

tively cost-effective. And barriers to compliance with long-term therapy cast doubt on whether the potential benefits, even if they are accurately forecast, will be achieved in practice.

The only condition under which BMD screening would become more cost-effective than giving HRT to everyone would be if it were shown, first, that there are no heart disease benefits from HRT and, second, that hip fractures and other osteoporotic fractures had a dramatic effect on quality of life. There are no data on quality-adjusted life years in persons with hip fracture or other osteoporotic fractures.

## REFERENCES

1. 1994 Physicians GenRx. The Complete Drug Reference (Smithtown, NY: Data Pharmaceutica Inc., 1994).
2. Agence Nationale pour le Développement de l'Evaluation Médicale, *Evaluation of Bone Mineral Density Measurement* (Paris, France: ANDEM, October 1991).
3. American Academy of Orthopaedic Surgeons, *Cost-Effectiveness of Hormone Replacement Therapy in the Menopause*, K.L. Grazier, T.L. Holbrook, J.L. Kelsey, et al., (eds.) (Chicago, IL: 1984).
4. American College of Obstetricians and Gynecologists, "Osteoporosis," *ACOG Technical Bulletin*, No. 167 (Washington, DC: American College of Obstetricians and Gynecologists, May 1992).
5. American College of Physicians, "Clinical Guidelines—Guidelines for Counseling Postmenopausal Women About Preventive Hormone Therapy," *Annals of Internal Medicine* 117(12):1038-1041, 1992.
6. American College of Rheumatology, Council on Rheumatologic Care, *Bone Density Measurement* (position statement), (Atlanta, GA: American College of Rheumatology, March 1989).
7. Armitage, P., *Statistical Methods in Medical Research* (New York, NY: John Wiley and Sons, 1971).
8. Ashby, J., O'Hanion, M., and Buxton, M.J., "The Time Trade-Off Technique: How Do the Valuations of Breast Cancer Patients Compare to Those of Other Groups?" *Quality of Life Research* 3:257-265, 1994.
9. Australian Institute of Health, National Health Technology Advisory Panel, *Bone Mineral Assessment - An Update* (Canberra, Australia: Australian Institute of Health, October 1989).
10. Balena, R., Toolan, B.C., Shea, M., et al., "The Effects of 2-Year Treatment with the Aminobisphosphonate Alendronate on Bone Metabolism, Bone Histomorphometry, and Bone Strength in Ovariectomized Nonhuman Primates," *Journal of Clinical Investigation* 92:2577-2586, 1993.
11. Barrett-Connor, E., "Postmenopausal Estrogen and Prevention Bias," *Annals of Internal Medicine* 115(6):455-456, 1991.
12. Barrett-Connor, E., and Bush, T.L., "Estrogen and Coronary Heart Disease in Women," *Journal of the American Medical Association* 265(14):1861-1867, 1991.
13. Bass, K., Newschaffer, C., Klag, M., et al., "Plasma Lipoprotein Levels as Predictors of Cardiovascular Death in Women," *Archives of Internal Medicine* 153:2209-2216, 1993.
14. Black, D.M., *Cost Effectiveness of Screening for Osteoporosis: Review of Bone Mineral Density and Fracture Parameters Required for Model* Division of Clinical Epidemiology, University of California, San Francisco, CA, final report, Nov. 17, 1992.
15. Black, D.M., "Why Elderly Women Should be Screened and Treated to Prevent Osteoporosis," *American Journal of Medicine* 98(Suppl. 2A):67S-75S, 1995.
16. Brainsky, A., Fox, K.M., Epstein, R., et al., "The Economic Cost of Hip Fractures in the Elderly," presented at *The 41st Annual Meeting, Orthopaedic Research Society*, Orlando, FL, Feb. 13-16, 1995.

17. Browner, W.S., Pressman, A.R., Nevitt, M.C., et al., "Mortality Following Fractures in Older Women: The Study of Osteoporotic Fractures," presented at *The 4th International Symposium on Osteoporosis*, Hong Kong, 1993.
18. Bush, T.L., "Noncontraceptive Estrogen Use and Risk of Cardiovascular Disease: An Overview and Critique of the Literature," *The Menopause: Biological and Clinical Consequences of Ovarian Failure. Evolution Management*, S.G. Korenman (ed.) (Norwell, MA: Serono Symposia, USA, 1990).
19. Campodarve, I., Drinkwater, B.L., Insogna, K.L., et al., "Intranasal Salmon Calcitonin (INSC), 50-200 IU, Does Not Prevent Bone Loss in Early Postmenopausal Women," *Journal of Bone Mineral Research* 9(Suppl. 1):S391, 1994.
20. Cann, C.E., Genant, H.K., Ettinger, B., et al., "Spinal Mineral Loss in Oophorectomized Women: Determination by Quantitative Computed Tomography," *Journal of the American Medical Association* 244: 2056-2059, 1980.
21. Cauley, J.A., Cummings, S.R., Black, D.M., et al., "Prevalence and Determinants of Estrogen Replacement Therapy in Elderly Women," *American Journal of Obstetrics and Gynecology* 163:1438-1444, 1990.
22. Chapuy, M.C., Arlot, M.E., Delmas, P.D., et al., "Effect of Calcium and Cholecalciferol Treatment for Three Years on Hip Fractures in Elderly Women," *British Medical Journal* 308:1081-1082, 1994.
23. Cheung, A.P., and Wren, B.G., "A Cost-Effectiveness Analysis of Hormone Replacement Therapy in the Menopause," *Medical Journal of Australia* 156(5):312-316, 1992.
24. Christiansen, C., Christensen, M.S., McNair, P., et al., "Prevention of Early Postmenopausal Bone Loss: Controlled Two-Year Study in 315 Normal Females," *European Journal of Clinical Investigation* 10:273-279, 1980.
25. Christiansen, C., Christensen, M.S., and Transbøl, I., "Bone Mass in Postmenopausal Women After Withdrawal of Estrogen/Gestagen Replacement Therapy," *Lancet* 1:459-461, 1981.
26. Chu, J., Schweid, A.I., and Weiss, N.S., "Survival Among Women with Endometrial Cancer: A Comparison of Estrogen Users and Nonusers," *American Journal of Obstetrics and Gynecology* 143(5): 569-573, 1982.
27. Clark, A.P., and Schuttinga, J.A., "Targeted Estrogen/Progestogen Replacement Therapy for Osteoporosis: Calculation of Health Care Cost Savings," *Osteoporosis International* 2:195-200, 1992.
28. Collins, J., Donner, A., Allen, L.H., et al., "Oestrogen Use and Survival in Endometrial Cancer," *Lancet* 2(8201):961-963, 1980.
29. Copp, D.H., "Calcitonin: Discovery, Development, and Clinical Applications," *Clinical Investigation in Medicine* 17:268-277, 1994.
30. Cummings, S., "Are Patients with Hip Fractures More Osteoporotic?" *American Journal of Medicine* 78:487-494, 1985.
31. Cummings, S.R., Black, D.M., Nevitt, M.C., et al., "Appendicular Bone Density and Age Predicted Hip Fracture in Women," *Journal of the American Medical Association* 263(5):665-668, 1990.
32. Cummings, S.R., Browner, W.S., Grady, D., et al., "Should Prescription of Postmenopausal Hormone Therapy be Based on the Results of Bone Densitometry?" *Annals of Internal Medicine* 13(8):565-567, 1990.
33. Cummings, S.R., Phillips, S.L., Wheat, M.E., et al., "Recovery of Function After Hip Fracture: The Role of Social Supports," *Journal of the American Geriatrics Society* 36(9):801-806, 1988.
34. Daly, E., Roche, M., Barlow, D., et al., "HRT: An Analysis of Benefits, Risks and Costs," *British Medical Bulletin* 48(2): 368-400, 1992.

35. de Bruijn, H.P., "Functional Treatment of Colles Fracture," *Acta Orthopaedica Scandinavica* 58(Suppl. 223):1-95, 1987.
36. Deligdisch, L., and Holinka, C.F., "Endometrial Cancer: Two Diseases?" *Cancer Detection and Prevention* 10:237-246, 1987.
37. Elwood, M., and Boyes, D.A., "Clinical and Pathological Features and Survival of Endometrial Cancer Patients in Relation to Prior Use of Estrogens," *Gynecologic Oncology* 10:173-187, 1980.
38. Ettinger, B., Black, D.M., Nevitt, M.C., et al., "Contribution of Vertebral Deformities to Chronic Back Pain and Disability," *Journal of Bone and Mineral Research* 7(4):449-456, 1992.
39. Ettinger, B., and Grady, D., "Maximizing the Benefit of Estrogen Therapy for Prevention of Osteoporosis," *Menopause: The Journal of the North American Menopause Society* 1(1):19-24, 1994.
40. Ettinger, B., Selby, J., Citron, J.T., et al., "Cyclic Hormone Replacement Therapy Using Quarterly Progestin," *Obstetrics & Gynecology* 83(5 Pt 1):693-700, 1994.
41. European Foundation for Osteoporosis and Bone Disease, National Osteoporosis Foundation, and National Institute of Arthritis, Musculoskeletal, and Skin Diseases, "Consensus Development Conference: Diagnosis, Prophylaxis, and Treatment of Osteoporosis," *American Journal of Medicine* 94:646-650, 1993.
42. Felson, D.T., "Prevention of Hip Fractures," *Hospital Practice (office edition)* 23(9a):23-32, 37-38, 1988.
43. Felson, D.T., Zhang, Y., Hannan, M.T., et al., "The Effect of Postmenopausal Estrogen Therapy on Bone Density in Elderly Women," *New England Journal of Medicine* 329(16):1141-1146, 1993.
44. Finnish Academy of Science and Finnish Medical Society, "Prevention and Treatment of Osteoporosis: Summary of the Statement Prepared by the Consensus Development Conference of the Finnish Academy of Science and the Finnish Medical Society Duodecim," *Annals of Medicine* 24(3):149-151, 1992.
45. Garber, A.M., and Wagner, J.L., "Practice Guidelines and Cholesterol Policy," *Health Affairs (Millwood)* 10(2):52-66, 1991.
46. Gerard, K., Dobson, M., and Hall, J., "Framing and Labelling Effects in Health Descriptions: Quality Adjusted Life Years for Treatment of Breast Cancer," *Journal of Clinical Epidemiology* 46(1):77-84, 1993.
47. "Germany Doubts Value of Osteoporosis Screening," *Clinica* 626:7, Oct. 24, 1994.
48. Goldbloom, R., and Battista, R.N., "The Periodic Health Examination: 1. Introduction," *Canadian Medical Association Journal* 138:617-626, 1988.
49. Grady, D., Gebretsadik, T., Kerlikowske, K., et al., "Hormone Replacement Therapy and Endometrial Cancer Risk: A Meta-Analysis," *Obstetrics & Gynecology* 85(2):304-313, 1995.
50. Guccione, A.A., Felson, D.T., Anderson, J.J., et al., "The Effects of Specific Medical Conditions on the Functional Limitations of Elders in the Framingham Study," *American Journal of Public Health* 84(3):351-358, 1994.
51. Guralnik, J.M., LaCroix, A.Z., Abbott, R.D., et al., "Maintaining Mobility in Late Life," *American Journal of Epidemiology* 137(8):845-857, 1993.
52. Hall, J., Gerard, K., Salkeld, G., et al., "A Cost Utility Analysis of Mammography Screening in Australia," *Social Science and Medicine* 34(9):993-1004, 1992.
53. Harris, S.T., Watts, N.B., Jackson, R.D., et al., "Four-Year Study of Intermittent Cyclic Etidronate Treatment of Postmenopausal Osteoporosis: Three Years of Blinded Therapy Followed by One Year of Open Therapy," *American Journal of Medicine* 95:557-567, 1993.
54. Heaney, R.P., "Fluoride and Osteoporosis" (editorial), *Annals of Internal Medicine* 120(8):689-690, 1994.

55. Hillner, B.E., Hollenberg, J.P., and Pauker, S.G., "Post-Menopausal Estrogens in Prevention of Osteoporosis: Benefit Virtually Without Risk if Cardiovascular Effects are Considered," *American Journal of Medicine* 80(6):1115-1127, 1986.
56. Hui, S.L., Slemenda, C.W., and Johnston, C.C., Jr., "Baseline Measurement of Bone Mass Predicts Fracture in White Women," *Annals of Internal Medicine* 111(5): 355-361, 1989.
57. Hui, S.L., Slemenda, C.W., and Johnston, C.C., Jr., "The Contribution of Bone Loss to Postmenopausal Osteoporosis," *Osteoporosis International* 1:30-34, 1990.
58. Hui, S.L., Wiske, P.S., Norton, J.A., et al., "A Prospective Study of Change in Bone Mass with Age in Postmenopausal Women," *Journal of Chronic Disease* 35: 715-725, 1982.
59. Hunt, K., Vessey, M., McPherson, K., et al., "Long-Term Surveillance of Mortality and Cancer Incidence in Women Receiving Hormone Replacement Therapy," *British Journal of Obstetrics and Gynaecology* 94:620-635, 1987.
60. Instituto Nacional de la Salud, Ministerio de Sanidad y Consumo, *Guía Práctica de Manejo de la Osteoporosis* (Madrid, Spain: INSALUD, 1992).
61. Inzucchi, S.E., and Robbins, R.J., "Effects of Growth Hormone on Human Bone Biology," *Journal of Endocrinology and Metabolism* 79:691-694, 1994.
62. Jette, A.M., Harris, B.A., Cleary, P.D., et al., "Functional Recovery After Hip Fracture," *Archives of Physical Medicine and Rehabilitation* 68(10):735-740, 1987.
63. Jick, S.S., Walker, A.M., and Jick, H., "Estrogens, Progesterone, and Endometrial Cancer," *Epidemiology* 4(1):20-24, 1993.
64. Kamerow, D., U.S. Public Health Service Preventive Services Task Force, personal communication, February 1995.
65. Kanis, J.A., and Pitt, F.A., Epidemiology of Osteoporosis," *Bone* 13(Suppl. 1):S7-S15, 1992.
66. Kaplan, G.A., Strawbridge, W.J., Camacho, T., et al., "Factors Associated with Change in Physical Functioning in the Elderly," *Journal of Aging and Health* 51(1): 140-153, 1993.
67. Kashner, T.M., and Magaziner, J.S., "Long Term Care of Aged Hip Fractures: Public vs. Private Costs," unpublished report to the Health Care Financing Administration, University of Maryland, School of Medicine, Baltimore, MD, April 1990.
68. Kaukonen, J.P., Karaharju, E.O., Porras, M., et al., "Functional Recovery After Fractures of the Distal Forearm," *Annales Chirurgiae et Gynaecologiae* 77(1):27-31, 1988.
69. Keeler, E., and Cretin, S., "Discounting of Life-Saving and Other Non-Monetary Effects," *Managerial Science* 29:300-306, 1983.
70. Kollerup, G., Hermann, A.P., Brixen, K., et al., "Effects of Salmon Calcitonin Suppositories on Bone Mass and Turnover in Established Osteoporosis," *Calcified Tissue International* 54:12-15, 1994.
71. Kozin, S.H., and Wood, M.B., "Early Soft-Tissue Complications After Fracture of the Distal Part of the Radius," *Journal of Bone Joint Surgery* 75(A):144-153, 1993.
72. Krolner, B., and Nielsen, S.P., "Bone Mineral Content of the Lumbar Spine in Normal Osteoporotic Women: Cross-Sectional and Longitudinal Studies," *Clinical Science* 62:392-396, 1982.
73. Law, A.M., and Kelton, W.D., *Simulation Modeling and Analysis*, 2nd. Ed. (New York, NY: McGraw-Hill, Inc., 1991).
74. Lindsay, R., "Estrogen Therapy in the Prevention and Management of Osteoporosis," *American Journal of Obstetrics and Gynecology* 156:1347-1356, 1987.

75. Lindsay, R., Hart, D.M., Forrest, C., et al., "Prevention of Spinal Osteoporosis in Oophorectomised Women," *Lancet* 2(8205): 1151-1154, 1980.
76. Lindsay, R., Hart, D.M., MacLean, A., et al., "Bone Response to Termination of Oestrogen Treatment," *Lancet* 1(8708): 1325-1327, 1978.
77. MacIntyre, I., Whitehead, M., Banks, L., et al., "Calcitonin for Prevention of Postmenopausal Bone Loss," *Lancet* 1(8591): 900-902, 1988.
78. Mackillop, W.J., and Pringle, J.F., "Stage III Endometrial Cancer: A Review of 90 Cases," *Cancer* 56:2519-2523, 1985.
79. Magaziner, J., Simonsick, E.M., Kashner, T.M., et al., "Predictors of Functional Recovery One Year Following Hospital Discharge for Hip Fracture: A Prospective Study," *Journal of Gerontology* 45(3): M101-M107, 1990.
80. Magaziner, J., Simonsick, E.M., Kashner, T.M., et al., "Survival Experience of Aged Hip Fracture Patients," *American Journal of Public Health* 79(3):274-278, 1989.
81. Marottoli, R.A., Berkman, L.F., and Cooney, L.M., "Decline in Physical Function Following Hip Fracture," *Journal of the American Geriatrics Society* 40(9): 861-866, 1992.
82. Mazess, R.B., "On Aging Bone Loss," *Clinical Orthopaedics and Related Research* 165:239-252, 1982.
83. McGonigle, K.F., Karlan, B.Y., Barbuto, D.A., et al., "Development of Endometrial Cancer in Women on Estrogen and Progestin Hormone Replacement Therapy," *Gynecologic Oncology* 55(1):126-132, 1994.
84. Melton, L.J., III, "Epidemiology of Fractures," *Osteoporosis: Etiology, Diagnosis, and Management*, B.L. Riggs and L.J. Melton, III (eds.) (New York, NY: Raven Press, 1988).
85. Melton, L.J., III, Kan, S.H., Frye, M.A., et al., "Epidemiology of Vertebral Fractures in Women," *American Journal of Epidemiology* 129(5):1000-1011, 1989.
86. Melton, L.J., III, Kan, S.H., Wahner, H.W., et al., "Lifetime Fracture Risk: An Approach to Hip Fracture Risk Assessment Based on Bone Mineral Density and Age," *Journal of Clinical Epidemiology* 41(10): 985-994, 1988.
87. Melton, L.J., III, Lane, A.W., Cooper, C., et al., "Prevalence and Incidence of Vertebral Deformities," *Osteoporosis International* 3:113-119, 1993.
88. Melton, L.J., III, and Riggs, B.L., "Epidemiology of Age-Related Fractures," *The Osteoporotic Syndrome*, L.V. Avioli (ed.) (New York, NY: Grune & Stratton, 1983).
89. Minister en de Staatssecretaris van Welzijn, Volksgezondheid en Cultuur and Minister en de Staatssecretaris van Onderwijs en Wetenschappen, *Preventie van Osteoporose: Advies Uitgebracht door de Gezondheidsraadcommissie Osteoporose*, publication no. 1991/21, (The Hague, Netherlands: Gezondheidsraad, November 1991).
90. Mossey, J.M., Mutran, E., Knott, K., et al., "Determinants of Recovery 12 Months After Hip Fracture: The Importance of Psychosocial Factors," *American Journal of Public Health* 79(3):279-286, 1989.
91. Murkies, A.L., "Common Problems with Hormone Replacement Therapy," *Australian Family and Physician* 21(3):217-225, 1992.
92. Murphy, S., Khaw, K., May, H., et al., "Milk Consumption and Bone Mineral Density in Middle Aged and Elderly Women," *British Medical Journal* 308:939-941, 1994.
93. Nachtigall, L.E., "Enhancing Patient Compliance with Hormone Replacement Therapy at Menopause," *Obstetrics & Gynecology* 75(4 Suppl.):77S-80S, 1990.
94. National Osteoporosis Foundation, "Clinical Indication for Bone Mass Measurements," *Journal of Bone and Mineral Research* 4(Suppl. 2):1-28, 1989.

95. Newton-John, H.F., and Morgan, D.B., "The Loss of Bone with Age, Osteoporosis, and Fractures," *Clinical Orthopaedics and Related Research* 71:229-252, 1970.
96. Notelovitz, M., "Hormonal Therapy in Climacteric Women: Compliance and its Socio-economic Impact," *Public Health Report* 104(Suppl.):70-75, 1989.
97. O'Brien, B.J., Drummond, M.F., Labelle, R.J., et al., "In Search of Power and Significance: Issues in the Design and Analysis of Stochastic Cost-Effectiveness Studies in Health Care," *Medical Care* 32(2):150-163, 1994.
98. Orme, S.M., Simpson, M., Stewart, S.P., et al., "Comparison of Changes in Bone Mineral in Idiopathic and Secondary Osteoporosis Following Therapy with Cyclic Disodium Etidronate and High Dose Calcium Supplementation," *Clinical Endocrinology* 41:245-250, 1994.
99. Osasunerako Teknologien Ebaluaketa, *Actuación ante la Osteoporosis en el País Vasco* (Vitoria-Gastiez, Spain: OSTEBA, Departamento de Sanidad, Gobierno Vasco, June 1994).
100. Owen, R.A., Melton, L.J., Johnson, K.A., et al., "Incidence of Colles' Fracture in a North American Community," *American Journal of Public Health* 72(6):605-607, 1982.
101. Paganini-Hill, A., Ross, R.K., Henderson, B.E., et al., "Endometrial Cancer and Patterns of Use of Oestrogen Replacement Therapy: A Cohort Study," *British Journal of Cancer* 59:445-447, 1989.
102. Paganini-Hill, A., Ross, R.K., Henderson, B.E., et al., "Postmenopausal Oestrogen Treatment and Stroke: A Prospective Study," *British Medical Journal* 297: 519-522, 1988.
103. Pak, C.Y., Sakhaee, K., Piziak, V., et al., "Slow-Release Sodium Fluoride in the Management of Postmenopausal Osteoporosis," *Annals of Internal Medicine* 120(8): 625-632, 1994.
104. Petitti, D.B., Wingerd, J., Pellegrin, F., et al., "Risk of Vascular Disease in Women. Smoking, Oral Contraceptives, Noncontraceptive Estrogens, and Other Factors," *Journal of the American Medical Association* 242(11):1150-1154, 1979.
105. Pfeffer, R.I., and Van Den Noort, S., "Estrogen Use and Stroke Risk in Postmenopausal Women," *American Journal of Epidemiology* 103(5):445-456, 1976.
106. Physicians' Desk Reference, 49th Ed. (Montvale, NJ: Medical Economics Data Production Company, 1995).
107. Porter, R.W., Miller, C.G., Grainger, D., et al., "Prediction of Hip Fracture in Elderly Women: A Prospective Study," *British Medical Journal* 301(6753):638-641, 1990.
108. Potosky, A, U.S. Department of Health and Human Services, National Cancer Institute, personal communication, 1992.
109. Pstay, B., Heckbert, S., Atkins, D., et al., "A Review of the Association of Estrogens and Progestins with Cardiovascular Disease in Postmenopausal Women," *Archives of Internal Medicine* 153:1421-1427, 1993.
110. Rajan, K.T., and Evans, W.D., "Intermittent Cyclic Etidronate for Treatment of Osteoporosis," *Journal of Bone Mineral Research* 9(Suppl. 1):S269, 1994.
111. Reginster, J., "Effect of Calcitonin on Bone Mass and Fracture Rate," *American Journal of Medicine* 91(Suppl. 5B):19S-22S, 1991.
112. Reginster, J.Y., Meurmans, L., Deroisy, R., et al., "A 5-Year Controlled Randomized Study of Prevention of Postmenopausal Trabecular Bone Loss with Nasal Salmon Calcitonin and Calcium," *European Journal of Clinical Investigation* 24:565-569, 1994.
113. Robboy, S.J., and Bradley, R., "Changing Trends and Prognostic Features in Endometrial Cancer Associated with Exogenous Estrogen Therapy," *Obstetrics & Gynecology* 54(3):269-277, 1979.

114. Rosenberg, S.H., Fausone, V., and Clark, R., "The Role of Estrogens as a Risk Factor for Stroke in Postmenopausal Women," *Western Journal of Medicine* 133(4):292-296, 1980.
115. Ross, P.D., Davis, J.W., Vogel, J.M., et al., "A Critical Review of Bone Mass and the Risk of Fractures in Osteoporosis," *Calcified Tissue International* 46:149-161, 1990.
116. Ross, P.D., Wasnich, R.D., MacLean, C.J., et al., "A Model for Estimating the Potential Costs and Savings of Osteoporosis Prevention Strategies," *Bone* 9(6):337-347, 1988.
117. Rubin, G.L., Peterson, H.B., Lee, N.C., et al., "Estrogen Replacement Therapy and the Risk of Endometrial Cancer: Remaining Controversies," *American Journal of Obstetrics and Gynecology* 162(1):148-154, 1990.
118. Rubin, S.M., and Cummings, S.R., "Results of Bone Densitometry Affect Women's Decisions About Taking Measures to Prevent Fractures," *Annals of Internal Medicine* 116(12 Pt 1):990-995, 1992.
119. Sampietro-Colom, L., Almazán, C., Granados, A., *Evaluación de la Densitometría Ósea* (Barcelona, Spain: Oficina Tècnica d'Avaluació de Tecnologia Mèdica, Departament de Sanitat i Seguretat Social, Generalitat de Catalunya, 1993).
120. Sebastian, A., Harris, S.T., Ottaway, J.H., et al., "Improved Mineral Balance and Skeletal Metabolism in Postmenopausal Women Treated with Potassium Bicarbonate," *New England Journal of Medicine* 330(25):1776-1781, 1994.
121. Seeley, D.G., Browner, W.S., Nevitt, M.C., et al., "Which Fractures are Associated with Low Appendicular Bone Mass in Elderly Women?" *Annals of Internal Medicine* 115(11):837-842, 1991.
122. Seeley, D.G., Cauley, J.A., Grady, D., et al., "Is Postmenopausal Estrogen Therapy Associated with Neuromuscular Function or Falling in Elderly Women? Study of Osteoporotic Fractures Research Group," *Archives of Internal Medicine* 155(3):293-299, 1995.
123. Shapiro, S., Kelly, J.P., Rosenberg, L., et al., "Risk of Localized and Widespread Endometrial Cancer in Relation to Recent and Discontinued Use of Conjugated Estrogens," *New England Journal of Medicine* 313(16):969-972, 1985.
124. Spector, T.D., McCloskey, E.V., Doyle, D.V., et al., "Prevalence of Vertebral Fracture in Women and the Relationship with Bone Density and Symptoms: The Chingford Study," *Journal of Bone and Mineral Research* 8(7):817-822, 1993.
125. Speroff, T., Dawson, N., Speroff, L., et al., "A Risk-Benefit Analysis of Elective Bilateral Oophorectomy: Effect of Changes in Compliance with Estrogen Therapy on Outcome," *American Journal of Obstetrics and Gynecology* 164(1 Pt 1):165-174, 1991.
126. Swedish Council on Technology Assessment in Health Care (SBU), *SBU Bone Density Project. Overview & Summary of Previous Reports* (Stockholm, Sweden: SBU, April 1994).
127. Tosteson, A.N.A., Rosenthal, D.I., Melton, J., III, et al., "Cost Effectiveness of Screening Perimenopausal White Women for Osteoporosis: Bone Densitometry and Hormone Replacement Therapy," *Annals of Internal Medicine* 113(8):594-603, 1990.
128. Trent Regional Osteoporosis Working Party, *The Costs and Benefits of Screening for and Preventing Osteoporosis in Trent Region* (Trent, England: Trent Health, November 1990).
129. Tsevat, J., Goldman, L., Soukup, J.R., et al., "Stability of Time-Tradeoff Utilities in Survivors of Myocardial Infarction," *Medical Decision Making* 13:161-165, 1993.
130. "UK Government Rules Out Osteoporosis Screening," *Clinica* 641:3, Feb. 13, 1995.
131. U.S. Congress, Office of Technology Assessment, *Breast Cancer Screening for Medicare Beneficiaries: Effectiveness, Costs to Medicare and Medical Resources*

- Required—A Staff Paper* (Washington, DC: U.S. Government Printing Office, November 1987).
132. U.S. Congress, Office of Technology Assessment, *Hip Fracture Outcomes in People Age Fifty and Over—Background Paper*, OTA-BP-H-120 (Washington, DC: U.S. Government Printing Office, July 1994).
133. U.S. Congress, Office of Technology Assessment, *Identifying Health Technologies that Work: Searching for Evidence*, OTA-H-608 (Washington, DC: U.S. Government Printing Office, September 1994).
134. U.S. Department of Health and Human Services, Public Health Service, Food and Drug Administration, transcript of an advisory committee meeting on endocrinologic and metabolic drugs held Nov. 18, 1994, Gaithersburg, MD, transcribed by Neal R. Gross, November 1994.
135. U.S. Department of Health and Human Services, Public Health Service, National Center for Health Services Research and Health Care Technology Assessment, "Dual Photon Absorptiometry for Measuring Bone Mineral Density," *Health Technology Assessment Reports*, No 6. (Rockville, MD: NCHSR & HCTA, 1986).
136. U.S. Department of Health and Human Services, Public Health Service, National Center for Health Services Research and Health Care Technology Assessment, "Single Photon Absorptiometry for Measuring Bone Mineral Density," *Health Technology Assessment Reports*, No 7. (Rockville, MD: NCHSR & HCTA, 1986).
137. U.S. Preventive Services Task Force, *Guide to Clinical Preventive Services: An Assessment of the Effectiveness of 169 Interventions*, M. Fisher (ed.) (Baltimore, MD: William & Wilkins, 1989).
138. U.S. Public Health Service, Office of Inspector General, Office of Evaluation and Inspections, *Medication Regimens: Causes of Noncompliance*, OEI-04-89-89121 (Washington, DC: March 1990).
139. University of Leeds, School of Public Health, and University of York, Royal College of Physicians, "Screening of Osteoporosis to Prevent Fractures," *Effective Health Care* 1:1-10, January 1992.
140. Wasnich, R.D., Ross, P.D., Heilbrun, L.K., et al., "Prediction of Postmenopausal Fracture Risk with Use of Bone Mineral Measurements," *American Journal of Obstetrics and Gynecology* 153(7): 745-751, 1985.
141. Weinstein, M.C., "Estrogen Use in Postmenopausal Women—Costs, Risks, and Benefits," *New England Journal of Medicine* 303(6):308-316, 1980.
142. Weinstein, M.C., and Schiff, I., "Cost-Effectiveness of Hormone Replacement Therapy in the Menopause," *Obstetrical and Gynecological Survey* 38(8):445-455, 1983.
143. Weinstein, R.S., Bone, H., Tucci, J., et al., "Alendronate Treatment of Osteoporosis in Elderly Women," *Journal of Bone Mineral Research* 9(Suppl. 1):S144, 1994.
144. Weiss, N.S., "Noncontraceptive Estrogens and Abnormalities of Endometrial Proliferation," *Annals of Internal Medicine* 88: 410-412, 1978.
145. Whitcroft, S., and Stevenson, J., "Hormone Replacement Therapy: Risks and Benefits," *Clinical Endocrinology* 36:15-20, 1992.
146. Whitehead, M.I., Hillard, T.C., and Crook, D., "The Role and Use of Progestogens," *Obstetrics & Gynecology* 75(Suppl. 4): 9S-75S, 1990.
147. WHO Study Group, "Assessment of Fracture Risk and Its Application to Screening for Postmenopausal Osteoporosis," *WHO Technical Report Series*, No. 843 (Geneva, Switzerland: World Health Organization, 1994).
148. Willan, A.R., Professor of Biostatistics, McMaster University, Hamilton, Ontario, Canada, letter to the Office of Technology Assessment, U.S. Congress, Washington, DC, Jan. 11, 1995.



149. Willan, A.R., and O'Brien, B.J., "Cost-Effectiveness Ratios in Clinical Trials: From Deterministic to Stochastic Models," presented at *The American Statistical Association Meeting*, Toronto, Canada, August 1994.
150. Wilson, P.W.F., Garrison, R.J., and Castelli, W.P., "Postmenopausal Estrogen Use, Cigarette Smoking, and Cardiovascular Morbidity in Women Over 50: The Framingham Study," *New England Journal of Medicine* 313(17):1038-1043, 1985.
151. Wolman, R.L., "Osteoporosis and Exercise," *British Medical Journal* 309(6951): 399-400, 1994.
152. Woodruff, J.D., and Pickar, J.H., "Incidence of Endometrial Hyperplasia in Postmenopausal Women Taking Conjugated Estrogens (Premarin) with Medroxyprogesterone Acetate or Conjugated Estrogens Alone. The Menopause Study Group," *American Journal of Obstetrics and Gynecology* 170(5 Pt 1):1213-1223, 1994.
153. Writing Group for the PEPI Trial, "Effects of Estrogen or Estrogen/Progestin Regimens on Heart Disease Risk Factors in Postmenopausal Estrogen/Progestin Interventions (PEPI) Trial," *Journal of the American Medical Association* 273(3): 199-208, 1995.