EU Osteoporosis Report 2007 - 2008

PORTUGAL

Completed by: Viviana Tavares – APOROS (National Association against Osteoporosis)
Rheumatologist – Consultant, Rheumatology Service, Hospital Garcia de Orta, Almada, Portugal
Coordinator Rheumatic Diseases Working Group – Lisbon and Tagus Valley Regional Health Administration
Member of the National Programme against Rheumatic Diseases Assessment Group - Directorate-General of Health
President – APOROS (National Association against Osteoporosis)
Reviewed by: Dr. Alexandre Diniz – Head of the Directorate of Health Care Services, Directorate-General of Health

OVERVIEW	**2001-2005**	**2007**
	Ref: *Osteoporosis in the European Community: A Call to Action*, Nov 2001 IOF publication **Ref: *Osteoporosis in Europe: Indicators of Progress*, Feb 2005, IOF publication** **Ref: *Osteoporosis in Europe: Indicators of Progress*, Feb 2005, IOF publication**	
National population	10,318,000 (2001)	10,599,095 (2006) Ref. http://www.ine.pt
Population over 50	1,533,800 >65; (>50 not available)	Women: 2,061,357 Men: 1,669,968 Total: 3,731,325 Ref. http://www.ine.pt
Number of hip fractures in 1998	8100 7.85 per 10,000 population	
Number of hip fractures in 1999		
Number of hip fractures in 2000	8500 8.24 per 10,000 population	
Number of hip fractures in		Total: 9821 (9.26 per 10,000 population)

2006		Women (>50): 7281 Men (>50): 2540 (data from public hospitals only, not including Madeira and Azores Islands; data from insurance companies and special health systems not available) Ref. Ministry of Health
Individual hospital cost of hip fracture: direct costs indirect costs	Direct: €3,300-9,900 Indirect: not recorded	Direct: 5449,69€ Ref: Ministry of Health Indirect: n/a
Average number of hospital days in acute care cost/day (euro)		14.5 days 5.440,70 €/day
average number of days in rehabilitation or long term care cost/day (euro)		Not available
Total direct hospital costs of hip fractures	€51,321,300 (est 2000)	53,433,131 €
Number of diagnostic scanners (DXA) per million population Recommended: 10.6	24.8	Ref: Ministry of Health Total: 32,8 Ref: sales representatives from DXA scans
Waiting time for DXA scan in the public health system	< 1 week	2 weeks to a month (public hospitals) 5-15 days (private centers with contracts with National Health Service) Data obtained by telephone sampling of public and private centers, randomly selected
Cost for DXA scan of hip and spine	€100	120-150€
How many DXA scans are carried out/year?	Not recorded	348 496 (2004) (data refer only to scans paid by NHS, done either in private or public centers, excluding Madeira and Azores Islands; data from insurance companies and special health systems non available) Ref: Ministry of Health

Reimbursement of proven therapies	Reimbursed with restrictions, criteria not recorded	All therapies, including teriparatide and zoledronate are reimbursed without restrictions. Prescription of teriparatide and zoledronate is mainly done be specialists, but there is no restriction to primary care physicians.

	8 RECOMMENDATIONS	2001 Audit* *Osteoporosis in the European Community: A Call to Action. IOF publication - November 2001	2007 Report
1.	**IS OSTEOPOROSIS A PRIORITY?**	**2001 Audit***	**2007 Report**
1:a	***Has your government made osteoporosis a national health priority?***	No	Yes The National Programme Against Rheumatic Diseases (NPARD) (approved by ministerial dispatch on 26th March 2004, and an integral part of the National Health Plan for 2004-2010) addresses osteoporosis as national health priority. In relation to osteoporosis the goals of the NPARD are to determine the incidence of osteoporotic fractures; control morbidity and mortality associated with osteoporosis related fractures; improve quality of life of osteoporotic patients and cut down on costs associated with the disease. To achieve these goals the NPARD must develop and implement several strategies at national, regional and local levels: a) production and disclosure of technical guidelines about the diagnosis, treatment, follow-up and referral of osteoporosis b) production and disclosure, by Health Centres and the Ministry of Social Security and Labour, of technical guidelines about the prevention of falls in the elderly c) development of a technical proposal for dietary supplementation with vitamin D and calcium in the elderly d) develop multisectorial partnerships for disclosing general information to

			the public at large on osteoporosis and good bone health habits e) development of multisectorial partnerships to create an observatory for the rheumatic diseases, that should Include systems for data collection and analyses on prevalence and incidence of osteoporotic fractures. This led to the creation of the National Observatory of Rheumatic Diseases (NORD). Ref. National Programme against Rheumatic Diseases. Ed. Directorate-General of Health, Lisbon, 2005. http://www.dgs.pt
1:b	***Has your government supported national or regional osteoporosis campaigns?***	New guidelines, expected to be supported by government	As stated above as part of NPARD the government, mainly through DGH endorses national and regional osteoporosis campaigns carried by patient associations and other partners
1:c	***Do national initiatives advance or restrict the cause?***	Not recorded	Initiatives planned on the NPARD will advance the cause of osteoporosis
2.	**FRAGILITY FRACTURE STATISTICS**	**2001 Audit***	**2007 Report**
2:a	***Has a national fragility fracture registry been established for data collection and monitoring?***	No	There is no national registry specifically for fragility fractures. As seen in recommendation 1:1 the creation of a national registry/ observatory for fragility fractures is one of the strategies of the NPARD and is being planned with the NORD and the Directorate-General of Health
2:b	***If so, give dates for data***		
2:c	***Is collected data from general or selected populations?***		
2:d	***Incidence rates for hip fracture for men & women over 50 years (per 10,000***	Not available	Total 9.26 per 10 000 population Women 35.2 per 10 000 Men: 15.2 per 10 000

	population)		Ref: Ministry of Health
2:e	***Prevalence rates for vertebral fracture for men & women over 50 years (per 10,000 population)***	Not available	Prevalence rates for vertebral fracture non available. The only published data on prevalence are from the Portuguese sample of the EVOS, with a prevalence of radiologic vertebral deformity of 13,5% in females and 16,6% in males (extrapolating these values to the Portuguese population would mean 360 000 individuals with vertebral deformities). The Portuguese sub-group of the EPOS study calculated a 2,4% incidence of new vertebral deformities at 3 years. Ref: O'Neill TW et al. The prevalence of vertebral deformity in European men and women: The European vertebral osteoporosis study. J Bone Miner Res 1996; 11: 1010-7 Ref: Roy DK et al. Determinants of incident vertebral fracture in men and women: results from the European Prospective Osteoporosis Study (EPOS). Osteoporos Int. 2003; 14: 19-26 The more recent data we can provide is the number of clinical vertebral fractures requiring hospitalization in public hospitals (Data split by age>50y, may include traumatic fractures) Total 2 743 Women: 1162 Men: 1581 Ref. Ministry of Health
2:f	***Incidence and/or prevalence of wrist and other non-vertebral fracture for men & women over 50 years***	Not available	Not available
3.	**CO-OPERATION AND FUNDING**	**2001 Audit**	**2007 Report**

3:a	***Which partners have been supportive of your osteoporosis efforts? (corporate, allied health, government) Give specifics***	No awareness of partners	A large number of partners have supported directly the efforts and activities of APOROS. Below is a list of the most important or active partners. Not included are the names of many individuals, including well known public figures that gave their face to advertising campaigns Directorate-General of Health, mainly through the Directorate of Health Care Services (divisions of Prevention and Disease Control, Integrated Disease Management and Civil Society Participation) Pharmaceutical companies: Novartis, MSD, Sanofi-Aventis, Lilly, Roche/GSK Unrestricted grants for publication of educational leaflets, posters, TV ads, awareness and advertising campaigns, screening activities for selected populations, meetings, activities related to World Osteoporosis Day Dairy companies: Lactogal (partner of APO-Portuguese Association of Osteoporosis), Nestle Advertising campaigns, WOD activities City Councils (several cities) Cooperation in preventive programs and awareness activities (meetings for general public, for day care centers, screening activities), lending of material and facilities for activities of APOROS, informative leaflets with APOROS partnership, activities related to WOD Fitness clubs: Vivafit (national chain of women-only training programs) Patient associations: Portuguese League Against Rheumatic Diseases, Federation of Patients with Chronic Diseases Scientific societies: Portuguese Society for Metabolic Bone Diseases, Portuguese Society for Rheumatology Faculty of Human Movement

3:b	***Did these partners collaborate on mutual goals & objectives?***	unknown	Yes. With very few exceptions, collaboration with all partners has been most successful and support as been unrestricted and unbiased
4.	**CALCIUM AND VITAMIN D**	**2001 Audit***	**2007 Report**
4:a	***Is there a national public health program?***	No national program. Scientific Sociedade Partuguesa das Doencas Osseas etabolicas (SPODOM) provides educational programs; public programs run by Society	Although there is not a national public health program on calcium and vitamin, there are a number of measures and programs from the Ministries of Education and of Health that reflect the concern with the issue. The implementation of Education for Health programmes in schools is compulsory. Health issues are usually addressed in biology, sciences or physical education disciplines and in nutrition and physical activity/exercise are part of the curricula in 94% and 83% of the schools, respectively. Two recent documents issued by Ministry of Education concern the provision and distribution of food in school bars and canteens, trying to promote a healthy nutrition. Adequate calcium intake, mainly from dairy foods is one of the principles reported in the documents. The Directorate-General of Health has also publications for the general public promoting the principles of good nutrition. Also, as part of the NPARD, a technical recommendation for dietary supplementation with vitamin D and calcium in the elderly was recently published and disseminated to all health services Ref: http://www.min-edu.pt/np3content/?newsId=298&fileName=gtes_rel_final.pdf http://www.min-edu.pt/np3/244.html http://www.dgs.pt/upload/membro.id/ficheiros/i008723.pdf http://www.dgs.pt/upload/membro.id/ficheiros/i009645.pdf
4:b	***Are there national guidelines on optimum daily intake?***	No	No. However it is generally accepted that the recommendations are those of the EC Scientific Committee on Food. http://www.ec.europa.eu/food/fs/sc/scf/out194_en.pdf http://www.ec.europa.eu/food/fs/sc/scf/out157_en.pdf

5.	**ACCESS TO BONE DENSITOMETRY SYSTEMS**	**2001 Audit***	**2007 Report**
5:a	***Number of hip & spine DXA units (per million population)***	25 (2000)	32,8 per million population Ref: sales representatives from DXA scans companies
5:b	***Is the distribution of services equitable throughout your country?***	7% 25 DXA units are used by public health system	Only 7,9% of DXA scans (26 units) are in public services. However, scans done at private centers are reimbursed by the NHS, if those centers have contracts with the NHS (almost all private centers are in this case). Scans are evenly distributed through out the country, concentrating on major coastal cities where population density is higher.
5:c	***Cost of DXA (public and private health systems)***	Public: €15 Private: €100	Public: €10,5 fee (there are a number of situations where patients are exempted from this fee, including unemployment, retirement with income below national minimum wage or existence of special chronic diseases) Private: 120-150€. Patients reported from the NHS to private centers pay same fee as in public services. NHS pays to the private center 52,82€ per scan (hip and spine). Patients with some insurance plans may pay a fee of 15€
5:d	***Utilization of scans:*** • ***Public*** • ***Private***	Unrecorded	As less than 8% of scans are in public services (and these include scans on university departments used mainly for investigation or clinical trials) the majority of scans is carried in private centers and supported by the NHS. A total of 348 496 scans was paid by the NHS in 2004 (excluding Madeira and Azores Islands) representing a total cost 19,441, 901€. From 2000-2004 there was a 13% annual increase in performed scans Data from insurance companies and special health systems non available. Ref: Ministry of Health
5:e	***Are diagnostic procedures (DXA) reimbursed?*** ***If yes, what are the criteria for reimbursement?***	Public: Yes, for low income, chronic disease patients fee is waived. Retired with pension below national	DXA scans are reimbursed. See section 5:3 No clinical restrictions for reimbursement The Directorate-General of Health published recently (and disseminated to all health services) a technical orientation of good clinical practice for DXA requisition, that follows the guidelines of the Portuguese Society of

		wage – free; Private: most Portuguese use public system. Full charges if one choses to use private system	Rheumatology in collaboration with the Portuguese Society for Metabolic Bone Diseases (see below). However this orientation does not restrict reimbursement http://www.dgs.pt/upload/membro.id/ficheiros/i009644.pdf
5:f	***Average wait time for DXA (public and private systems)***		Public centers 15-30 days Private centers: 1 day (private patients full payment), 1 week (insurance companies), 2-4 weeks (patients referred from the NHS) Data obtained by telephone sampling of public and private centers, randomly selected
5:g	***Quality Assurance: is there standardized training of technologists?***	Unrecorded	Depends on the center. However there is no certification specifically for densitometry, either for radiologists or technicians. Very few are certified by the ISCD, after completion of one of their courses As there is not specific training or accreditation DXA reports have very different levels of quality regarding the information and results they provide
6.	**PREVENTION, TREATMENT AND REIMBURSEMENT**	**2001 Audit***	**2007 Report**
6:a	***Do evidence based guidelines exist on prevention, diagnosis and treatment? (if yes, give date & link to publication)***	• Yes, produced by the College of Rheumatology, Portuguese Medical Association	Yes. Guidelines for diagnosis and treatment of osteoporosis were produced in 2006 by the Portuguese Society of Rheumatology in collaboration with the Portuguese Society for Metabolic Bone Diseases, APOROS (National Association Against Osteoporosis) and APO (Portuguese Association of Osteoporosis) Ref: http://www.spreumatologia.pt/download_fich.php?path=pdfs&filename=SPR_20070432105420_Recomendacoes_OP.pdf
6:b	***What approved drug therapies are available?***	Not recorded	Calcium and vitamin D supplements Bisphosphonates: alendronate, risendronate, ibandronate, pamidronate (off label and only in hospitals) and zoledronate

			Raloxifen Calcitonin Teriparatide HRT Calcitonin and alendronate available in brand and generics
6:c	***Are the most effective treatments reimbursed? Please include criteria for reimbursement***	Full reimbursement, no limitations	Yes. All treatments (including teriparatide and zoledronate) are reimbursed without any clinical restriction. Reimbursement follows the general rules: 70% or 85% (this last for patients with special reimbursement due to the situations explained above – see 5:3). Use of teriparatide is indicated if one of the following criteria: Tscore< -3.5, previous fracture and failure of previous treatment with accepted medications.
6:d	***Are patients at high risk for fractures eligible for treatment reimbursement BEFORE the first fracture?***	Not recorded	Yes No restrictions
6:e	***Do lifestyle prevention programs exist?***	Not recorded	The Ministry of Health, through the Directorate-General of Health, is promoting healthy lifestyle in general population and in old people in particular. Information on health issues (nutrition, physical activity, diseases, including osteoporosis, accidents and fall prevention, aging with good health) is available for the public in www.portaldasaude.pt. A number of publications on the same themes are available for download or can be obtained through the health centres. http://www.portaldasaude.pt/NR/rdonlyres/FDB7388A-435E-4F65-BC1A-BAC31B74EFD7/0/i009085.pdf http://www.dgsaude.pt/upload/membro.id/ficheiros/i005534.pdf http://www.portaldasaude.pt/portal/conteudos/enciclopedia+da+saude/idosos/default.htm?pn=1&ps=5 http://www.portaldasaude.pt/portal/conteudos/enciclopedia+da+saude/doencas/doencas+reumaticas/osteoporose.htm Patient societies promote prevention through their activities and awareness campaigns to the general public

7.	THE NGO SECTOR AND TRAINING HEALTHCARE PROFESSIONALS	2001 Audit*	2007 Report
7:a	***Has the government supported (financially or through public information) patient and scientific societies?***	No	No financial support. Government acknowledges the work of scientific and of patient societies.
7:b	***Do appropriate training programs exist for health professionals?***	No	Most medical schools include osteoporosis in their curricula (2-6 hrs distributed by several disciplines, namely pathophysiology, endocrinology, rheumatology and medical clinic) Ref: http://www.fm.ul.pt http://www.fcm.unl.pt http://www.med.up.pt Osteoporosis or bone metabolism is also included in the curricula of Pharmacy Faculties and Physiotherapists Schools. The Department of Continuous Formation from the National Association of Pharmacists has done in the last 5 years several 1 day courses on osteoporosis, included in the accreditation for renewal of professional license. Post-graduate courses on Osteoporosis were held for the last five years in Lisbon Medical Faculty (2 day courses, credited by the UEMS and ECTS) A post-graduate course on Densitometry was held for the last 2 years in the Medical Sciences Faculty (one day course) Osteoporosis is also part of the program of a post graduate course (Quality of Life and Functional Automony in Old Age) and of a Master Course in Exercise and Health held by the Faculdade de Motricidade Humana (Faculty of Human Movement) in the branch Exercise and Health. In the Degree of Sports Science the same Faculty osteoporosis is also included in the disciplines “Exercise, Aging and Health”, “Women and exercise” and “Exercise and chronic diseases”

			http://www.fmh.utl.pt Every year a number of symposia and medical meetings, for specialists and general practitioners, held by the scientific societies, especially metabolic bone diseases, rheumatology, gynecology and endocrinology, have osteoporosis in their program.
8.	**RESEARCH**	**2001 Audit***	**2007 Report**
8:a	***How many funding agencies are there in your country that fund bone research?*** ***Include details if available***	No research supported by government	No agency dedicated only to bone research. The Fundação para a Ciência e Tecnologia (Science and Technology Foundation), an official body of the Ministry for Science, Technology and Higher Education, grants projects in several areas, upon application. Currently there are two projects (both from the Faculdade de Motricidade Humana) being developed with grants from this institution: “Effects of High-Impact Physical Activity on Bone Development in Girls According Pubertal Maturation: an Observational Analysis toward Menarche” and “Evaluation of Biomechanical Load on the Musculoskeletal System. Development and Application of Experimental and Modelling Methodologies” http://www.fct.mctes.pt Recently, Portuguese Society for Rheumatology with the support of Merck, Sharp and Dohme created a grant (20000€) for research in osteoporosis (deadline for application is December 2007) http://www.spreumatologia.pt
8:b	***Specify major osteoporosis or related research***		Below is a list of publications, PhD Thesis and Master thesis on osteoporosis or related research done (or in progress) in the last 6 years.
8:c	***Include references/links to publications***		

Canhão H, Lucas R, Fonseca JE, Costa L, Romeu JC, Branco J, Barros H. Factors influencing calcaneus quantitative ultrasound measurements in an urban population. Clin Exp Rheumatol. 2007 *in press*.

Lucas R, Barros H. Life prevalence and determinants of hormone replacement therapy in women living in Porto, Portugal. Maturitas. 2007 Jul 20;57(3):226-32.

Rocha O, Lunet N, Costa L, Barros H. [Osteoporosis treatment in Portugal: trends and geographical variation]. Acta Med Port 2006;19:373-80.
http://www.actamedicaportuguesa.com/pdf/2006-19/5/373-380.pdf

Lucas R, Costa L, Barros H. Ingestão de cálcio e de vitamina D numa amostra de mulheres portuguesas. Arq Med. 2005 Jan; 19(1):7-14.

Canhão H, Fonseca JE, Queiroz MV. Eating habits and lifestyles in a Portuguese population – protective and risk factors for osteoporosis Acta Reuma Port 2006; 31(5):332-339
http://www.spreumatologia.pt/download_fich.php?path=pdfs&filename=ARP_2006_5_332_AO_-__Habitos_alimentares.pdf

Canhão H, Ferreira R, Costa L, Romeu JC, Fonseca JE, Branco J, Barros H. [Normative data for quantitative ultrasound measurement of the calcaneus in a Portuguese population]. Acta Reum Port. 2006 Jan (1):65-74
http://www.spreumatologia.pt/download_fich.php?path=pdfs&filename=ARP_2006_1_65_AO_Valores_referencia_Jan_Mar_06.pdf

Canhão H, Fonseca JE, Queiroz MV. Self-filled questionnaire to identify and quantify risk factors of osteoporosis. Acta Reuma Port 2004; 29(1): 63-69
http://www.spreumatologia.pt/download_fich.php?path=pdfs&filename=ARP_2004_1_63-69_Questionario_para_Identificacao_de_Factores_de_Risco_de_Osteoporose_Jan-Mar_04.PDF

Godinho F, Santos MJP, Silva JC. Glucocorticoid-induced osteoporosis: knowledge and preventive strategies in patients with systemic lupus erythematosus. Acta Reuma Port 2004; 29(2): 105-110
http://www.spreumatologia.pt/download_fich.php?path=pdfs&filename=ARP_2004_2_105-110_Osteoporose_Induzida_Pelos_Glicocorticoides_Abr-Jun_04_.pdf

Report from the National Observatory of Rheumatic Diseases – 2003-2005, presents results from several studies in osteoporosis (http://ondor.med.up.pt/pdf/re-act_maio2006.pdf)

PhD Thesis

Helena Canhão.Contribuição para a prevenção da osteoporose. Avaliação de factores genéticos, antropométricos, ambientais, laboratoriais e de dados densitométricos e de ultrasons em portugueses de ambos os sexos 2007. Faculdade de Medicina de Lisboa

Baptista, F. Exercício Físico e Metabolismo Ósseo: Resultados do programa de Actividade Física para a Pessoa Idosa do Concelho de Oeiras. 2000, Lisboa, Faculdade de Motricidade Humana

Rita Alexandra Prior Falhas Santos Rocha. Assessment of Biomechanical Loading in Musculoskeletal Structures of the Lower Limb – Biomechanical Model of Step Exercise. Doutoramento no Ramo de Motricidade Humana na Especialidade de Saúde e Condição Física.2006 Lisboa Universidade Técnica de Lisboa

Master Thesis

Ricardo Filipe Simões Carvalho Cardeira

Impacte da Perda de Peso na Densidade Mineral Óssea de Mulheres Pré-Menopáusicas. Mestrado em Exercício e Saúde, Faculdade de Motricidade Humana, 2006 Universidade Técnica de Lisboa

Hugo Carlos Pereira

Aptidão Muscular e Massa Óssea: Relações entre a Força Muscular e o Mineral Ósseo de Diversas Regiões do Esqueleto de Homens Idosos. Mestrado em Exercício e Saúde, Faculdade de Motricidade Humana, Universidade Técnica de Lisboa, Lisboa, 2004

Cristina Marta Vieira Lopes

A Interacção da Actividade Física e da Idade da Menarca no Mineral Ósseo de Adolescentes de 15 Anos. Mestrado em Ciências do Desporto, Universidade da Madeira, Madeira, 2004

Maria Teresa Barreiros Caetano Tomás

Inter-Relações entre a Força do Quadricípete e a Densidade Mineral Óssea da Tíbia em Mulheres Idosas Activas. Mestrado em Exercício e Saúde, Faculdade de Motricidade Humana, Universidade Técnica de Lisboa, Lisboa,2002

Ongoing projects from the Rheumatology Research Unit

Instituto de Medicina Molecular, Faculdade de Medicina da Universidade de Lisboa

1- Effects of inflammation on bone and cartilage: collagen pattern and biomechanical properties (FCT – PTDC/SAU-BEB/65992/2006)

2- Contribution for the prevention of osteoporotic fractures and bone quality evaluation - a new method for the evaluation of the extracellular matrix (Grant from Hospital de Santa Maria 2006)

3- Evaluation of human bone through densitometry - comparative study with computational models of bone remodelling