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Bone Builders – Building Strong Bones for a Lifetime

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More than 40% of all women over the age of 50 will have an osteoporosis fracture in her lifetime. This startling statistic from the Surgeon General's 2004 "Report on Bone Health and Osteoporosis" focused attention on the need for prevention. Fractures result in loss of independence, reduced personal and health security and a loss of quality of life. Individuals with osteoporosis are at high risk of suffering one or more fractures, which often lead to a downward spiral in physical and mental health. Many seniors are immobilized by a fear of falling and begin to feel isolated and helpless. 1, 4

Bone Builders, a train-the-trainer osteoporosis prevention education and social marketing program began in 1998 to reduce these risks. The University of Arizona (UA) Cooperative Extension and College of Public Health formed CHAPS, **Community Health Advancement Partnerships**; to build community based health promotion outreach in Arizona. *Bone Builders* was one of the first CHAPS program with UA and community partners in Maricopa County, Arizona. The initial goals of *Bone Builders* were to increase awareness of osteoporosis risk factors and to increase osteoporosis prevention behaviors like eating high calcium foods and increasing physical activity by women aged 25-55 years old. In 2000 the program was expanded to women of all ages and older men.

Bone Builders has trained more than 320 staff and volunteers in half of Arizona's 15 counties to promote osteoporosis prevention in community and worksite classes, posters, print materials, newspaper features, and website, www.bonebuilders.org. Volunteers complete a 2-day training taught face-to-face or by videoconference, simultaneously in Phoenix and Tucson. The curriculum is based on physical activity bone strengthening research at UA and other osteoporosis prevention research. From 1998 to 2003, Bone Builders taught 969 classes to 5,024 participants and resented at 336 health fairs with more than 25,000 participants. A statewide sample of 2,000 Community participants rated their knowledge before the classes as 2.5 and as a result of the class 4.5 (out of 5-point scale with 5 high).

In 2003, *Bone Builders* expanded its programming to increase physical activity and reduce falls by inactive, older adults. Center for Disease Control 2003 data for Arizona showed that only 42% of adults, aged 65 and older, in Maricopa County reported doing adequate, moderate physical activity. Physical activity can create improved senior resilience so they can bounce back from an illness or surgery, reduce health costs and

continue their independence. The new curriculum relied heavily on exercises and curriculum from West Virginia Cooperative Extension, National Institute of Aging and the Senior Fitness Test. 2, 3

Bone Builders Physical Activity Program (BBPAP) is a volunteer-based, low-impact 9-week series at ten, lower socio-economic neighborhood sites in southern Arizona. Participant goals included improving strength and balance to prevent falls, how to build physical activity into everyday life, improving bone health with weights and exercise bands, and improving quality of life through increased physical activity and social interaction.

BBPAP was implemented at ten senior sites in two Arizona counties during summer 2003. Each class included progressive exercises that focused on 4 areas of fitness: strength, flexibility, endurance and agility or balance. More than 100 ethnically diverse adults participated in parts of the series, but 81 seniors completed a pre and post-test that included six standardized activity tests: arm curl, chair stand, back scratch, chair sit-and-reach, 2-minute step, and 8-foot-up-and-go. The participants showed an average of 3% to 39% desired improvement in **ALL** fitness tests. Improved fitness has meant improved lives. Seventy-year-old Belia reported being able to do things she had not done for years. Consuelo, an 85-year-old woman, said she now felt secure walking at home without her walker.

BBPAP continues to improve the fitness levels, independence and personal security of hundreds of seniors in Arizona through ongoing community-based programs across Arizona.

1. "Report on Bone Health and Osteoporosis"
www.surgeongeneral.gov/library/bonehealth/, U.S. Health and Human Services, 2004
2. Rikli, Roberta. et al. (2001) "Senior Fitness Test Manual." Human Kinetics website:
www.humankinetics.com; California State University, Fullerton, CA.
3. Active for Life, West Virginia Cooperative Extension, 2002
4. Stevens, Judy A (2005) "Falls among Older Adults – Risk Factors and Prevention Strategies," NCOA Falls Free: Promoting a National Falls Prevention Action Plan.

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