

cover letter, an insert from the National Osteoporosis Foundation, and a brochure, "What You Should Know About Estrogen Deficiency and Osteoporosis." The brochure briefly explains osteoporosis in the context of menopause and declining estrogen production but is essentially an advertisement for the estrogen medication. Both the magazine advertisement and the brochure included the ● "brief summary" of contraindications and side effects that is required by the FDA. The National Osteoporosis Foundation's insert outlined the consequences of osteoporosis and urged women over 50 to consult with their physician about steps to prevent osteoporosis. The cover letter included a certificate that offered a free exercise videotape to women who had the certificate signed by a physician indicating that a consultation had occurred. The certificate asked women to indicate whether their physician prescribed a medication and, if so, to specify the name of the product. The offer for the free exercise tape expired May 1, 1991. For proprietary reasons, the number of women who contacted the osteoporosis information center is unavailable. One in 10 women who requested information from the center returned the certificate with a physician's signature indicating that a consultation had occurred (38).

The appropriateness of direct-to-the-consumer prescription drug advertising has been vigorously debated over the last decade. Authorities familiar with the issue describe the debate as follows:

Pharmaceutical companies argue that prescription drug advertising meets the increasing consumer demand for health information, alerts consumers to new treatments, encourages people to seek medical advice for conditions that would otherwise go untreated, and generally results in a more informed public. Others argue that advertising prescription drugs to consumers interferes with the physician-patient relationship, confuses consumers, increases the cost of drugs, puts undue emphasis on pharmacological treatments *alternatives*, pressures physicians to prescribe products, and results in unnecessary drug use (45).

In some instances, it may be easier for consumers to evaluate the information in an obvious adver-

tisement than information that is presented as news but is actually promotional information sponsored by a pharmaceutical company.

■ Public Information About Osteoporosis Available from Federal and State Government Agencies

Many federal agencies conduct activities to inform the public about osteoporosis. Most of these agencies—i.e., the National Institutes of Health, the Food and Drug Administration, the Centers for Disease Control and Prevention, the Office of Disease Prevention and Health Promotion, the Office of Women's Health, and the Administration on Aging—are part of the U.S. Department of Health and Human Services. In addition, the U.S. Department of Agriculture educates the public about osteoporosis through its Cooperative Extension System. A description of these federal activities follows. Also described are the activities of several states that have conducted osteoporosis public information campaigns.

Information Available from the National Institutes of Health

The National Institutes of Health (NIH) are part of the U.S. Department of Health and Human Services. Four of the institutes—the National Institute of Arthritis and Musculoskeletal and Skin Diseases, the National Institute on Aging, the National Institute of Diabetes and Digestive and Kidney Diseases, and the National Institute of Dental Research—conduct public information activities related to osteoporosis. The NIH Office of Research on Women's Health also plays a role in increasing public awareness of osteoporosis, primarily because of media coverage of issues pertaining to women's health research.

National Institute of Arthritis and Musculoskeletal and Skin Diseases

The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) provides the majority of the federal government funding for osteoporosis research. NIAMS has sponsored numerous osteoporosis workshops and conferences,

including a 1987 workshop, "Research Directions in Osteoporosis," a 1990 conference, "Research Advances in Osteoporosis," a 1993 workshop, "Osteoporosis and Oral Bone Loss," and a 1994 symposium, "Osteoporosis: Research Advances and Clinical Applications." Although intended primarily for scientists and health care professionals, these workshops and conferences often result in media reports that inform the public about osteoporosis.

NIAMS' Office of Scientific and Health Communications and the National Arthritis and Musculoskeletal and Skin Disease Information Clearinghouse distribute information about osteoporosis and conduct osteoporosis education activities for health care professionals and the public. As noted at the beginning of this background paper, NIAMS expects to select an organization to function as the congressionally mandated resource center on osteoporosis and related bone disorders by September 1994. After the organization is selected, NIAMS will coordinate the functions of its information clearinghouse and the new resource center to eliminate duplication of effort between the two entities (69).

As of May 1994, the National Arthritis and Musculoskeletal and Skin Disease Information Clearinghouse maintains a database of osteoporosis education materials and publishes annotated bibliographies of osteoporosis literature for scientists, health care professionals, and the public. It also compiles osteoporosis information packets containing review articles and commentaries.

NIAMS published a booklet, "Osteoporosis: Cause, Treatment, Prevention," that has been distributed to more than 100,000 people. As noted earlier, NIAMS also copublished a booklet, "Bonning Up on Osteoporosis," with the Food Marketing Institute. Both publications explain osteoporosis and its causes; discuss estrogen therapy, calcium, vitamin D, and weight-bearing exercise; and suggest ways to prevent falls and fractures. The former also reviews therapies, such as calcitonin, sodium fluoride, vitamin D, anabolic steroids, and parathyroid hormone, and discusses current research on osteoporosis. Both

publications refer the reader to the National Osteoporosis Foundation for additional information.

NIAMS produced a videotape and booklet, "Osteoporosis," based on a 1989 presentation by NIAMS' director for the NIH "Medicine for the Layman" lecture series. NIAMS also prepares news releases about recent research findings and the results of scientific conferences.

The National Arthritis and Musculoskeletal and Skin Disease Information Clearinghouse and NIAMS' Office of Scientific and Health Communications respond to written and telephone inquiries concerning osteoporosis. The clearinghouse handles general questions about osteoporosis, and the Office of Scientific and Health Communication handles questions requiring a more detailed or technical response (136). Between July 1 and September 30, 1990, 92 people contacted the clearinghouse for general information about osteoporosis: 30 people received NIAMS information packets, and 62 people received the booklet, "Osteoporosis: Cause, Treatment, and Prevention." During the same interval, 38 people contacted the NIAMS Office of Scientific and Health Communication and received responses to their specific questions about osteoporosis, including questions about estrogen therapy, etidronate, calcium, calcitonin, vitamin D, and bone density testing. Both the clearinghouse and the Office of Scientific and Health Communication refer callers to the National Osteoporosis Foundation for further information.

National Institute on Aging

The National Institute on Aging (NIA) conducts and supports research related to the aging process and its physical, psychological, and social effects on older people—including research on osteoporosis, nutrition, exercise, hip fractures, and strategies for reducing falls and fractures. NIA cosponsored the 1987 workshop, "Research Directions in Osteoporosis," the 1990 conference, "Research Advances in Osteoporosis," and the 1994 symposium, "Osteoporosis: Research Advances and Clinical Applications."

NIA provides the public with information about osteoporosis through its Public Information Office and a contract clearinghouse. The clearinghouse functions as the "National Institute on Aging Information Center," responding to requests for NIA publications. The publications, which are prepared by the Public Information Office, include a 30-page booklet, "Menopause," that describes osteoporosis and its risk factors, suggests calcium, vitamin D, and exercise to prevent it, and discusses the benefits and risks of estrogen therapy. The Public Information Office also publishes one-page fact sheets, called "Age Pages," that offer practical advice on health promotion and preventive care for older people. One Age Page, "Osteoporosis: The Bone Thinner," briefly describes osteoporosis and its risk factors, recommends calcium, vitamin D, and weight-bearing exercise to prevent it, mentions estrogen therapy, sodium fluoride, calcium, and vitamin D as ways to slow or stop bone loss, and suggests ways to treat osteoporosis-related fractures. Other Age Pages that mention osteoporosis include "Should You Take Estrogen," "Managing Menopause," "Preventing Falls and Fractures," "Nutrition: A Lifelong Concern," "Dietary Supplements: More Is Not Always Better," "Smoking: It's Never Too Late to Stop," and "Don't Take It Easy—Exercise."

NIA developed a pamphlet, "Women and Osteoporosis," that was published by Peoples Drug Stores, Inc. as part of its "Living With Aging" pamphlet series and distributed by its 800 drug stores. The pamphlet contained a brief overview of osteoporosis and its risk factors and urged readers to seek advice from their physician about calcium, vitamin D, estrogen therapy, and sodium fluoride as possible means of prevention.

The NIA Public Information Office also prepares consensus conference statements, news releases, and articles about NIA-supported osteoporosis research. These materials are distributed to the media, other federal government agencies, and the public.

The NIA Public Information Office responds to written and telephone inquiries about osteoporosis.

The office keeps no formal count of the number of requests it receives for osteoporosis information, but in 1991, an NIA spokesperson estimated it to be similar to the number received by NIAMS (75). If a request is for general information, the office usually mails the inquirer NIA's Age Page on osteoporosis and other general materials. If the request is for specific information about a new development in osteoporosis prevention or treatment, the office includes professional journal articles on the topic. If the request is for information about research being conducted by another institute, the office refers the inquirer to the appropriate institute. The office also refers inquirers to the American College of Obstetricians and Gynecologists for information about estrogen therapy and to the National Osteoporosis Foundation for information about osteoporosis diagnosis and treatment strategies (75).

In 1993, NIA jointly sponsored with AARP a workshop on disseminating public information about menopause, in conjunction with an NIH conference, "Menopause: Current Knowledge and Recommendations for Research." The workshop focused on problems and strategies for the dissemination of public information about menopause. Its conclusions and recommendations apply to information about the effects of menopause on bone as well as other body tissues and organs (1).

National Institute of Diabetes and Digestive and Kidney Diseases

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports research on endocrine and metabolic disorders that contribute to osteoporosis. NIDDK cosponsored the 1984 "National Institutes of Health Consensus Development Conference on Osteoporosis," the 1987 workshop, "Research Directions in Osteoporosis," the 1990 conference "Research Advances in Osteoporosis," and the 1994 symposium, "Osteoporosis: Research Advances and Clinical Applications."

Since 1986, when NIAMS became a separate institute and ceased to function as a division of

NIDDK, most inquiries about osteoporosis go to NIAMS. As of early 1991, NIDDK's Information Office was receiving only 25 to 30 osteoporosis inquiries a year. For questions related to endocrine or metabolic effects on bone, a NIDDK spokesperson will advise the caller. Otherwise, the caller is referred to NIAMS or the National Osteoporosis Foundation (107).

National Institute of Dental Research

The National Institute of Dental Research (NIDR) conducts and supports research on bone biology and metabolic bone diseases that affect oral and facial tissues. NIDR cosponsored the 1993 workshop, "Osteoporosis and Oral Bone Loss," and the 1994 symposium, "Osteoporosis: Research Advances and Clinical Applications." As noted earlier, these workshops and symposia are intended primarily for scientists and health care professionals but mass media coverage of their findings may increase public awareness and knowledge about osteoporosis.

Office of Research on Women's Health

The NIH Office of Research on Women's Health was established in 1990 to enhance research on diseases and conditions that affect women, ensure that women are included as subjects in clinical research, and increase career opportunities for women in scientific and clinical research (47). Providing public information about osteoporosis is not a primary function of the office, but mass media coverage of its activities—particularly its efforts to identify gaps in knowledge about women's health and initiate and support research to address the gaps—increases public awareness of osteoporosis.

The Office of Research on Women's Health collaborates with other offices and institutes at NIH on the "Women's Health Initiative," a 15-year, three-part study that will eventually involve 40 to 45 research centers nationally and cost \$625 million. The study focuses on the effects of low-fat diets, calcium, vitamin D, and estrogen and progestin therapy on the incidence of cancer, cardiovascular disease, and osteoporotic fractures in women.¹¹ Mass media reports on this study and public presentations by staff of the Office of Research on Women's Health about the study and other NIH-funded research on women's health issues call attention to osteoporosis as a women health issue and increase public awareness, if not knowledge, about the disease.

Information Available from the Food and Drug Administration

As part of its mandate to promote and protect the public health, the Food and Drug Administration within the U.S. Department of Health and Human Services produces osteoporosis information for health professionals and the public and conducts osteoporosis education programs. In 1983, the FDA initiated a "Women's Health Initiative" to focus attention on women's health issues—including osteoporosis. In 1986, the agency sponsored a "National Conference on Women's Health" that underscored osteoporosis as a public health problem and laid the groundwork for the agency's 1987 "Special Topic Conference on Osteoporosis." The 1987 conference was intended to establish a baseline of reliable information about osteoporosis and to outline key educational messages about bone loss, bone density testing, nutrition, exercise, and other methods of prevention and treatment. Proceedings of the two conferences

¹¹The three parts of the Women's Health Initiative are: 1) a clinical trial, involving 57,000 women ages 50 to 79, that will evaluate the effectiveness of low-fat diets, calcium, vitamin D, and estrogen and progestin therapy in preventing cardiovascular disease and osteoporotic fractures; 2) an observational component, involving 100,000 postmenopausal women, that will determine the risk factors for cancer, cardiovascular disease, and osteoporotic fractures, and 3) a community intervention study that will evaluate various ways of improving health-related behaviors in women age 45 and over. Fractures will be tracked in subjects at all centers, and three of the research centers will collect information about subjects' bone density at the hip and spine. Bone density data will be available for about 10,000 subjects.

were published as supplemental issues of *Public Health Reports*, the U.S. Public Health Service's magazine for health care professionals and public health educators (18,120).

The FDA's Office of Consumer Affairs handles written and phone requests for osteoporosis information. The office keeps no formal count of the number of inquiries about osteoporosis it receives, but a spokesperson estimated in 1991 that the number was considerably less than the 130 osteoporosis inquiries received in a three-month period by NIAMS (31). Most requests were for general information about osteoporosis. Requests of a more technical nature—for example, side effects of a medication used to treat osteoporosis—were referred to another FDA office that is expert in that area.

The FDA has consumer affairs officers located in field offices nationwide. The consumer affairs officers conduct health education programs throughout the year, and FDA publications that discuss osteoporosis are distributed to people who attend these programs (31).

In 1993, the FDA completed its evaluation of the relationship between calcium intake and osteoporosis and issued regulations for allowable health claims, as required by the Nutrition Labeling and Education Act of 1990 (124). The regulations allow the labels on food products that contain calcium to state that inadequate calcium intake in early life contributes to low peak bone mass and that adequate calcium intake may be helpful in reducing bone loss later in life. According to the regulations, the labels must make clear that calcium intake is not the only factor that affects the development of peak bone mass or the loss of bone with age; that the risk of osteoporosis varies for different subgroups of the population; and that calcium intake above 200 percent of the recommended daily amount has no additional benefit for bone health (23, 124). To the extent that food manufacturers decide to make claims about the relationship between calcium intake and osteoporosis on their product labels, these labeling requirements are likely to increase public awareness of osteoporosis.

The labeling requirements for claims about the relationship between calcium intake and osteoporosis are only one component of the FDA's new food labeling regulations. To help consumers understand the food labels required by the new regulations, the FDA and several other public and private organizations have initiated a public information campaign (88). The campaign will include public service announcements, the distribution of public education materials, and the establishment of consumer hotlines for food labeling information. This public information campaign is also likely to increase public awareness of osteoporosis.

Lastly, the FDA is the federal agency that evaluates prescription medications for safety and efficacy. The FDA division that evaluates medications for osteoporosis drugs has an advisory group, the Endocrinologic and Metabolic Drugs Advisory Committee. As noted in box 2 at the beginning of this background paper, in 1991 the Endocrinologic and Metabolic Drugs Advisory Committee reviewed the findings of the available research on etidronate and recommended that the FDA not approve etidronate for osteoporosis. The FDA decided to follow the committee's recommendation.

The FDA generally does not notify the public of its decisions to approve or not approve particular medications, except in life-threatening situations. To OTA's knowledge, the FDA's 1991 decision not to approve etidronate for osteoporosis was not presented to the general public in any way. The decision was reported in pharmaceutical industry newsletters and has been discussed at professional meetings and conferences. Anecdotal evidence suggests, however, that some physicians who prescribe etidronate for osteoporosis may not be aware of the decision. As of May 1994, the company that manufactures etidronate continues to meet with the FDA, and it is possible that new evidence for the efficacy of the medication could result in its approval in the future. Given this context, however, OTA believes that the claim, which has been made in some public forums, that FDA "inaction and indecisiveness" are

holding up the approval of etidronate is misleading.¹²

In 1991, the FDA's Endocrinologic and Metabolic Drugs Advisory Committee also reviewed the findings of a five-year post-marketing study of calcitonin, a medication that was approved by the FDA in 1984 for osteoporosis. The study found an increase in bone density and a higher rate of new spinal fractures in subjects who received calcitonin compared with subjects who did not receive calcitonin (126). The company that produces calcitonin and the Advisory Committee agreed that the study was so poorly conducted that its findings could not be used to determine the efficacy of calcitonin in reducing fracture rates. The Advisory Committee voted unanimously to recommend that the FDA revise the labeling requirements for calcitonin to reflect the lack of evidence that it prevents fractures, and the FDA followed that recommendation. To OTA's knowledge, the revised labeling requirements and the reasons for the changed requirements were not presented to the general public in any way, although, as in the case of etidronate, the transcript of the advisory committee meeting is available to the public, and the decision was reported in pharmaceutical industry publications. As of 1994, public information about osteoporosis continues to note correctly that calcitonin is an approved medication for osteoporosis but fails to point out the revised labeling requirements with respect to the lack of evidence that calcitonin reduces fractures.

Information Available from the Office of Disease Prevention and Health Promotion

The Office of Disease Prevention and Health Promotion (ODPHP) within the U.S. Department of Health and Human Services coordinates federal health promotion activities. ODPHP has coordinated the development of several reports related to osteoporosis. One of these reports, *The Surgeon General's Workshop: Health Promotion and Aging*, has a chapter on skeletal diseases and recom-

mends increased calcium intake for girls and young women (119). A second report, *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*, includes recommendations to increase public awareness of osteoporosis and ways to prevent the disease (121).

ODPHP operates a "National Health Information Center." The center refers people who write or call with questions about osteoporosis to other organizations, including the National Osteoporosis Foundation, the National Institute on Aging, the National Institute of Arthritis and Musculoskeletal and Skin Diseases, the National Dairy Council, the American College of Obstetricians and Gynecologists, and the National Women's Health Network (132).

In 1984, ODPHP initiated the "Healthy Older Persons Campaign" to educate older people about health practices that can reduce the risk of disabling illness. The campaign was part of a joint initiative by the U.S. Department of Health and Human Services and the Administration on Aging to encourage public and private organizations at the national, state, and community levels to work together to provide health education to older Americans. The campaign focused on six areas of disease prevention: exercise, nutrition, safe use of medicine, smoking cessation, injury prevention, and preventive health services.

To implement the "Healthy Older Persons Campaign," ODPHP established contacts in each state and helped to develop coalitions in most of the states to implement the campaign. ODPHP developed broadcast and print materials, including public service announcements, posters, and fact sheets about disease prevention for older people and provided samples of the materials to coalition members along with technical assistance on how to use the materials. The "Healthy Older Persons Campaign" is regarded as a successful model of a public health education effort to encourage a specific group of people to adopt lifestyle habits that decrease the risk of chronic diseases. When the

¹² See, for example, Alliance for Aging Research, May 4, 1994 (2).

campaign ended in 1988, 43 states had participated in the campaign, and every state had a lead agency to direct health education programs for older people (61).

The "Healthy Older Persons Campaign" did not address specific diseases, although the prevention messages about nutrition, exercise, and injury prevention are similar to those recommended to prevent osteoporosis. Some osteoporosis advocates point out, however, that since the campaign did not link the prevention messages to specific diseases, including osteoporosis, it probably did not increase public awareness or knowledge about the relationship between the recommended health behaviors and the diseases (95).

Information Available from the Office on Women's Health

The Office on Women's Health within the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Health, was established in 1991 to advise the assistant secretary about scientific, medical, legal, ethical, and policy issues relating to women's health. The office is a focal point for the coordination of federal activities with respect to women's health. It was instrumental in developing the 1991 *PHS Action Plan for Women's Health*, which includes research and prevention activities for osteoporosis (128). The office is also responsible for monitoring implementation of the plan (65). The office has recently begun to develop some public information materials about osteoporosis. In addition, as is true of the NIH Office of Research on Women Health, mass media coverage of the activities of the Office on Women's Health and public presentations by its staff call attention to osteoporosis as a women health issue and increase public awareness of the disease.

Information Available from the Centers for Disease Control and Prevention

The Centers for Disease Control and Prevention (CDC) within the U.S. Department of Health and Human Services develops national programs for the prevention and control of communicable and

chronic diseases and implements them through state and local health departments. The CDC has funded osteoporosis-related research and is currently conducting a study of the incidence of osteoporosis-related fractures.

The CDC does not publish information about osteoporosis for the public. Its public information activities are informal and limited. In 1991, public inquiries about osteoporosis were being answered by the chief of the CDC's Enzyme Research Center, Environmental Health, who reported responding to five to 10 inquiries a year. In addition to using the CDC's resources to provide answers to questions about osteoporosis, callers were usually sent National Osteoporosis Foundation publications and referred to the foundation's Georgia Chapter for additional information (109).

In 1991, the CDC provided funds to two states, Colorado and New Jersey, for three-year osteoporosis projects that include public information components. The project in Colorado involves the development of an inventory of medical specialists, screening sites, support groups, and community agencies with programs for osteoporosis prevention and treatment (13). The project in New Jersey involves the provision of osteoporosis education programs for elderly people in three counties, the development of an osteoporosis resource manual, and the dissemination of osteoporosis information to the 116 local health departments in the state (72).

Information Available from the Administration on Aging

The Administration on Aging within the U.S. Department of Health and Human Services is the federal agency responsible for promoting the health and well-being of older Americans. The agency administers its policies and programs through a nationwide network of state and community agencies, known as *state units on aging* and *area agencies on aging*.

As previously mentioned, the Administration on Aging provides funding for the National Resource Center on Health Promotion and Aging, which is administered by AARP. The center is in-

tended to provide state units on aging and other health care planners and health educators with training, technical assistance, information, and materials to implement health education programs for older people. It maintains a clearinghouse that distributes information packets on topics such as nutrition, exercise, injury prevention, smoking, alcohol use, and safe use of medications. The center also publishes a newsletter, *Perspective in Health Promotion and Aging*. Several issues of the newsletter, including one focused on men's health, have mentioned osteoporosis and referred readers to the National Osteoporosis Foundation for additional information. The center is primarily a resource for state units on aging and other aging network agencies, and people who call with inquiries about osteoporosis are generally referred to the National Osteoporosis Foundation. The center also mails these callers a brochure and order form for National Osteoporosis Foundation publications (74).

From 1987 through 1992, the Administration on Aging provided funding to the National Osteoporosis Foundation to develop educational materials for National Osteoporosis Prevention Week. The Administration on Aging has also distributed the foundation's educational resource kits to state units on aging, which in turn may distribute them to area agencies on aging, senior centers, and other community organizations (112).

In 1990, the Administration on Aging helped to fund public service announcements developed by the National Osteoporosis Foundation. As noted earlier, the public service announcements featured Dr. Louis Sullivan, then-secretary of the U.S. Department of Health and Human Services, who urged people to take steps to prevent and treat osteoporosis and advised them to contact the National Osteoporosis Foundation for the "Bonewise" osteoporosis information kit, described earlier. The brochures and fact sheets in the "Bonewise" kit were also paid for by the Administration on Aging.

Area agencies on aging, as a rule, do not function as public information agencies (22), but OTA is aware of several area agencies on aging that have conducted osteoporosis education activities

either in conjunction with National Osteoporosis Prevention Week or as part of other health education campaigns. For example, in conjunction with the 1990 National Osteoporosis Prevention Week, the Area XIV Area Agency on Aging in Creston, Iowa, distributed National Osteoporosis Foundation publications and arranged for speakers from the County Extension Service agency to speak about osteoporosis and nutrition at senior nutrition sites.

In 1990, the Albuquerque Area Agency on Aging, in Albuquerque, New Mexico, sponsored a series of health education programs on a television network that serves New Mexico, Colorado, and parts of Arizona. The series included one program that featured an orthopedist who discussed osteoporosis and its prevention and treatment and a physical therapist who discussed ways to prevent falls and fractures. A second program featured a physician who discussed the beneficial effects of estrogen therapy for osteoporosis (30).

The New York City Department for the Aging, a department of municipal government and the largest area agency on aging in the country, has offered information about osteoporosis to older people through its health education program, ● "Project Stay Well." The program trains older volunteers (average age 64) to conduct 12-session courses about a variety of health-related topics, including osteoporosis. Mini-courses, including one about osteoporosis, are offered for older people who do not want to participate in a full 12-session course. Educational materials from the National Dairy Council and NIA's Age Pages are distributed to the course participants. The health education programs are conducted at libraries, senior housing complexes, and senior centers. As of January 1991, the program had 400 trained volunteers who had presented "Stay Well" programs to over 3,000 older people at 82 sites in the city (26).

Information Available from the Department of Agriculture

The U.S. Department of Agriculture (USDA) educates the public about osteoporosis through its Cooperative Extension System, a nationwide net-