State of Alaska Epidemiology

Bulletin

Department of Health and Social Services
William J. Streur, Commissioner

3601 C Street, Suite 540
Anchorage, AK 99503 http://www.epi.Alaska.gov

Division of Public Health
Ward Hurlburt, MD, MPH, CMO/Director

Local (907) 269-8000
24 Hour Emergency 1-800-478-0084

Editors:
Joe McLaughlin, MD, MPH
Louisa Castrodale, DVM, MPH

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Fall-Related Injury Hospitalizations among Older Adults — Alaska, 2005–2009

Background

Falls are the leading cause of non-fatal hospitalized injuries among persons aged ≥65 years in Alaska,[1] and they frequently result in serious consequences. In 2009, over 2.2 million persons aged ≥65 years were treated for fall-related injuries in U.S. emergency departments, and over 581,000 were admitted to the hospital for further treatment.[2] Fear of falling has been shown to cause older adults to limit their activities, which leads to decreased mobility and an increased risk of falling.[2]

Methods

Hospitalized injury data were obtained from the Alaska Trauma Registry (ATR), an active surveillance system that collects data from Alaska's 24 acute care facilities.[1] Data pertaining to the initial hospitalization for an injury event were used for the analyses. Subsequent admissions for the same injury were not included in the analyses. Age-adjusted rates were calculated using the 2000 U.S. Census data.

Summary Results

During 2005–2009, the ATR captured 3,356 cases of fall-related injury hospitalizations among persons aged ≥65 years; this represented a 24% increase in such hospitalizations compared to the preceding 5-year time period (from 2000–2004, 2,698 cases were reported). The mean annual number of cases was 671 (range: 639–725). The median age of hospitalized patients was 79 years; 2,212 (66%) were female.

The incidence rate among females was 1.9 times greater than that of males (2,040.1 vs. 1,098.7 cases per 100,000 persons, respectively). The rates were highest among American Indian/Alaska Native (AI/AN) people, followed by Whites and Blacks (1,762, 1,353, and 514 cases per 100,000 persons, respectively). Rates were highest in the Northern region, followed by the Southeast and Southwest regions (2,079, 1,702, and 1,619 cases per 100,000 persons, respectively).

Of the 3,356 hospitalizations,

- 2,029 (60%) were due to injuries in the home;
- 1,571 (47%) were due to a slip, trip, or stumble;
- 493 (24%) were due to a fall from one level to another, of which, beds (132, 27%), chairs (77, 16%), and wheelchairs (58, 12%) were the most commonly involved objects;
- 619 (30%) were due to injuries categorized as having an "unspecified" or "unknown" cause;
- 210 (6%) were suspected or proven to have been associated with alcohol;
- the top injury-related diagnoses were fracture (2,534, 76%; Table), intracranial (excluding skull fracture; 267, 8%), and open wound (105, 3%);
- 350 (10%) were diagnosed with multiple fractures (range: 2–10 fractures);
- 416 (12%) involved a traumatic brain injury (TBI);
- 232 (7%) involved a transfer to a secondary hospital;
- 303 (9%) involved care in an intensive care unit;
- 165 (5%) involved fatality during the hospital stay;
- 1,302 (39%) were due to injuries classified as minor or moderate, 1,700 (51%) were serious, and 223 (7%) were severe, critical, or maximal; 131 (4%) were not assigned an abbreviated injury severity score;
- 21,646 hospital days were recorded (median: 15 days/ hospitalization; maximum: 201 days/hospitalization); and
- hospital charges totaled $96 million (median: $28,530/ hospitalization; maximum: $2,182,694/hospitalization).

Fracture Location	Number	Percent
Skull†	104	4%
Neck/Trunk†	467	18%
Upper Limb†	329	13%
Lower Limb†§	1,634	64%
–Femur§	1,349	53%
–Femoral neck§	1,280	50%

**All documented fall-related fractures recorded in the ATR.*
†Percentages do not sum to 100% due to rounding.
§Lower limb fracture locations are not mutually exclusive.

Discussion

The findings from this report indicate that during 2005–2009, Alaska's fall-related injury hospitalizations among persons aged ≥65 years increased by nearly 25% compared to 2000–2004. Rates were highest among females, AI/AN people, and residents of the Northern region. Most hospitalization-associated falls occurred in the home, and nearly half of all falls were due to a slip, trip, or stumble. Over half of the hospitalizations were classified as serious or severe, and 5% of hospitalized persons died during their hospital stay.

The serious consequences of falls among older adults (e.g., TBI and hip fractures) can lead to loss of independence and early placement in assisted living facilities. These serious health consequences--coupled with the high socioeconomic costs associated with falls--underscore the need for implementing evidence-based prevention strategies. Such strategies focus on addressing modifiable fall risk factors pertaining to physical health, medications, and home hazards.[2]

Recommendations

1. Health care providers should conduct the Medicare-funded Initial Prevention Physical Exam (IPPE) and Annual Wellness Visits (AWV) and address fall-related risk factors on Medicare-eligible seniors annually.[4]
2. Health care providers and pharmacists should review all prescription and over-the-counter medications taken by seniors to identify interactions and side effects that might increase their risk of falling.[2,5]
3. Health care providers should provide patients with a fall-prevention checklist to identify hazards in and around their homes.[6]
4. Health care providers should refer patients for modifiable risk factor assessments and/or training that they are unable to perform themselves (e.g., vision testing, strength/balance/gait training, orthotics, etc.).[2,5]

References

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(Contributed by: Deborah Hull-Jilly, MPH Injury Surveillance Programs, Section of Epidemiology; Jo Fisher, PhD Section of Chronic Disease and Health Promotion; Ambrosia Bowlus, MPH Alaska Trauma Registry, Section of Emergency Programs; and Hillary Strayer, MPH Alaska Native Tribal Health Consortium-Injury Prevention.)