at home, work or at

play.

Musculoskeletal impairments are a leading cause of restricting a person's activity or confinement to bed and a leading cause of work loss.

The impact of musculoskeletal conditions and injuries is expected to grow as the population increases and ages in the coming decades. That's also true in other countries. The United States and nations around the world are raising awareness of the societal burden of musculoskeletal conditions and the need for research in an international effort, the Bone and Joint Decade 2000-2010. (See story on page 37.)

The need to make the case for musculoskeletal conditions as a target for research funding is critical in an era when there is great competition for limited funding. Although musculoskeletal conditions cost the economy more than \$215 billion a year, only \$92 million is devoted to orthopaedic research and of that, \$15 million is for clinical research.

"Musculoskeletal Conditions in the U.S. provides the most complete and current documentation concerning musculoskeletal diseases and injuries, including arthritis, back pain, bone and joint injuries and developmental disorders in children," says Joseph A. Buckwalter, chairman of the Academy's Council on Research and Scientific Affairs. "It will help direct future efforts to improve prevention and treatment of these conditions through research and improved diagnosis and treatment."

Here are some highlights.

Arthritis

Arthritis affects more than 32 million Americans or almost 1 out of 8 Americans. It is reported by almost 50 percent of people age 65 and older.

Although some significant research holds out hope for new treatments, until they come into use, the demographics of an aging population indicate that by 2020 an estimated 60 million Americans, or more than 18 percent of the population, will be affected by arthritis.

Today, arthritis is the leading cause of disability. It is a more frequent cause of limitation of activity than heart disease, cancer or diabetes. It is second to heart disease in causing work disability.

Arthritis is the second most frequently reported chronic condition. Among females, arthritis ranks second to chronic sinusitis; among men it ranks fifth, following chronic sinusitis, deformities or orthopaedic impairments, hearing impairments and hypertension.

The condition accounts for 39 million visits to physicians and more than 500,000 hospitalizations. The total of arthritis is more than \$82 billion.

Osteoporosis

In the last few years, public education campaigns have been launched to encourage increased consumption of calcium to prevent osteoporosis and for good reason. Osteoporosis affects 25 million Americans, 80 percent of whom are women.

Every year, almost 1.3 million fractures are attributed to osteoporosis-about 250,000 are hip fractures; 250,000, wrist fractures; and 500,000 vertebral fractures.

American Association of Orthopaedic Surgeons

The cost of treating these fractures was estimated to be \$13.8 billion in 1995 and is expected to double in the next 50 years unless prevention and treatment strategies are initiated. The Academy is developing a public education program on osteoporosis as well as a program aimed at encouraging orthopaedic surgeons to be aware of the diagnostic and treatment strategies for the bone disease. Hip fractures are the most serious consequence of osteoporosis and are more likely to lead to functional impairments than other serious medical conditions, including heart attack, stroke and cancer. Two-thirds of the people who fracture a hip do not return to their prefracture level of functioning.

About 1 of every 6 white women will have a hip fracture in their lifetime. Hip fracture rates increase exponentially with increasing age so that beginning at age 65, the rates double for men and women in each decade of their life.

Arthroplasty

Knee procedures were a key factor in a 22 percent increase in arthroplasties in the 1990s. An average of 648,000 arthroplasties were performed annually from 1993 through 1995 in short-term general hospitals, compared to average of 531,000 in the 1985-1988 period. Knee procedures accounted for almost half-47 percent-of procedures. In the 1985-1988 period, knee procedures accounted for 35.8 percent of procedures.

From 1990 through 1996, total knee replacement procedures soared almost 90 percent, while total hip replacements increased 16 percent and partial hip replacements, 13.2 percent.

In 1996, almost 74 percent of total knee replacements and 68 percent of total hip replacements were performed on patients who were age 65 and older.

As the population increases and ages, it is estimated that total knee replacements will increase 85 percent from 245,000 in 1996 to 454,000 by 2030. Total hip replacements will increase almost 80 percent from 138,000 to 248,000 in the same period.

Back pain

It's hardly news to most people, but now it is documented: 75 percent to 85 percent of all people will experience some form of back pain during their lifetime.

About 1 percent of the United States population is chronically disabled because of back pain and an additional 1 percent is temporarily disabled. Two percent of the United States work force has compensable back injuries each year.

From 1993 through 1995, conditions related to back pain accounted for more hospitalizations than any other musculoskeletal condition. Conditions related to back pain, including back injuries resulted in an annual average of 524,000 hospitalizations a year.

Almost 16.2 million office visits resulted from back pain conditions; nondisc-related disorders accounted for almost 45 percent of the office visits. Disc disorders accounted for more than half of hospitalizations for conditions related to back pain.

Injuries

About 37 million musculoskeletal injuries are reported annually. Slightly more than half result in limitation of activity and 20 percent, bed confinement.

From 1993 through 1995, almost 1.3 million [hospitalizations](#) occurred annually for all types of musculoskeletal injuries. Fractures were the leading injury requiring inpatient services, and accounted for almost 72 percent of the hospitalizations. Sprains and strains were second. However, strains and sprains injuries accounted for 16.1 million physician visits, while fractures resulted in 9.4 million visits.

Utilization

Musculoskeletal conditions and injuries place great demands on the health care system. Three million inpatient procedures were performed in short-stay hospitals for musculoskeletal conditions in 1995, accounting for 11 percent of all procedures. About 3.3 million ambulatory surgery visits were made to hospital outpatient facilities and free standing ambulatory surgical centers. More than 4.3 million surgical procedures were provided.

Musculoskeletal conditions accounted for almost 131 million visits to physicians' offices, hospital outpatient departments and hospital emergency rooms. Of 99 million visits to physicians' offices, 40 million were new problem visits.

Musculoskeletal Conditions in the United States is available for \$50 for members and \$80 for nonmembers by calling the Academy's customer service department (800) 626-6726.

October 99 Bulletin

10/4/99