Appendix A

Speaker Biographies

Surgeon General's Workshop on Osteoporosis and Bone Health

David Atkins, M.D., M.P.H.

David Atkins is the Chief Medical Officer in the Center for Practice and Technology Assessment at the Agency for Healthcare Research and Quality, where he coordinates programs and research on evidence-based medicine and clinical prevention. He received his M.D. degree from Yale University and completed his internal medicine residency at the University of Pittsburgh. He completed a fellowship in primary care medicine at the University of Washington, where he received an M.P.H. in epidemiology and served on the faculty at Harborview Medical Center. From 1993 through 1995, Dr. Atkins served as a science advisor to the U.S. Preventive Services Task Force (USPSTF) and was a primary author and editor of the *Guide to Clinical Preventive Services, 2nd edition*, the report detailing the USPSTF's evidence-based guidelines for preventive care. He has written and lectured widely on disease prevention and health promotion, medical screening, medical guidelines, and the work of the Task Force. He is currently on the clinical faculty at Georgetown University Medical Center in Washington, D.C.

Dennis Black, Ph.D.

Dennis Black completed his undergraduate work and received his M.A. and Ph.D. in biostatistics from the University of California, Berkeley. He subsequently joined the faculty of the University of California, San Francisco, where he is currently Professor in the Department of Epidemiology and Biostatistics. Dr. Black is active in both teaching and research, with a focus on osteoporosis and clinical trials. He was the lead investigator on the Fracture Intervention Trial (FIT) of alendronate and is currently Principal Investigator for the Long-term Extension of FIT, the PTH and Alendronate (PATH) study and the HORIZON PFT trial of IV zoledronic acid. Dr. Black is currently on the Council of the American Society for Bone and Mineral Research and serves on many professional/governmental committees, including the National Osteoporosis Foundation Committee on Simplification of BMD Reporting and the World Health Organization Task Force for Osteoporosis. He has been an invited speaker at numerous national and international professional meetings and has published extensively in peer-reviewed journals. He is also the author of several book chapters, and currently serves as a reviewer for a number of professional publications, including the *Journal of Clinical Densitometry*, for which he is Associate Editor.

Henry G. Bone, M.D.

Henry Bone received his undergraduate education in biology at Princeton University and his medical degree at the University of Washington in Seattle. He completed his postgraduate training in internal medicine, endocrinology, and bone and mineral metabolism at The University of Texas Southwestern Medical Center in Dallas and The University of California, San Diego (UCSD). He served as a faculty member at USCD, and later as director of clinical research at CIBA-Geigy Pharmaceuticals. He resumed the role of clinician and clinical investigator at Henry Ford Hospital and, more recently, the Michigan Bone and Mineral Clinic, both in Detroit. He currently is Director of the Michigan Bone and Mineral Clinic, both in Detroit. He served as a member and Medical Center, Detroit, and President of the Michigan Consortium for Osteoporosis. He has served as a member and chairman

of the Endocrine and Metabolic Drugs Advisory Committee of the FDA. The focus of Dr. Bone's career has been on investigating the pathophysiology and treatment of disorders of bone and mineral metabolism, especially the development of new therapeutic agents.

David M. Buchner, M.D., M.P.H.

David Buchner joined the Centers for Disease Control and Prevention in 1999 as Chief of the Physical Activity and Health Branch. He received his B.A. degree from Harvard University and his M.D. from the University of Kansas. He received his general internal medicine training at the University of Indiana in Indianapolis, where he was chief resident. After his housestaff training, he was selected to be a fellow in The Robert Wood Johnson Clinical Scholars Program at the University of Washington, where he received his M.P.H. degree and training in geriatric medicine. Dr. Buchner joined the University of Washington faculty in 1982, and rose to the rank of Professor of Health Services in the School of Public Health and Community Medicine, and the rank of Adjunct Professor in the School of Medicine. He has published extensively in the areas of physical activity in older adults and the role of physical activity in preventing fall injuries.

Thomas G. Carskadon, Ph.D.

Tom Carskadon is a Phi Beta Kappa graduate of Oberlin College and holds a Ph.D. in psychology from the University of Colorado. He is Professor of Psychology and John Grisham Master Teacher at Mississippi State University, as well was Editor/Publisher of the *Journal of Psychological Type*. In recent years, he has been an active advocate for osteoporosis research and screening.

Jane A. Cauley, M.D.

Jane Cauley is currently Associate Professor of Epidemiology in the Graduate School of Public Health at the University of Pittsburgh. She has been actively involved in osteoporosis research for almost 20 years. She is currently the Principal Investigator on several large cohort studies of osteoporosis and fracture, including the Study of Osteoporotic Fractures (SOF) and the Multicenter Study of Osteoporosis in Older Men (Mr. OS). She has also been the Principal Investigator of the clinical site for several major randomized clinical trials, including the Fracture Intervention Trial, the Heart-Estrogen Progestin Replacement Study and the Multiple Outcomes of Raloxifene Evaluation. She is Director of the Epidemiology of Aging Training Program, a program that is funded by the National Institute on Aging. The primary thrust of Dr. Cauley's research career has focused on women's health and aging, in particular osteoporosis, fractures and falls, breast cancer, the interaction between endogenous and exogenous hormones, risk factors, and disease outcomes.

David Chambers, Ph.D.

David Chambers is currently the Program Official for the Dissemination and Implementation Research Program, part of the Services Research and Clinical Epidemiology Branch at the National Institute of Mental Health (NIMH). His work has focused on how change occurs in clinical practice, how new practices are introduced into real-world clinical settings, and how health information is disseminated to multiple audiences. Prior to his work at NIMH, Dr. Chambers was a member of a research group in Oxford that evaluated several National Health Service initiatives, each aiming to translate research findings into clinical practice.

Katherine Moy Chin, R.D., L.D.

Katherine Moy Chin has worked for many years in the field of nutrition and dietetics in the community, starting with a position teaching nutrition and dietetics in the student nurses' program at The Johns Hopkins Hospital, Baltimore, Maryland. Years later, she joined the Baltimore County Board of Education as a specialist in nutrition, education and training. As a registered licensed dietitian, she worked closely with the school nurses in meeting the special nutritional needs of any and all students in Baltimore County Public Schools. Because she is bilingual, Ms. Moy Chin continues to be called upon to interpret for those Chinese/Cantonese speaking children and their parents needing help in the schools. She was asked to serve as a Partnership Specialist during the Census 2000, to focus primarily upon the diverse Asian population in Baltimore, Howard, Montgomery and other Maryland counties as well as Baltimore City. Ms. Moy Chin also was appointed to serve as Governor's Commissioner on Asian Pacific American Affairs – State of Maryland. The purpose of this commission is to serve in an advisory capacity to the Governor of the State of Maryland on issues relating to the rights and interest of Asian Pacific Americans.

Wojtek Chodzko-Zajko, Ph.D.

Wojtek Chodzko-Zajko is currently Head of the Department of Kinesiology at the University of Illinois at Urbana-Champaign. His primary research interests are in the area of aging and physical activity. For the past fifteen years, he has focused on the effect of exercise and physical activity on sensory, motor, and cognitive functioning in old age. Dr. Chodzko-Zajko served on the World Health Organization, Scientific Advisory Committee which issued *Guidelines for Physical Activity in Older Adults*. He chairs the National Active Aging Partnership, a national coalition in the area of healthy aging linking the American College of Sports Medicine, the National Institute on Aging, the Centers for Disease Control and Prevention, the American Geriatrics Society, the American Association for Retired Persons, and the Robert Wood Johnson Foundation. Dr. Chodzko-Zajko served as founding editor of the *Journal of Aging and Physical Activity* from 1992-2002. He serves as President of the International Society on Aging and Physical Activity. Dr. Chodzko-Zajko earned a bachelor's degree in Exercise Physiology from the University of London and a Ph.D. degree from Purdue University, also in Exercise Physiology.

Judith Cranford

Judith Cranford, Executive Director of the National Osteoporosis Foundation (NOF), joined the NOF in September 2001 as the Assistant Executive Director of Development, Marketing and Communications. She was appointed Executive Director in June 2002. Ms. Cranford has more than 20 years of experience in the nonprofit and healthcare arenas, that spans both sides of the Atlantic. Prior to joining NOF, Ms. Cranford had been instrumental in the development of a European-wide patient coalition focused on arthritis. Ms. Cranford has developed global, European and U.S. initiatives in professional and patient education and communication. Additionally, she has worked on policy issues in the United States, United Kingdom, and with the European Union. She has served as a spokesperson and advocate on issues associated with arthritis, epilepsy, critical care, cancer and heart disease. With a B.A. in journalism, Ms. Cranford has been active in a number of professional organizations. She is a member of the American Society of Association Executives, a member of the Association for Healthcare Philanthropy, and was appointed as a member of the Institute of Public Relations in the United Kingdom.

Denise R. Cyzman, M.S., R.D.

Denise Cyzman is a registered dietitian currently employed as a Senior Project Coordinator with the Michigan Public Health Institute, where she manages several statewide projects, including the Michigan Osteoporosis Project, the Partnership for Better Bones, the Fee-for-Service vs. Managed Care for the Children Special Health Care Services research study, Improving Diabetes Care in Michigan, and the Michigan Arthritis Initiative. Most of Ms. Cyzman's twenty-year career has been focused on chronic disease prevention and health promotion, working in management and staff positions in state and local health departments. In addition, she has some clinical work experience. She has presented extensively at national, regional, state and local conferences, and she has written several publications. She earned a master's of science degree in health education and a bachelor's of science degree in human nutrition from the University of Michigan.

Bess Dawson-Hughes, M.D.

Bess Dawson-Hughes is a Professor of Medicine at Tufts University and Chief of the Calcium and Bone Metabolism Laboratory at the Jean Mayer United States Department of Agriculture Human Nutrition Research Center on Aging at Tufts University. She is trained in endocrinology and directs the Metabolic Bone Diseases Clinic at the New England Medical Center. Dr. Dawson-Hughes is a member of the Advisory Council of the National Institute of Arthritis, Musculo-skeletal, and Skin Diseases. She is a member of the Board of Trustees and President of the National Osteoporosis Foundation and is the Principal Investigator of the NIH Osteoporosis and Related Bone Diseases Resource Center in Washington, D.C. She has served on the Councils of the American Society for Bone and Mineral Research and the American Society of Clinical Nutrition and is currently on the Council of the International Bone and Mineral Society. Dr. Dawson-Hughes' research is directed at examining ways in which calcium, vitamin D, and other nutrients influence age-related loss of bone mass and risk of fragility fractures. She has published over 200 peer-reviewed journal articles, book chapters, abstracts, and reviews.

Susan Dentzer

Susan Dentzer is an on-air correspondent with *The NewsHour with Jim Lehrer* on PBS, where she leads a unit dedicated to providing in-depth coverage of health care and health policy. Previously a print journalist, Ms. Dentzer was chief economics correspondent and columnist for *U.S. News & World Report* and a senior writer covering business news at *Newsweek*. Her other television work has included appearances as a regular analyst on ABC's *Nightline, CNN, Fox News, the McLaughlin Group* and C-SPAN. A former Nieman Fellow at Harvard University, Ms. Dentzer is the chairman of the Board of Trustees of her alma mater, Dartmouth. She is also a trustee of the Dartmouth-Hitchcock Medical Center and a director of the Japan Society of New York.

Suzanne L. Feetham, Ph.D., R.N., F.A.A.N.

Suzanne Feetham is the Senior Advisor for clinical, research and quality to the Associate Administrator of the Bureau of Primary Health Care within the Health Resources and Services Administration. Dr. Feetham has held clinical, research and leadership positions in public health, academia, health systems (Children's National Medical Center, Washington, DC) and the National Institutes of Health. At NIH's National Institute of Nursing Research (1990-1996) she was Deputy Director and Chief of the Office of Science Policy, Planning and Analysis. Dr. Feetham has conducted a program of research in the care of children with health problems and their families, and is recognized for her numerous publications on nursing research of families, using research to affect change in

practice, families and health policy, health and urban families, genetics education, and genetics and families. She was Co- editor of the first state of the science *Handbook of Clinical Nursing Research* in 1999, and in 2001, edited a volume *Nursing and Genetics - Leadership for Global Health* for the International Council of Nurses, Geneva Switzerland. From 1996 to 2001 at the University of Illinois at Chicago, she was co-investigator on 4 NIH family studies, including a family intervention for Bosnian torture survivors, and was principal investigator for an NIH-funded interdisciplinary project to develop a Web-based course on clinical genomics for health professionals.

Deborah T. Gold, Ph.D.

Deborah Gold is Associate Research Professor of Medical Sociology in the Departments of Psychiatry and Behavioral Sciences, Sociology, and Psychology (Health Sciences) at Duke University Medical Center; she also directs both the Postdoctoral Research Training Program and the Undergraduate Human Development Program at Duke. Dr. Gold is Senior Fellow in the Duke Center for the Study of Aging and Human Development, a Member of the Duke Comprehensive Cancer Center, a faculty affiliate of the Duke Women's Studies Program, and on the faculty advisory committee of the Graduate Liberal Studies Program. She received her Ph.D. in human development and social policy from Northwestern University in 1986, then completed a postdoctoral fellowship in medical sociology at the Duke Aging Center in 1988 and joined the Duke faculty. A fellow of the Gerontological Society of America, she has chaired both its Membership and Research, Education, and Practice Committee. She is also an active member of the American Society of Bone and Mineral Research. Dr. Gold's current research focuses on the psychosocial consequences of chronic illnesses in late life, with the majority of her research focused on osteoporosis. She has also studied Paget's disease of bone, Parkinson's disease, and breast cancer. She has published over 65 journal articles, books, and book chapters. Recent publications include "Managing patients with complications of osteoporosis" (1998, Endocrinology and Metabolism Clinics of North America), and "Osteoporosis and quality of life: psychosocial outcomes and interventions for individual patients" (2002, Clinics in Geriatric *Medicine*).

Julie Gonzalez

Julie Gonzalez is 10 years old and is a 5th grader who is homeschooled. She is on the Lovettsville, Virginia, swim team, plays on community soccer and basketball teams, and has received the Presidential Physical Fitness Award the last three years. Julie has been in Girl Scouts for six years, and was in the pilot group for the development of a new Girl Scout patch for "Strong Bones, Strong Girls." She is currently a Junior Girl Scout and enjoys reading, camping, rock wall climbing, and playing sports.

Susan Greenspan, M.D.

Susan Greenspan received her undergraduate degree from Stanford University and her M.D. from Harvard Medical School. She was trained in Endocrinology and Geriatrics at Harvard Medical School and in 1999, moved from Boston to Pittsburgh to become Professor of Medicine at the University of Pittsburgh and Director of the Osteoporosis Prevention and Treatment Center at the University's Medical College (UPMC). She is also Director of the Bone Health Program at Magee-Women's Hospital and Associate Program Director of the General Clinical Research Center at UPMC. Dr. Greenspan's NIH-funded research centers on osteoporosis in elderly women, and has included such topics as new therapies for osteoporosis; new ways to diagnose, assess, and monitor bone loss; bone loss in men with prostate cancer on androgen deprivation therapy; and the importance of falls in the etiology of hip fractures. Dr. Greenspan serves on the Scientific Advisory Board for the National

Osteoporosis Foundation, the International Society for Clinical Densitometry, and the American Federation for Aging Research. She has been a faculty instructor for the International Society for Clinical Densitometry since 1997 and was named to the board of trustees in 2002. She is on the editorial boards of the *Journal of Bone and Mineral Research* and the *Journal of Clinical Endocrinology and Metabolism*. Dr. Greenspan has been an active member of the American Society for Bone and Mineral Research since 1990, and became a Council Member in 2002.

Linda Johnson

Linda Johnson, from Brentwood, Maryland, is a wife, mother of three grown children, and a grandmother. She is a free-lance pianist, organist, and was co-owner of L&D Express, Inc. for ten years. She now works for a busy obstetrics-gynecology office. She is a Bible study lecturer and Teaching Director, as well as an occasional guest preacher at different churches. She is also a motivational speaker concerning osteoporosis.

Sara S. Johnson, Ph.D.

Sara Johnson joined Pro-Change as the Director of Health Behavior Change Programs in September, 1998. She received her B.A. from State University of New York at Geneseo in 1993, an M.A. in clinical psychology in 1995, and a Ph.D. in clinical psychology from the University of Rhode Island in 1998. She has extensive experience applying the Transtheoretical Model to a variety of health behaviors and has expertise in the development of expert system interventions and counselor protocols, measurement development, and data analyses. Dr. Johnson's experience bridges grant-funded research, the development of adjunctive interventions for commercial products (e.g., the Nicotrol Patch), and development and delivery of clinical interventions. She led efforts that resulted in Pro-Change receiving \$3 million in funding from the National Heart, Lung, and Blood Institute and the National Institute of Diabetes, Digestive, and Kidney Diseases to examine the efficacy of population-based adherence and weight management interventions. Her primary areas of research and clinical interest include multiple risk interventions; the prevention and management of osteoporosis; weight management; medication adherence; smoking cessation; and health behavior change.

Stephen I. Katz, M.D., Ph.D.

Stephen Katz has been Director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases since August 1995 and is also a Senior Investigator in the Dermatology Branch of the National Cancer Institute. Dr. Katz has focused his studies on immunology and the skin. His research has demonstrated that skin is an important component of the immune system both in its normal function and as a target in immunologically-mediated disease. In addition to studying Langerhans cells and epidermally-derived cytokines, Dr. Katz and his colleagues have added considerable new knowledge about inherited and acquired blistering skin diseases. Dr. Katz has trained a large number of outstanding immunodermatologists in the U.S., Japan, and Europe. These individuals are now leading their own high-quality, independent research programs. He also has served many professional societies in leadership positions, including as a member of the Board of Directors and President of the Society for Investigative Dermatology, on the Board of the Association of Professors of Dermatology, as Secretary-General of the 18th World Congress of Dermatology in New York in 1992, as Secretary-Treasurer of the Clinical Immunology Society, and as President of both the International League of Dermatological Societies and the International Committee of Dermatology. Dr. Katz has twice received the Meritorious Rank Award and has also received the Distinguished Executive Presidential Rank Award, the highest honor that can be bestowed upon a civil servant.

Douglas P. Kiel, M.D., M.P.H.

Douglas P. Kiel is currently an Associate Professor of Medicine at Harvard Medical School and an Adjunct Associate Professor of Medicine at Brown University School of Medicine. He also directs the Beth Israel Deaconess Medical Center Osteoporosis Prevention and Treatment Center Research Unit. His research focuses on the prevention of osteoporosis and related fractures, as well as clinical trials of therapies to prevent fractures. As the Principal Investigator of the Framingham Osteoporosis Study, an NIH-funded clinical trial of hip protectors in the nursing home, and co-investigator on several other NIH grants, he has published extensively on falls, osteoporosis, and related fractures. Dr. Kiel is Chair of the Research Committee of the American Geriatrics Society, has served as a member of the Geriatrics and Rehabilitation Medicine Study Section of the NIH, and currently serves on the editorial boards of the *Journal of Clinical Densitometry* and the *Journal of Clinical Endocrinology and Metabolism*, as well as the Scientific Advisory Board of the National Osteoporosis Foundation.

Raynard Kington, M.D., Ph.D.

Raynard Kington was appointed Deputy Director of the National Institutes of Health (NIH) in February 2003. He was formerly the Associate Director of NIH for Behavioral and Social Sciences Research. In that capacity, he directed the NIH Office of Behavioral and Social Sciences Research in the Office of the Director. In addition to this role, from January 2002 to November 2002, he served as Acting Director of the National Institute on Alcohol Abuse and Alcoholism. Prior to coming to NIH, Dr. Kington was Director of the Division of Health Examination Statistics at the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC). As Division Director, he also served as Director of the National Health and Nutrition Examination Survey (NHANES), one of the nation's largest studies to assess the health of the American people. Prior to coming to NCHS, he was a Senior Scientist in the Health Program at the RAND Corporation, where he served as Co-Director of the Drew/RAND Center on Health and Aging, a National Institute on Aging Exploratory Minority Aging Center. Dr. Kington's research has focused on the role of social factors, especially socioeconomic status, as determinants of health. His current research includes studies of the health and socioeconomic status of black immigrants, differences in populations in willingness to participate in genetic research, and racial and ethnic differences in infectious disease rates. His research has included studies of the relationship between wealth and health status; the health status of U.S. Hispanic populations; the determinants of health care services utilization; the economic impact of health care expenditures among the elderly; and racial and ethnic differences in the use of long-term care. Dr. Kington is board-certified in internal medicine, geriatic medicine, and public health and preventive medicine.

Richard L. Kravitz, M.D., M.S.P.H.

Richard Kravitz is interested in how to facilitate better clinical practice and create more effective clinical relationships, particularly in primary care settings. As a participant in the landmark Medical Outcomes Study, he and his co-authors reported on the relationship between patient mix, utilization of health care services, physician specialty, and system of care; their work received the 1993 Article-of-the-Year Award from the Association for Health Services Research. In other projects, he has examined the participation of physicians and nurses in strikes and work actions, the impact of the malpractice system on defensive medical practices, and the effect of managed care on health services utilization and quality. As a Picker/Commonwealth Faculty Scholar in 1993-95, Dr. Kravitz began a series of studies on patients' expectations for care. In more recent work, he has examined how language influences the process of primary care, how clinical opinion leaders can be identified, and how

physicians respond to patients' requests for services. A major current focus is the influence of direct-toconsumer advertising on prescribing behavior and the physician-patient relationship. A Fellow of the Association for Health Services Research, Dr. Kravitz was appointed Director of the UC Davis Center for Health Services Research in Primary Care in 1996.

Peggy J. Lassanske

Peggy Lassanske is an Emmy award-winning journalist, currently using her communication skills to educate Floridians about the health risks associated with aging. After many years with NBC News in Atlanta, Los Angeles, and New York, she founded her own corporate communications and video production company, providing work for clients such as Paine Webber Investment Company, Longaberger Baskets, and Brown University. Upon moving to Florida, she became involved in osteoporosis public policy (education) as a volunteer. Now the President of the Elder Floridians Foundation, she has raised more than \$3 million dollars to support the Foundation's educational efforts. Under Ms. Lassanske's leadership, the Foundation developed and hosted the first Building Osteoporosis National Education Summit (BONES) involving physicians, allied health professionals, advocates and public policy leaders from 26 states. She is the author and publisher of BONES, The foundation for lifelong health. Ms. Lassanske also developed and implemented the nationally recognized education and awareness program, *Project Osteoporosis, Be Smart, Be Dense, Know the Difference. This program has provided more than 20,000 free pDXA scans and educated thousands of men and women about their risk for this disease. A sought-after speaker on senior health issues, Ms. Lassanske has traveled extensively to promote osteoporosis awareness and education.

Jewel F. Lewis

Judge Jewel Lewis' career began in 1942 at the U.S. Treasury Department. In 1943, she moved to the U.S. Department of Agriculture, where she worked as an attorney until 1972. At that time, she was appointed as a judge to the U.S.D.A. Board of Contract Appeals (an administrative trial court). In 1982, Judge Lewis was appointed Chief Judge and Chair of the Board. She retired from government service in 1987. After retirement, she worked for ten years first as Associate General Counsel and then as General Cousel of SCORE (Service Corps of Retired Executives), sponsored by the Small Business Administration. SCORE provides business advice to small businesses. Her services were pro bono.

Karen Lim, J.D.

Karen Lim, Acting Executive Director of National Asian Women's Health Organization (NAWHO), has over ten years of legal and marketing communications experience. She has worked with global corporations and nonprofit organizations across the U.S., Asia, and Australia. Prior to coming to NAWHO, Ms. Lim was Director of Communications at Wego Systems, where she spearheaded the company's nonprofit and association vertical marketing efforts. In that role, she was instrumental in supporting nonprofit clients build functional Web sites and develop effective marketing and communications initiatives. Ms. Lim also held positions at Porter Novelli Conversion Group and Rowland International. She received her law degree from the University of Western Australia and began her career as an attorney in international law.

Anne C. Looker, Ph.D., M.S.

Anne Looker is a distinguished consultant at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention in Hyattsville, Maryland. Dr. Looker serves as the Center's expert on bone and mineral metabolism, with special emphasis on calcium/osteoporosis and iron status. Dr.

Looker joined NCHS in 1985 as a health statistician and has also served as Chief of the Nutrition Statistics Branch. She recently completed a half-time detail with the National Osteoporosis Foundation, where she served as Director of Research Projects. Dr. Looker received her Ph.D. and M.S. in nutrition from the Pennsylvania State University.

Annie Lorigan

Annie Lorigan is 73 years old, married for 52 years to Robert Lorigan. They have five children and eight grandchildren. Ms. Lorigan has spent 22 years traveling with her husband and children on military tours. She is currently involved in Rideouts Fishing Lodge, a family business on East Grand Lake in Maine.

Edward W. Maibach, Ph.D., M.P.H.

Since 1996, Edward Maibach has served as senior counsel to the Porter Novelli's largest social marketing clients, including The Robert Wood Johnson Foundation, the American Legacy Foundation, the Centers for Disease Control and Prevention, and the National Cancer Institute. His focus for the past several years has been on issues related to children, adolescents, parents and families, and one of his most notable accomplishments was developing the strategy for the Office of National Drug Control Policy's \$2 billion Youth Anti-Drug Media Campaign. From 1990 to 1995, Dr. Maibach was an Assistant Professor and Director of the Center for Health and Risk Communication at the Rollins School of Public Health, Emory University. He holds a doctoral degree in communication research from Stanford University ('90), an M.P.H. degree in health promotion from San Diego State ('83), and a B.A. in social psychology from the University of California at San Diego ('80), and has authored over 50 peerreviewed publications and numerous book chapters. His 1995 book, *Designing Health Messages*, received a distinguished book award from the Applied Communication Division of the National Communication Association. Dr. Maibach is currently a member of the Board of KidSave International (an organization that advocates on behalf of orphaned and abandoned children) and an Adjunct Associate Professor at the McDonough School of Business, Georgetown University.

Jean Mandeville

Jean Mandeville is the mother of two adult children who have bone disorders. Her 28-year-old son Jay has severe osteogenesis imperfecta (OI), and her 25-year-old daughter Laura has osteoporosis. During the past 25 years, she has worked to improve the quality of life for people who have OI by advocating for medical research on OI and bone disorders, serving as a resource person for families, writing articles, producing a film, and networking with hundreds of affected families, physicians, investigators, organizations, elected officials, and government agencies. She is a past president of the OI Foundation and a current member of the National Institute of Arthritis and Musculoskeletal and Skin Diseases.

Saralyn Mark, M.D.

Saralyn Mark, an endocrinologist and a geriatrician, is the Senior Medical Advisor to the Office on Women's Health within the Department of Health and Human Services and the National Aeronautics and Space Administration (NASA). She was also an Assistant Clinical Professor in the Departments of Medicine, Endocrinology and Metabolism at the University of California, San Francisco (UCSF), and is now an Assistant Clinical Professor at the Yale University School of Medicine. At UCSF, Dr. Mark conducted clinical research studies in the areas of osteoporosis, cardiovascular disease and lipids. She also has published and given lectures internationally on menopause, osteoporosis and other critical issues in women's health. Dr. Mark is a Diplomat of the National Board of Medical Examiners and is a

member of numerous national advisory boards and professional organizations including the President's Interagency Council on Women, the National Institutes of Health Federal Working Group on Bone Diseases, the NASA Medical Policy Board, the National Committee for Quality Assurance Advisory Panel on HEDIS Measurements for Women's Health, and the Fannie Mae Research Advisory Coalition. She currently chairs the Subcommittee on Exogenous Hormones for the Federal Interagency Working Group on Women's Health and the Environment, the Secretary of Health and Human Service's National Task Force on Health Professional Education on Female Genital Mutilation, and the National Task Force on Mentoring in Academic Medicine.

Joan A. McGowan, Ph.D.

Joan McGowan is the director of the Musculoskeletal Diseases Branch at the National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, leading a program of research on orthopedics, osteoarthritis, bioengineering, basic skeletal biology, osteoporosis and related bone diseases. Dr. McGowan has been very active in osteoporosis and women's health activities at NIH including serving as a Project Officer in the Women's Health Initiative, a clinical trial and observational study that has recruited over 160,000 postmenopausal women to test promising interventions in cardiovascular disease, breast and colon cancer, and osteoporosis. The study involves 40 clinical centers all over the country, including the three centers focusing on osteoporosis.

Before joining NIH, Dr. McGowan was a faculty member at the Harvard Medical School and Massachusetts General Hospital. She received training at Cornell University (master in nutritional science) and Brown University (Ph.D. in biomedical science). Dr. McGowan is currently a member of the Advisory Board of the Canadian Institute of Musculoskeletal Health and Arthritis and serves on the Editorial Board of the journal Aging: Clinical and Experimental Research.

Dr. McGowan chairs the Federal Working Group on Bone Diseases, whose members represent all of the U.S. Federal agencies with activities in osteoporosis and related bone diseases. This group serves to develop and foster collaborative activities among the government agencies in bone diseases. She was the NIH organizer of a Consensus Development Conference on Optimal Calcium Intake in 1994 and one on osteoporosis held in March, 2000.

John McGrath, Ph.D.

John McGrath is the Chief of the Public Information and Communications Branch of the National Institute of Child Health and Human Development (NICHD), part of the National Institutes of Health. He oversees the media relations, public health communication campaigns, and the development of public education materials about the science that the Institute supports. The NICHD supports the Milk Matters Campaign, which encourages all people, especially young people, to consume the recommended amounts of calcium. Prior to his current position, he was the Project Officer on contracts that supported the communication programs of the National Heart Lung, and Blood Institute, also part of the National Institutes of Health. Dr. McGrath received his bachelor of arts degree from Fordham University in New York and was a Peace Corps Volunteer in Columbia, South America. He received his master of arts degree in communications from the University of Maryland and his Ph.D. from the College of Journalism at the University of Maryland. His research interests include methods of evaluating national health communication campaigns and the role of communication campaigns in influencing behaviors.

L. Joseph Melton, III, M.D., M.P.H.

L. Joseph Melton received his undergraduate and medical training at Louisiana State University and his training in epidemiology (M.P.H.) at the University of Michigan School of Public Health. He has been on the staff of Mayo Clinic since 1977 as a consultant in the Division of Epidemiology. Dr. Melton is also the Michael M. Eisenberg Professor at Mayo Medical School. He is a fellow of a number of professional societies, including the Association of American Physicians, the American Epidemiological Society and the Royal Society of Medicine, and recently received the Frederick C. Bartter Award for clinical investigation from the American Society for Bone and Mineral Research. He is a member of four editorial boards and currently serves as an Associate Editor of the *Journal of Bone and Mineral Research*. Dr. Melton has been a Trustee of the National Osteoporosis Foundation and a consultant to the Radiologic Devices Panel of the Food and Drug Administration, as well as a member of several national and international expert panels evaluating the utility of bone densitometry for osteoporosis screening. He has published over 500 original papers and reviews on a variety of subjects, mainly dealing with the epidemiology of osteoporosis and fractures.

Kenneth P. Moritsugu, M.D., M.P.H.

Rear Admiral Kenneth P. Moritsugu, M.D., M.P.H., has filled the position of Deputy Surgeon General of the United States since October 1, 1998, serving as the principal assistant and advisor to the Surgeon General. From February to August 2002, he served as the Acting Surgeon General, in which he had responsibility to directly oversee nearly 6,000 Commissioned Corps medical personnel of the U.S. Public Health Service, and to function as the nation's top doctor.

From December 1987 to September 1998, he was Assistant Bureau Director and the medical director of the U.S. Department of Justice's Federal Bureau of Prisons, with responsibilities including medical and psychiatric programs, occupational safety and environmental health, and food and nutrition services.

Dr. Moritsugu has been representative to numerous national health care agencies and provided expertise to international organizations and governments, including Kuwait, Saudi Arabia, Nigeria, Germany, Mexico, and the Trust Territory of the Pacific Islands. Of particular note, he served as the official U.S. observer to the Council of Europe's Select Committee of Experts on the Impact of the AIDS Epidemic on the Criminal Justice System in Strasbourg, France, and as the representative to the 75th Anniversary of the Pan American Health Board in Havana, Cuba.

Since 1994, Dr. Moritsugu has advocated for organ and tissue donation and transplantation, participating in the National Donor Family Recognition Programs in Washington, D.C., and filling key speaking engagements at numerous national and local events. In his private capacity, he has been a member of the board of directors of the Washington Regional Transplant Consortium, and a member of the National Advisory Board for the Minority Organ and Tissue Transplant Education Program. He is a past member of the board of directors of the United Network for Organ Sharing, and of the board of trustees of the National Kidney Foundation, and an active volunteer with the Transplant Recipients International Organization.

Also an educator, Dr. Moritsugu is an adjunct professor of public health at the George Washington University School of the Health Sciences, and adjunct associate professor of preventive medicine at the Uniformed Services University of the Health Sciences. He has spoken and written extensively in many diverse areas, including health professions education, credentialing and quality assessment, international health, health systems development, health care delivery to underserved populations, emergency response, correctional health care, managed care, HIV, health promotion/disease prevention, organ and tissue donation and transplantation, and most recently, bioterrorism.

Having completed residencies in internal medicine and in preventive medicine, Dr. Moritsugu is board certified in preventive medicine and is a certified correctional health professional. He also holds fellowships in the American College of Preventive Medicine, the Royal Society of Health, and the Royal Society of Medicine.

Admiral Moritsugu is the recipient of numerous awards and special honors, including the Surgeon General's Medallion, the Director's Special Achievement Award from the Federal Bureau of Investigation, the Joint Services Meritorious Service Award, the Army Achievement Medal, and the Coast Guard Arctic Service Medal, among many others. Furthermore, Dr. Moritsugu received Honorary Doctor of Science degrees from the University of New England and the Midwestern University of Chicago, and an Honorary Doctor of Public Service Degree from the University of North Texas College of Osteopathic Medicine. Additionally, in 2002, he has been granted Honorary Doctorates of Humane Letters from Alliant International University and from Western University of Health Sciences in 2002. In 1997, the American Academy of Physician Assistants deemed him an honorary Lifetime Member, a distinction granted to only a handful of non-physician assistants.

Dr. Moritsugu was born and raised in Honolulu, Hawaii. After attending Chaminade College for two years, he received his Baccalaureate Degree with Honors in Classical Languages from the University of Hawaii in 1967, an M.D. from the George Washington University School of Medicine in 1971, and an M.P.H. in Health Administration and Planning from the University of California, Berkeley, in 1975.

Admiral Moritsugu lost his wife, Donna Lee Jones, in an auto accident in 1992, and his daughter, Vikki Lianne, in a separate auto accident in 1996. Both were organ and tissue donors. He is presently married to Lisa Kory, and has two daughters, Erika Lizabeth, an attorney in Washington, D.C., and Emily Renee.

Miriam E. Nelson, Ph.D.

Miriam Nelson is Director of the Center for Physical Activity and Nutrition and Associate Professor of Nutrition at the Friedman School of Nutrition Science and Policy at Tufts University. Dr. Nelson is also a Fellow of the American College of Sports Medicine. In addition to her research on exercise, nutrition, and women's health, Dr. Nelson is also the author of five bestselling books. Her book *Strong Women, Strong Bones* received the esteemed "Books for a Better Life Award" for best wellness book of 2000 from the Multiple Sclerosis Society.

Allan S. Noonan, M.D., M.P.H.

Allan Noonan is currently a senior advisor in the Office of the Surgeon General. Dr. Noonan has been a proactive public health professional for nearly thirty years. He has worked as a developer and implementor of public health programs at the local, state, and national levels in the United States early in his exciting career in the U.S. Public Health Service, and he also participated in the eradication of smallpox in West Africa. He has worked in epidemiology, maternal and child health, the training of health professionals, and public health administration – always mindful of strategies to improve the health status of the underserved. Recently, he has served as the Secretary of Health for the State of Pennsylvania; the Regional Health Administrator and Assistant Surgeon General responsible for public health service programs in six midwestern states; and Director of the Department of Health in the District of Columbia. Dr. Noonan has assisted in the Surgeon General's efforts to eliminate racial and ethnic disparities through the initiative of the department and through *Healthy People 2010*, whose goal is to eliminate disparities in major health areas in the U.S. by the year 2010. Dr. Noonan also coordinates the production of all Surgeon General's reports and calls to action.

Eric S. Orwoll, M.D., F.A.C.P.

Eric Orwoll is Professor of Medicine within Oregon Health & Science University and Program Director of the General Clinical Research Center. Dr. Orwoll's major research interests include the epidemiology, etiology and therapy of osteoporosis in men, the effects of sex steroids on skeletal biology, and skeletal genetics. He is the principal investigator on several nationally funded research grants, including *Osteoporotic Fractures in Men* (MR.OS). He has served on several national committees, including the Scientific Advisory Board, National Osteoporosis Foundation and the Orthopedics Study Section, NIH, and is a member of several professional societies, including the American Society for Bone and Mineral Research, Endocrine Society, American Society for Clinical Nutrition, and the Federation of American Societies for Experimental Biology. His editorial posts have included membership on the editorial boards of the *Journal of Bone and Mineral Research*, the *Journal of Clinical Endocrinology and Metabolism* and *Clinical Densitometry*. Dr. Orwoll is a reviewer for many journals, including *Endocrinology, Bone, Osteoporosis International, Journal of Clinical Investigation*, and *Annals of Internal Medicine*. He completed his undergraduate degree at the University of Michigan and received his M.D. from the University of Maryland School of Medicine.

Vivian W. Pinn, M.D.

Vivian W. Pinn is the first full-time Director of the Office of Research on Women's Health (ORWH) at the National Institutes of Health (NIH), an appointment she has held since November 1991. In February 1994, she was also named as Associate Director for Research on Women's Health, NIH. Dr. Pinn came to NIH from Howard University College of Medicine in Washington, D.C., where she had been Professor and Chair of the Department of Pathology since 1982, and has previously held appointments at Tufts University and Harvard Medical School. Dr. Pinn has long been active in efforts to improve the health and career opportunities for women and minorities. She has been invited to present the ORWH's mandate, programs, and initiatives to many national and international individuals and organizations with an interest in improving women's health and the health of minorities. Dr. Pinn has received numerous honors, awards, and recognitions, and has been granted seven Honorary Degrees of Laws and Science since 1992. She was included among AA Dozen Who Have Risen to Prominence in Women's Health," in the June 1997 New York Times Women's Health Section, and she was named the 1997 Excellence in Leadership in the Public Sector Honoree by the National Women's Economic Alliance Foundation. She was also featured in several issues of *Ladies Home Journal*. including in March 1999, when Dr. Pinn was cited among the Top 10 Researchers in Women's Health and one of the country's most vocal and most effective leaders. Essence magazine in May 2000 recognized Dr. Pinn among Black women trailblazers for her dedication to women's health research. Dr. Pinn received her early education in the public schools of Lynchburg, Virginia. She earned her B.A. from Wellesley College in Massachusetts, and received her M.D. from the University of Virginia School of Medicine in 1967, where she was the only woman and minority in her class.

Lawrence G. Raisz, M.D.

Lawrence Raisz is Professor of Medicine at the University of Connecticut Health Center and Director of the UConn Center for Osteoporosis. He was Program Director of the Lowell P. Weicker, Jr. General Clinical Research Center from 1993-2002 and head of the Division of Endocrinology from 1974-1997. Dr. Raisz graduated from Harvard Medical School in 1947 and received his clinical and

research training at the Boston City Hospital, the Boston VA Hospital, New York University Medical School, Strangeways Research Laboratory in Cambridge, England, and the National Institutes of Health. Prior to joining the faculty at the University of Connecticut in 1974, he was head of the Renal Division at State University of New York Upstate Medical Center in Syracuse and of the Division of Clinical Pharmacology at the University of Rochester.

Dr. Raisz was the second President of the American Society for Bone and Mineral Research and the founding editor of the *Journal of Bone and Mineral Research*. His honors include the Edwin B. Astwood Lecture Award of the Endocrine Society and the William F. Neuman Award and the Shirley Hohl Service Award from the American Society for Bone and Mineral Research. Dr. Raisz is Chair of the Scientific Advisory Board of the National Osteoporosis Foundation and a member of its Board of Trustees. He is the author of over 400 publications on clinical and basic research on bone metabolism and co-editor of "Principles of Bone Biology" with Drs. John Bilezikian and Gideon Rodan.

B. Lawrence Riggs, M.D.

B. Lawrence Riggs is the Purvis and Roberta Tabor Professor of Medical Research at Mayo Medical School and Distinguished Investigator of Mayo Foundation. He received his B.S. and M.D. from the University of Arkansas, and his clinical and research training in endocrinology at Mayo Clinic and Foundation. Throughout his career, he has performed research on all aspects of osteoporosis, including diagnosis, epidemiology, and treatment, but has especially focused on pathophysiology. He and his Mayo colleagues were one of two groups that discovered bone cells contained estrogen receptors. His awards include the Kappa Delta Award of the American Academy of Orthopedic Surgery, the Clinical Investigator Award from the Endocrine Society, the Frederic C. Bartter Award from the American Society for Bone and Mineral Research (ASBMR), Mastership from the American College of Physicians, the Yank Coble Award from the American Association of Clinic Endocrinology, and the William F. Neuman Award from the ASBMR. He was one of the founders of the ASBMR and the National Osteoporosis Foundation, and served as President of both organizations.

Edward J. Roccella, Ph.D., M.P.H.

Edward Roccella has served as Coordinator of the National High Blood Pressure Education Program at the National Heart, Lung, and Blood Institute (NHLBI) within the National Institutes of Health since 1982. His research interests include public and professional education, cardiovascular disease epidemiology, translation of research results to practice, and public policy. Previously, Dr. Roccella was Coordinator of the NHLBI Worksetting, Cardiovascular Risk Assessment, Smoking Cessation Programs, and also served as Program Manager in the Department of Internal Medicine at the University of Michigan Medical Center, Ann Arbor, Michigan. Dr. Roccella has been awarded fifteen Achievement Awards by the Department of Health and Human Services, and is the author of 103 scientific publications, in journals, monographs, and textbooks.

Clifford J. Rosen, M.D.

Clifford Rosen currently serves as Director of the Maine Center for Osteoporosis Research and Education, at St. Joseph Hospital in Bangor, Maine. He also has done work as a staff scientist at the Jackson Laboratory, in Bar Harbor, Maine, and served as Professor of Nutrition at the University of Maine, Orono. Dr. Rosen serves as President of the American Society of Bone and Mineral Research (ASBMR), and is Editor in Chief of *The Journal of Clinical Densitometry*.

Ethel S. Siris, M.D.

Ethel S. Siris is the Madeline C. Stabile Professor of Clinical Medicine at the Columbia University College of Physicians and Surgeons and the Director of the Toni Stabile Osteoporosis Center of the Columbia-Presbyterian Medical Center, both in New York, New York. Dr. Siris is a graduate of Radcliffe College, Harvard University, and she received her medical degree from Columbia University. Trained as an internist and endocrinologist, she has worked as a clinician, clinical investigator, and medical educator in the area of metabolic bone diseases, especially focusing upon postmenopausal osteoporosis and Paget's disease of bone, and has published extensively in this field. She is a member of the Board of Trustees of the National Osteoporosis Foundation and is Vice Chair of the Board of Directors of the Paget Foundation for Paget's Disease of Bone and Related Disorders. Dr. Siris has previously served on the Council of the American Society for Bone and Mineral Research and the Endocrinologic and Metabolic Drugs Advisory Committee of the U.S. Food and Drug Administration. Currently, Dr. Siris is the Medical Director and Chair of the Steering Committee of the National Osteoporosis Risk Assessment, a longitudinal study of over 200,000 postmenopausal women in the United States.

Eve Slater, M.D.

Eve Slater was confirmed as the Assistant Secretary for Health at the U.S. Department of Health and Human Services on Jan. 25, 2002, and officially sworn in on February 8. She served until January 2003 as the Secretary's primary advisor on matters involving the nation's public health and oversaw HHS' U.S. Public Health Service (PHS) for the Secretary. The PHS is comprised of all agency divisions of HHS and the Commissioned Corps, a uniformed service of more than 6,000 health professionals who serve at HHS and other Federal agencies.

Prior to joining HHS, Dr. Slater was senior vice president of Merck Research Laboratories external policy and vice president of corporate public affairs. The first woman to attain this rank, Dr. Slater supervised worldwide regulatory activities for all Merck medicines and vaccines, which included responsibility for the Food and Drug Administration. During her tenure, Dr. Slater was responsible for the rapid approval of Crixivan to treat HIV infection, and spearheaded approvals of major medicines to treat hypertension, cardiovascular disease, osteoporosis, asthma, arthritis, prostate disease, and vaccines for chicken pox and h. influenza.

Before her role as senior vice president, Dr. Slater was senior director of Biochemical Endocrinology from 1983 to 1988. Her research focused on receptor signal transduction, specifically involving the beta-adrenergic and insulin receptors.

In 1976, Dr. Slater became the first woman in the history of Massachusetts General Hospital (MGH) to be appointed chief resident in medicine. From 1977 to 1982, she served as chief of the Hypertension Unit and was assistant professor of medicine at Harvard Medical School. She directed laboratory researched funded by the National Institutes of Health and the American Heart Association, published on biochemical mechanisms involved in blood pressure control and diseases of the aorta, was active in patient management, and taught extensively.

Dr. Slater has participated on several panels and was chairman of the International Conference on Harmonization Committee on the Structure and Content of Clinical Studies Reports and chairman of the Regulations Advisory Board for the Centre for Medicine Research. Additionally, she was named to the Keystone National Policy Dialogue on HIV, participated in the founding of the Forum for HIV Research, and was nominated to the NIH Office of AIDS Research Advisory Council.

Dr. Slater is a Phi Beta Kappa graduate of Vassar College and an Alpha Omega Alpha graduate of Columbia University's College of Physicians and Surgeons. She completed an internship and residencies at MGH and is board certified in both internal medicine and cardiology.

An accomplished flutist, Dr. Slater has studied with many of America's foremost flutists and appeared as a flute soloist with Arthur Fiedler and the Boston Pops. She is the mother of two teenage sons.

Christine M. Snow, Ph.D., F.A.C.S.M.

Christine Snow is Professor of Exercise and Sport Science and Founder and Director of the Bone Research Laboratory at Oregon State University. The mission of the laboratory is to define exercise strategies across the lifespan to reduce osteoporosis-related fractures. Dr. Snow has 20 years of experience conducting research in the area of exercise, falls and osteoporosis, and began the laboratory at OSU in 1990. She received her Ph.D. in exercise science from the University of Oregon in 1985 and was a Post-doctoral Fellow in the Department of Medicine at Stanford University from 1987-1990. At Oregon State University, Dr. Snow currently directs multiple research projects in the Bone Research Laboratory. Funding for research has been through the National Institutes of Health, the John C. Erkkila Good Samaritan Hospital Foundation, the AARP-Andrus Foundation, Merck & Co., the Medical Research Foundation, NASA, the Aquatic Exercise Association and the Northwest Health Foundation. She also runs a clinical program for community referrals and is heavily engaged in the region as a leader in the field of osteoporosis, giving lectures to hospital, university and community groups. Dr. Snow currently serves as a member of the Scientific Advisory Board for the National Bone Health Campaign and is on the Editorial Board of *Medicine Science and Sports in Exercise*. She has authored more than 30 peer-reviewed publications, 100 scientific abstracts, nine chapters, one book, and given more than 75 presentations nationally and internationally.

Jeannie Suarez-Reyes, M.P.H.

Jeannie Suarez-Reyes is a Project Director within the Center for Consumers at the National Alliance for Hispanic Health in Washington, D.C. As such, she manages several national programs focusing on health promotion and disease prevention among diverse Hispanic communities across the United States and Puerto Rico. The Alliance is the nation's oldest and largest network of Hispanic health professionals serving over 10 million (one in four) Hispanics in the U.S. Focused on its health mission, the Alliance refuses funding from tobacco and alcohol companies, their parent companies, and subsidiaries. Ms. Suarez-Reyes has experience in the provision of direct services to families and children in community-based settings in the DC metropolitan area. She also served as a consultant in the Nutrition Department at the Pan-American Health Organization (WHO/PAHO). Ms. Suarez-Reyes received a master's degree in public health from George Washington University, with a concentration in maternal and child health.

Laura L. Tosi, M.D.

Laura L. Tosi is chief of the Division of Pediatric Orthopaedic Surgery at Children's National Medical Center, where she has provided care for the past 18 years to children, teens, and young adults with musculoskeletal health needs. Her medical practice focuses on orthopedic management of children with physical disabilities. A graduate of Harvard Medical School and an Associate Professor at the George Washington University, Dr. Tosi has lectured extensively on women's musculoskeletal health, particularly osteoporosis prevention, to women's organizations and orthopedic professional societies throughout the United States. She also works to increase physician awareness of bone health issues for people of all ages, with the goal of reducing debilitating bone injury as our population grows older. Dr. Tosi chairs the Committee on Women's Health Issues for the American Academy of Orthopaedic Surgeons, and is secretary of the Pediatric Orthopaedic Society of North America. She has served on the Board of Directors of the American Academy of Orthopaedic Surgeons, the Orthopaedic Research and Education Foundation, and the Academic Orthopaedic Society. She serves on the Interspecialty Medical Council of the National Osteoporosis Foundation and the Advisory Council of the NIH Osteoporosis and Related Bone Diseases National Resource Center.

Anna N. A. Tosteson, Sc.D.

Anna Tosteson is Professor of Community and Family Medicine at Dartmouth Medical School, where she co-directs the Health Care Decision Making academic area within the Center for the Evaluative Clinical Sciences degree programs. She received her B.S. from Cornell University in 1982, an M.S. from Harvard School of Public Health (HSPH) in 1984, and an Sc.D. (biostatistics with a concentration in health decision science) from Harvard in 1988. She was on the faculty of Harvard Medical School and HSPH before joining the Dartmouth Medical School faculty in 1992. Her research uses decision-analytic modeling, economic evaluation, and preference-based measures of health-related quality of life to address clinical and health policy issues in osteoporosis/musculoskeletal diseases and women's health. Dr. Tosteson is a member of the American Society for Bone and Mineral Research, the International Society for Quality of Life Research, the American Statistical Association, and is secretary-treasurer-elect for the Society for Medical Decision Making. She is an active participant in national and international groups that focus on the economic evaluation of both new and established health care technologies, including the American College of Radiology Imaging Network and the Outcomes Measurement in Rheumatology Economics Task Force.

Nelson B. Watts, M.D.

Nelson B. Watts is Professor of Medicine at the University of Cincinnati College of Medicine and Director of the University of Cincinnati Bone Health and Osteoporosis Center. He received his medical degree from the University of North Carolina School of Medicine in Chapel Hill, completed a medical internship at the Medical College of Georgia, a residency in internal medicine at Carolinas Medical Center, and a fellowship in endocrinology at the University of North Carolina. He is certified by the American Board of Internal Medicine in internal medicine and the subspecialty of endocrinology and metabolism. Dr. Watts' major research interest is in osteoporosis, particularly the study of therapeutic agents and tests for diagnosis and monitoring. He is President of the International Society of Clinical Densitometry and President of the American College of Endocrinology, and is active in other professional societies. He has contributed to more than 50 books and book chapters and more than 250 abstracts and articles in such journals as *Journal of the American Medical Association* and the *New England Journal of Medicine*.

Connie M. Weaver, Ph.D.

Connie Weaver is Distinguished Professor and Head of the Department of Foods & Nutrition at Purdue University, West Lafayette, Indiana. In 2000, she also became director of a National Institutes of Health-funded Botanical Center to study dietary supplements containing polyphenolics for age-related diseases. Her research interests include calcium metabolism and bone health and calcium requirements of adolescents. She is chair of the NIH Nutrition Study Section. She was a member of the National Academy of Sciences Food and Nutrition Board Panel to develop new recommendations for requirements for calcium and related minerals. Dr. Weaver is past president of American Society for Nutritional Sciences and is on the Board of Trustees of the International Life Sciences Institute. For her contributions in teaching, Dr. Weaver was awarded Purdue University's Outstanding Teaching Award. In 1993, she was honored with the Purdue University Health Promotion Award for Women, and in 1997, she received the Institute of Food Technologists Babcock Hart Award. She has published over 100 research articles. Dr. Weaver received a bachelor of science and master of science in food science and human nutrition from Oregon State University. She received a Ph.D. in food science and human nutrition from Florida State University and holds minors in chemistry and plant physiology.

Lynne S. Wilcox, M.D., M.P.H.

Lynne Wilcox joined the Office of the Director, National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), Centers for Disease Control and Prevention (CDC) in July 2002. She is Editor-in-Chief of a new electronic scientific journal, *Preventing Chronic Disease: Public Health Research, Practice, and Policy*, that will focus on population health interventions.

Prior to this assignment, Dr. Wilcox served for six years as Director of the Division of Reproductive Health at CDC. This division addresses surveillance, field investigations, program evaluations, and behavioral and epidemiologic studies of maternal and infant health, family planning, and reproductive health disorders, providing national and international consultations. Dr. Wilcox has served in this and other scientific positions at CDC for 14 years.

Dr. Wilcox received her medical degree from the Medical College of Georgia and her public health degree from Johns Hopkins School of Hygiene and Public Health, Johns Hopkins University. She is board certified in preventive medicine and completed a post-doctoral fellowship in perinatal epidemiology at Johns Hopkins University and the Epidemic Intelligence Service training program at CDC.

Betty Hutchinson Wiser, Ed.D.

Betty Wiser is Director of the Older Adult Health Branch in the Division of Public Health of the North Carolina Department of Health and Human Services. She directs the Osteoporosis Program and is responsible for the Arthritis and Healthy Aging Programs. She is Co-Chair of the Osteoporosis Coalition of North Carolina and initiated the Osteoporosis Prevention Task Force, established by the North Carolina General Assembly in 1997. Dr. Wiser served six years in the North Carolina General Assembly, as an elected Representative from 1985 through 1990. She was the principal sponsor of important aging and health legislation and chaired the House Human Resources Committee and both the Aging and Public Health Independent Study Commissions. She received her undergraduate education from the College of Wooster and Ohio State University, and her graduate education from Ohio State University, the Andrus Gerontology Center, the University of Southern California, and North Carolina State University.

Appendix B

Participant List

Surgeon General's Workshop on Osteoporosis and Bone Health

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Appendix C

Improving Bone Health: Comments from the Surgeon General's Web Site

Beginning on September 13, 2002, the Office of the Surgeon General, through its website, started soliciting input from a broad range of interested groups, associations, and individuals regarding key issues in improving bone health. The purpose of this solicitation was to identify and address critical topics for the December 12-13, 2002 *Surgeon General Workshop on Osteoporosis and Bone Health*, a meeting that will go on to inform the development of *The Surgeon General Report on Osteoporosis and Bone Health*. Over the 45-day comment period, which ran through November 1, 2002, two hundred comments regarding key issues in improving bone health were submitted from a wide range of professionals and consumers.¹

Visitors to the website were invited to provide comments regarding six separate questions. Specifically, they were asked to identify the highest priority issues; major challenges to promoting and preserving bone health; primary barriers to accessing necessary care, services and referrals; major challenges that limit the use of newest research findings; and directions for future research on prevention, treatment and management.

Permeating the responses to each of these questions were six overarching themes where respondents identified greatest needs:

- # Offering more education to the public on bone health;
- # Providing more education and training to health care professionals;
- # Ensuring appropriate access to and coverage of services;
- # Targeting special and at-risk populations;
- # Conducting more research and establishing guidelines about prevention, screening, diagnosis, and treatment; and
- # Increasing funding for bone health initiatives.

More information about these issues and other concerns raised by respondents are discussed in further detail below.

I. Offering More Education to the Public on Bone Health

The need to raise public awareness about osteoporosis and its prevention, treatment, and management was repeatedly emphasized by health care professionals, researchers, public health officials, advocates, and consumers. According to many respondents, most of the public remains

¹The two hundred respondents included 36 allied health care professionals, 26 consumers, 25 physicians, 19 registered nurses, 19 researchers/scientists (MD), 19 advocacy organization representatives, 15 researchers/scientists (non-MD), 13 state/local government representatives, 11 industry representatives, 10 Federal

government representatives, non-physical therapist, one other individual, and five individuals responding from outside the United States.

poorly informed about osteoporosis and bone health issues, and specific at-risk groups, including those who have experienced some bone loss but not enough for a diagnosis of osteoporosis, should be better targeted with bone health promotional messages. The fact that the disease is still associated with old age and that osteoporosis risk issues are not taken seriously also present challenges. Suggested public education or awareness messages should encompass osteoporosis risk (including clearer information about genetic factors,

Americans need clear, concise messages of what they can do regarding their bone health. There seems to be too many conflicting messages of what folks should do." (Consumer)

risk factors and who is considered at risk); prevention and modification of lifestyles to maximize peak bone mass; early screening and consumer understanding of bone mineral density tests; better consumer education and awareness of treatment options; and an understanding of fall and fracture prevention for individuals living with osteoporosis.

AThe major challenge is to convince people to adopt healthier lifestyles that include the appropriate nutrition and exercise to preserve bone health.@ (Consumer) Any education initiative should also try to combat the difficulties in motivating people to change behaviors and adopt healthy lifestyle habits, including adoption of physical activity, healthy nutrition, smoking cessation, calcium supplementation, and reduction of soda consumption. Finally, to facilitate increased public awareness of osteoporosis and bone health issues, an industry representative emphasized the need for improved coordination vehicles between the public (government), non-profit (advocacy organizations or foundations) and private sectors.

Better knowledge dissemination will play a key role in getting these messages across. Some respondents noted how the media contributes to misinformation of findings by distorting the latest research studies; more often than not, research findings are either not translated appropriately into lay terms or are misconstrued. This includes information about the current controversies involving the long-term use of hormone replacement therapy (HRT). Suggested public avenues to disseminate research information included teen magazines, women=s and men=s magazines, health magazines, etc.

II. Providing More Education and Training to Health Care Professionals

The need for increased provider awareness was also raised by many respondents (including health care providers themselves), particularly in the context of early detection, diagnosis, and treatment for osteoporosis. Respondents from across the board noted that provider training related to bone health promotion, osteoporosis prevention, diagnosis, and treatment (along with APrimary care physicians do not see osteoporosis as an important health care issue...many still view this as a natural consequence of aging.@(Industry Representative)

other related bone diseases) is still minimal in medical schools and residency programs. There is also an overall health system emphasis on disease treatment rather than prevention. Consequently, health care providers have a somewhat fragmented knowledge about the evaluation of osteoporosis, and bone health and osteoporosis preventive services are rarely incorporated into routine primary care practice. Better translation and dissemination of research findings was noted as an important need. The need for more effective standardized training and/or certification of health care professionals who are involved in bone density screening procedures was also mentioned repeatedly; a number of respondents brought up the importance of assuring appropriate education and certification of professionals who perform bone density tests as well as those who interpret them.

AGreater resources need to be applied to the social and psychological effects of these diseases on patients and their families...Patients often retreat into isolation, depression, and anxiety along with their physical pain.@(Consumer) Many respondents asserted that primary care providers need to be aware that osteoporosis is preventable and treatable, that it is not a normal part of aging, and incorporate osteoporosis assessment into their regular patient checkup visits. Along these lines, respondents also noted that physicians seem to lack consensus on when to assess bone quality in their patients as well as

how to provide appropriate educational information to their patients. Physician confusion about interpreting bone mineral density test results, underdiagnosis, and undertreatment of the disease, along with inappropriate treatment of compression fractures, were identified as critical issues. The awareness of other health care professionals (nurses, physical therapists, pharmacists, etc.) should also be increased so that they can recognize patients with osteoporosis and counsel them appropriately. Moreover, the need to increase providers=awareness of the psychosocial components of osteoporosis to improve quality of life and self-image for those with the disease was also noted as an urgent priority. Additionally, one physician also urged Adistancing the influence of pharmaceutical companies in physician and public education.@

III. Ensuring Appropriate Access to and Coverage of Services

Another significant priority identified by respondents involves increasing access to preventive, diagnostic, and treatment services, and ensuring that these services are kept affordable and covered by insurance. Current barriers to services include inadequate coverage for screening (especially for men) and treatment; low Medicare reimbursement and low reimbursement rates for providers for all osteoporosis-related services; and high costs of screening, medications, calcium supplements, and/or insurance co-pays. The elderly and uninsured particularly face problems with cost and insurance coverage barriers. Moreover, several respondents felt that the United States=third-party-financed health care system limits universal access to health care, places a low priority on osteoporosis evaluation and treatment, and, in the case of managed care, discourages providers from spending more time with their patients. Also noted was the problem of the lack of insurance coverage for non-pharmaceutical therapies, such as physical therapy.

Other barriers cited by respondents include the high costs of patient education programs, screening, treatment, and medicines for the general population, and the health care system=s and insurance companies=emphasis on treatment, rather than prevention and early detection. Rural residents face a lack of health care providers, transportation barriers, and the limited availability of bone mineral density (BMD), or dual-energy X-ray absorptiometry (DXA), scans. To facilitate universal access to screening for geographically

Alt is critical for people of both genders, all ages, and all races to have equality of access to osteoporosis prevention and treatment.@ (Research Scientist)

isolated populations, one consumer suggested the establishment of **A**remote diagnostic facilities that transmit findings to a central location.[@]Access to care for the elderly is also a major challenge, and some respondents mentioned that lack of support for frail elderly in nursing homes.

A small handful of respondents (public health officials, health care professionals, and industry representatives) also commented on the need for future health care systems research to assess and/or evaluate health insurance coverage of or health financing models of bone health and

osteoporosis services in the United States. This research would help the current treatment-based service system transition toward a prevention-based system by facilitating and ensuring earlier diagnosis, increased access to bone health related services (and comprehensive insurance coverage and reimbursement of these services), and by managing costs via cost-effective models of care.

IV. **Targeting Special and At-risk Populations**

The majority of respondents also mentioned the need for a greater public health focus on racial/ethnic minorities, males, children/adolescents, and the frail elderly in osteoporosis prevention, screening, treatment, and research initiatives. Numerous challenges were cited in identifying and providing

care providers that see them.@ (Physician) outreach to these populations, including the need to develop culturally appropriate and culturally sensitive educational messages, materials, and behavioral interventions. Several respondents noted specifically the challenges of addressing different nutrition and physical activity traditions

in various cultures, disparities for lower income and minority children, and poor access to diagnostic services. A number of respondents also mentioned the pressing issue of inadequate calcium consumption and lactose intolerance among minorities, and the need to address calcium supplementation for lactose intolerant populations. Respondents also felt the need for more bone health and osteoporosis research and normative data collection on ethnic and racial minorities, men, younger women, and other at-risk populations, specifically addressing osteoporosis prevalence and incidence, risk factors, screening tools, and appropriate BMD scales, bone loss trends, and appropriate treatments in these groups.

AThere needs to be a greater focus and emphasis on children. Osteoporosis prevention starts in childhood.@ (Physician)

Many respondents identified the need for a greater emphasis on prevention in children and adolescents, especially since calcium consumption is declining among today-s youth, and obesity and soda consumption are on the rise. School-based prevention programs were suggested, and would include physical activity and nutrition components.

V. Conducting More Research and Establishing Guidelines on Prevention, Screening, Diagnosis, Treatment, and Management

Underlying many of the concerns was the need to conduct more research on bone diseases and to use this research to establish clear guidelines for prevention, screening, diagnosis, treatment, and management. Several respondents cited the need to assess the effects of nutrition, physical activity, smoking, and excessive dieting on bone formation and to identify more effective treatments with fewer

AWith the HRT findings released recently, what impact will that have on the incidence of osteoporosis as women are stopping HRT?@ (Registered Nurse)

AMany non-Caucasian groups do

not realize their risk of osteoporosis nor do the health

side effects. Health care providers and researchers in particular recommended developing a more comprehensive system of risk assessment and further pursuing genetic research to identify genomic links. In addition, a considerable number of comments reflected the recent controversies on hormone replacement therapy (HRT) for post-menopausal women and its risks versus benefits, and respondents called for research to explore other prophylactic interventions (including bisphosphonates, combination therapies, anabolic agents, antiresorptive agents, growth factors, and their long-term effects).

AThe public is confused by the conflicting research.@ (Registered Dietitian) Respondents also emphasized the significant need for reliable and cost-effective screening techniques along with a need for baseline bone density screenings (and insurance coverage of these screenings). One respondent asserted that obese individuals in the U.S. are probably underdiagnosed because of inappropriate BMD scales for obese individuals, while another person expressed strong

convictions about the heavily debated topic of early screening for women beginning at age 40, comparing today=s bone density recommendations to the mammography recommendations of twenty years ago (which have since been modified for inclusion of younger ages).

There was the sentiment, too, that better screening would lead to better treatment. Currently, treatment is thwarted by provider and patient confusion about HRT, unpleasant side effects of medications and the need to increase patient compliance with therapies, a lack of referrals to specialists or other health care professionals, and a lack of provider follow-up assessment and treatment after fractures in the elderly. According to several respondents, providers will often treat the symptom (the fracture) instead of the underlying disease, and there is also a significant need to explore the prevention and treatment of secondary osteoporosis. Some health care professionals discussed a need to develop regional databases of bone densitometry results. Still others asserted that the development of effective guidelines and recommendations may involve exploring innovative approaches to prevention and treatments.

VI. Increasing Funding for Bone Health Initiatives

Underlying the needs for more research, guidelines, and increased provider and public awareness is the necessity of having more funding for bone health-related initiatives. Respondents specified the need for greater Federal and state funding for research and direct health services to continue public and provider education about the disease, while screening and treating more individuals. Funding should also be made available for AStates are losing funds. Federal funding is needed to provide the necessary education. Unless this disease is made a priority to prevent and treat, we will be in a major epidemic in the future.@ (State Government Representative)

program evaluation and research, for continued research and large clinical trials of medicines, for advances in technology and latest equipment to be able to apply latest research findings, and for public health organizations, state and local health departments, and local clinics to apply and use the latest research. Providers discussed the drive to keep costs down in health care and concerns with prevention intervention and direct service costs with regard to providing diagnostic and therapeutic services. Additionally, one advocate emphasized how challenging it is for low-budget public health nutrition campaigns to even attempt to compete with the food industry=s powerful marketing advertisements of unhealthy foods.

VII. Other Concerns and Recommendations

In addition to the above challenges and recommendations that were cited by the majority of respondents, there were also a number of other areas in which more action and research should be taken. Respondents made suggestions regarding:

Implications for public policy. Respondents saw a need for more government-sponsored initiatives and community-based programs to establish environmental and community supports that enable individuals to engage in healthy lifestyles conducive to osteoporosis prevention. Many also focused on schools=potential roles in early prevention initiatives by providing healthy environments and fostering healthy habits among children. An advocacy organization representative emphasized the absence of sufficient supports in place for girls= and young women=s athletic programs, which Alimits the opportunities for girls in sports and reduces the likelihood that they will be physically active.@

- # Prevention. According to respondents, effective prevention strategies and interventions for children, young adults, and early adults should also be investigated and implemented, along with effective fall and fracture prevention interventions for the elderly. Cultural barriers that may impede preventive behavioral change in various ethnic groups should also be addressed.
- # Other related bone diseases. Finally, a small number of health care professionals and researchers called for further research on other related bone diseases such as osteogenesis imperfecta, osteomyelitis, Paget-s disease, arthritis, rheumatoid arthritis, and polychondritis, and their treatments. The secondary links with bone health and osteoporosis and conditions such as gastrointestinal tract abnormalities, atherosclerosis, polycystic ovarian syndrome, sarcopenia, etc. should also be further investigated.

The Surgeon General expresses sincere appreciation to all who contributed time, experience, and knowledge to support the development of the Surgeon General's Workshop on Osteoporosis and Bone Health and this report. The Surgeon General would especially like to acknowledge the following:

THE PUBLIC

Among the most valuable contributions were those from members of the public, who participated in the following ways:

- Approximately 200 comments were received at the Surgeon General's website to provide input on the priorities for the Surgeon General's Workshop and The Surgeon General's Report on Osteoporosis and Bone Health.
- The participants, speakers, moderators, and resource consultants at the Surgeon General's Workshop on Osteoporosis and Bone Health, especially individuals and family members, shared their personal perspectives on living with bone diseases and what can be done to promote better bone health.

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