Texas Preventable Disease
NEWS

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contents:

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FALLS AND OLDER ADULTS

DEMOGRAPHIC CHARACTERISTICS

Texas now exceeds 17 million residents and has one of the largest populations 65 years of age and older in the United States. Population estimates from the Texas State Data Center are that 10% of the population in Texas was age 65 and above in 1989. By the year 2030, one in four persons, or 25% of our population will be over age 60. In the next 25 years, the population over 60 will more than double. Among the elderly, the fastest growing segment will continue to be that over 85 years. Today, one in 15 is over 85. By the year 2030, one in ten will be over 85 years old.

FALLS: THE EXTENT OF THE PROBLEM

In the United States, accidents are the sixth leading cause of death in people over age 65. In Texas in 1989, falls were the leading cause of accidental death of people 65 and above (32.7%), and accounted for 45% in the 80+ age group. Thus, of the deaths due to falls in Texas in 1989, 74% were among the 10% of the population age 65 and over.

National studies predict that one third of the people over 65 living at home will fall each year. Over one third of the falls result in fractures, and one fall in 40 will require hospitalization. Of those hospitalized following a fall, about one half will be alive one year later.

Statistics show that for people ages 50 and above, women are at greatest risk of falling and sustaining a serious injury, particularly those age 70 and above.

Hip fractures are by far the most common fracture associated with falls. In the US in 1984, there were 714 hip fractures per 100,000 in the 65-84 age group, and 2,485 per 100,000 in the 85+ age group.

FALL-INJURY RISK FACTORS FOR OLDER ADULTS

The elderly are at particular risk for accidents because of changes brought about by aging, lower injury thresholds, and poorer clinical outcomes. Forty-five percent of falls are related to intrinsic causes. These falls are the result of the impact of minor environmental hazards on persons with increased vulnerability due to the accumulated effects of age and disease. Many patients with chronic irreversible medical problems that may cause falls could benefit by learning adaptive behaviors.

The US Public Health Service has estimated that two thirds of the deaths due to falls are preventable. Potentially avoidable environmental factors are the cause of 40-50% of falls. In addition, they estimate that adequate medical evaluation and treatment for underlying medical conditions could probably prevent most of the remaining 50-60% of falls.

REDUCTION OF PHYSICAL RISK FACTORS

There are four physiological risk factors that are particularly successful and amenable to self-correction or modification:

Osteoporosis

Osteoporosis, alone or in combination with the propensity to fall, appears to be one of the primary causes of fracture in the elderly. The seriousness of this can be seen from the following statistics:

- More than 200,000 hip fractures occur in the US each year.
- Seventy-five percent are women, and 50% are over age 80.
- Those who suffer hip fractures have a 12-20% greater risk of dying within one year of the fracture than patients of similar age who have fractures elsewhere.
- Of those living at home at the time of the fracture, 15-25% will remain in long-term care institutions. This limits independent living and creates an increased demand for expensive care over the period of difficulty.

Low bone mass, associated with osteoporosis in elderly women, is probably the greatest determinant of fracture. Other research indicates that, especially in the presence of osteoporosis, hip fracture may cause the fall, rather than the reverse. Bone mass reaches its peak in women at approximately age 35, then decreases at a rate of about 10% each decade. By age 70, 45% of the total amount of bone mass in women has been lost. In men, loss of bone mass begins approximately 20 years later, and proceeds at half the rate of women.

Generally, loss of bone mass can be attributed to several factors: hormonal changes, nutritional deficiency, and decreased physical activity. Also, alcoholism and cigarettes appear to be associated with a greater risk of fractures.

There are two basic strategies for preventing osteoporotic fractures: 1) increase or preserve bone strength, and 2) prevent injuries that cause fractures.

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Actions for prevention of osteoporosis include:

- Adequate calcium to slow the rate of bone loss
- Vitamin D for optimal absorption of calcium
- Moderate weight-bearing exercise for both prevention and treatment
- Estrogen therapy for post menopausal women

It has been postulated that reduction or elimination of smoking, alcohol, caffeine, and excessive salt intake may also help prevent osteoporosis.

For the very elderly (80+ years), measures to prevent falls may be more beneficial than therapies to prevent further bone loss.

Medication

The multiple diseases of the elderly encourage polypharmacy. Inappropriate or excessive medication has been shown to contribute significantly to falls in the elderly. One contributory factor to this is that elderly people frequently see several different physicians for different medical conditions and may not make clear to each the other medications that they are already taking. The drugs implicated most frequently include sedatives, hypnotics, psychotropics, anticonvulsive agents, and antihypertensives. These drugs tend to interfere with coordination, cause postural hypotension confusion, or generally interfere with the patient's sense of reality and orientation. There is a clear need to increase provider review of prescribed and over-the-counter medications taken by patients.

Exercise

Lack of exercise is another extremely important fall risk indicator. Frequently, older people cut down considerably on the amount of exercise they obtain because they, or their relatives, worry over possible falls. This results in a decline in physical vigor. Rapidly declining vigor has been shown to be positively correlated with the onset of falls. What lies at the core of this tendency is the mobility of the person. When mobility declines, one finds the greatest liability to falls and fractures.

In fact, many of the balance problems that appear to be caused by hypertension, faulty vestibular mechanisms, or other conditions often are related simply to poor muscle tone. Muscle tone will improve markedly after walking with someone a half mile to a mile a day. Gait training on how to walk correctly or use assistive devices can be done in exercise classes, or taught by clinic or physical therapy staff. This may resolve insufficient activity levels due to fears of falling. Facilitation of formation of older adult exercise classes and walking clubs by senior citizen centers, YMCA, health clubs, and adult apartment/condominium complexes may help preserve mobility and vigor and decrease the propensity to fall.

Dementia/Confusion

According to one researcher, in comparing characteristics of "fallers" and "non-fallers," the most striking difference between the groups was the presence of dementia, especially confusion. Not only can this be addressed by re-evaluation of medications, but there are also steps that family and other social contacts can take to reduce the symptoms.

REDUCTION OF ENVIRONMENTAL HAZARDS

It is important to facilitate the identification and reduction of environmental hazards and modification of the environment to compliment the abilities of the older adult. The US Public Health Service estimates that potentially avoidable environmental factors are the cause of 40-50% of falls.

Although some of the modifications may involve modest monetary expenditures, it can be pointed out that it is much cheaper and easier to prevent a fall than to treat a fall-related injury and its potential complications.

The home is the most frequent site of accidents. In 1986, 5,788,000 elders were involved in accidents. Of these, 3,079,000 (53%) were at home, according to the National Safety Council.

Environmental Corrective Measures

Some of the primary environmental risk factors that lend themselves to modification include:

- Improve lighting (especially at night)
- Repair, replace, or discard worn carpeting and throw rugs
- Move foodstuffs to lower shelves, don't use high shelves
- Raise toilet seat or install hand rails
- Adjust height of bed so it is higher
- Obtain corrective footwear
- Tie up or fasten electrical cords to wall so they aren't "trailing"
- Place solid pieces of furniture in pathways so they won't tip over if grabbed
- Secure or install stairway banisters
- If in unfamiliar surroundings: give a tour to familiarize; increase lighting at night
- If isolated: instigate a daily buddy call-system; let neighbors/family have a key in case of emergency
- Organize a signal system (an alarm or physically banging on wall) for emergencies or if hurt
- Install cushioned floors (rugs)/ surfaces
- Round corners on furniture, counters so there aren't sharp corners

SUMMARY

Falls are the leading cause of injury in the home (fatal and nonfatal) among people age 65 and over. One third of all adults age 60+ fall each year, and over one third of the falls result in fractures. One in five hospital beds are taken up by a person who has broken a hip. Hip fractures are the number one cause of hospital admissions.

Nonfatal falls result in restriction of physical and social activities, loss of self-confidence and independence, and a greater need for long term care. The costs of falls, therefore, are not only high in human terms, but add significantly to health care costs for the nation.

The good news is that falls are not inevitable with age, but are usually due to preventable factors, such as poor physical condition, visual impairment, misuse of medication, alcohol abuse, and environmental conditions. The US Public Health Service estimates that two thirds of the deaths due to falls are preventable. Four physiological risk factors are especially amenable to self-correction: osteoporosis, medications, exercise, and dementia/confusion. Potentially avoidable environmental factors cause 40-50% of the falls in the 65 years of age and above group.

Basic strategies for reducing falls include:

- Increase physical activities that enhance and maintain muscular strength, endurance, and flexibility.
- Increase regular, moderate physical activity.
- Reduce visual impairments.
- Increase provider review of prescribed and over-the-counter medications.
- Increase provider screening and referral for alcohol and drug problems.
- Modify the environment to reduce or eliminate environmental factors that cause falls, or minimize injury if a fall occurs.

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RESOURCE MATERIALS

Texas Department of Health

Aging and Driving Successfully in Texas (stock #4-169). **Order:** Warehouse Facility, Texas Department of Health, 1100 West 49th Street, Austin, TX 78756-3199.

American Association of Retired Persons (AARP)

Many different pamphlets and slide programs available. **Contact:** AARP Fulfillment Section, 1909 K Street NW, Washington, DC 20049; (202) 872-4700.

Consumer Product Safety Commission

Safety for Older Consumers...Home Safety Checklist. **Order:** Consumer Product Safety Commission, Regional Office, 1100 Commerce Street, Room 1C10, Dallas, TX 75242; (214) 767-0841.

National Resource Center on Health Promotion and Aging

Many different materials available. **Contact:** National Resource Center on Health Promotion & Aging, AARP, 1909 K Street NW, Fifth Floor, Washington, DC 20049, (202) 728-4476.

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EPI NOTES

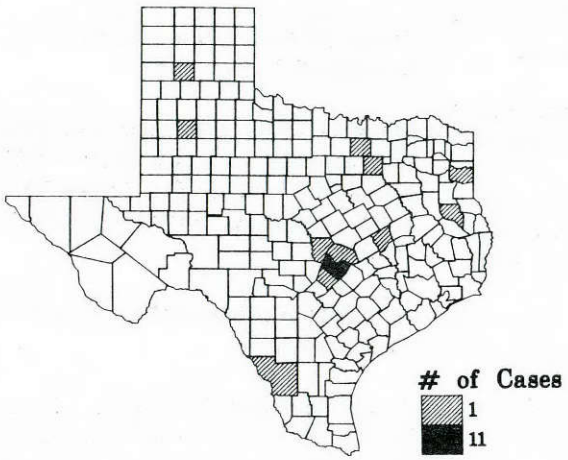
Human Rabies Death: Rabies virus has been isolated from the saliva of a 55-year-old woman from Starr County. Onset of illness was August 9, 1991; death occurred August 21. Exposure to rabies virus may have occurred through a family dog that died in May, although there was no history of a bite or non-bite exposure to the dog.

St. Louis Encephalitis: The Houston City Health Department has reported a case of SLE in a 60-year-old man with onset of illness July 20. Over 20 cases of SLE were reported in Harris County in 1990.

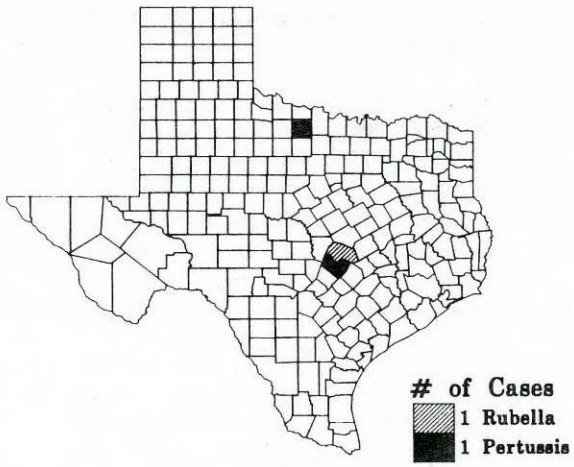
VACCINE-PREVENTABLE DISEASE UPDATE *

Suspected/Confirmed Cases Reported
With Onsets From August 11-24, 1991
Weeks 33-34

Measles



Rubella & Pertussis



Summary of Suspected/Confirmed Cases Reported YTD:

	Latest Onset Date	Total This Period	YTD Total
MEASLES	08/24/91	22	488
RUBELLA	08/15/91	1	83
PERTUSSIS	08/22/91	2	182

*** Provisional Data**

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