

## Older Adult Falls

Each year, millions of older adults age 65 years and older fall. Falls are rapid vertical deceleration due to the force of gravity and injury occurs when an individual strikes a surface at the same or lower level. Serious morbidity, including hip fractures and mortality, can occur due to falls, but can be prevented. The injury severity is a function of the mechanical properties of tissue, the suddenness of impact, the localization of impact, and the manner and amount of energy delivered.<sup>2</sup> Falls from more than 20 feet have historically been triaged to trauma centers per CDC Guidelines for Field Triage of Injured Patients, but even low-level falls can cause serious head injuries and other bodily injuries.<sup>3,4</sup> A host of factors can contribute to a fall. Poor muscle tone, vision problems, medication use, and sedentary lifestyle are the biggest contributors to ground-level and stair falls, and environmental components such as poor lighting and lack of handrails may increase the frequency of falling.<sup>5</sup>

The U.S. Census Bureau currently projects the baby-boom population will total 61.3 million in 2029, when the youngest boomers reach age 65. The aging of the baby boomers creates a dramatic shift in the age composition of the U.S. population. Projections of the entire older population which includes the pre-baby-boom cohorts born before 1946 suggest that 71.4 million people will be age 65 or older in 2029.<sup>6</sup> This means that the older adults age 65 and older will make up about 20% of the U.S. population by 2030, up from almost 14% in 2012.<sup>6,7</sup> The proportion of the total U.S. population who are age 65 and older is projected to increase from 13.1 in 2010 to 20.3 in 2030 and to 20.9 in 2050.<sup>8</sup> Falls are a major health problem among older adults. Falls lead to decreased mobility, increased risk of early death, and loss of independence. Falls can also have major psychological and social consequences. Seniors may restrict their activities because of a fear of falling and a loss of self-confidence, which can lead to reduced mobility, fewer social interactions, decreased physical fitness, and reduced quality of life.<sup>9,10</sup>

### How does distracted driving affect the United States?

#### *Fatal Data*

- Falls are the leading cause of both fatal and non-fatal injuries for older adults age 65 years and older.
- There were 31,190 fatal falls among older adults in the U.S. in 2017, or 85 fatal falls per day.<sup>11</sup>
- From 1999 to 2017, the number of fatal falls among older adults in the U.S. increased by 208.9 percent from 10,097 to 31,190. Over the same 19-year period, the fall death rate for older adults increased 111.3 percent from 29.0 to 61.3 per 100,000 population.<sup>11</sup>
- More women age 65 and older die from falls compared to men of the same age, although men die at a higher rate than women.<sup>11</sup>
- Fall fatality rates differ by race and ethnicity: older whites are 3.1 times more likely to die from a fall compared to black counterparts and non-Hispanics have higher rates than Hispanics.<sup>11</sup>
- From 2000 to 2017, the age-adjusted death rate for unintentional fall among older adults increased an average of 4.6 percent per year.<sup>11</sup>

#### *Non-Fatal Data*

- Falls can cause moderate to severe injuries, including hip fractures and head traumas.

- In 2017, 1.9 million nonfatal falls among older adults were treated in EDs, and more than 873,881 of these injuries resulted in hospitalizations.<sup>11</sup>
- There are more than 300,000 hip fractures each year. The rate for women is almost twice the rate for men, and white women have significantly higher hip fracture rates compared to black women.<sup>13, 21</sup>
- By 2030, the number of hip fractures is projected to reach 289,000, an increase of 12% from 2010.<sup>14</sup>
- The number of hip fractures among men is projected to increase 51.8 % while the number among women is projected to decrease 3.5%.<sup>14</sup>
- Older adults living in nursing homes who fall frequently sustain injuries that result in permanent disability and reduced quality of life. About 10 to 20 percent of nursing home falls cause serious injuries, and from 2 to 6 percent cause fractures.<sup>12</sup>
- Muscle weakness and walking or gait problems are the most common causes of falls among nursing home residents, accounting for approximately 24% of the falls in nursing homes.<sup>12</sup>

#### *Cost Data*

- In 2015, the estimated medical costs due to fatal and nonfatal falls was about \$50.0 billion.<sup>20</sup>
- Fall-related injury is one of the 20 most expensive medical conditions among community-dwelling older adults.<sup>16</sup>
- By 2020, the annual direct and indirect cost of fall injuries is expected to reach \$67.7 billion.<sup>15</sup>

#### **How does distracted driving affect Indiana?**

- Falls are the leading cause of injury-related ED visits, hospitalization and death for Hoosiers age 65 and older. In 2017, 431 older adults died from fall-related injury, which is a 138.1 percent increase from 181 fall-related deaths in 1999.<sup>11</sup>
- There were 5,366 fatal falls among older adults in Indiana from 1999 to 2017, for a rate of 33.6 fatal falls per 100,000 population for the 19-year period.<sup>11</sup>
- The rate of fatal falls among older adults increased by 74.5 percent from 24.1 deaths per 100,000 population in 1999 to 42.1 per 100,000 in 2017.<sup>11</sup>
- Over 22 older adult women fall per day resulting in a fall-related hospitalization. There were 8,061 fall-related hospitalizations among women in the calendar year 2016.
- On average, an older adult falls every 11 minutes resulting in a fall-related ED visit.
- In the calendar year 2016, there were more than 45,000 fall-related ED visits among older adults, and 67.3 percent of these visits were among women.
- In federal fiscal year 2015, there were 5,771 hip fracture hospitalizations among older adults, and 71.3 percent of these hospitalizations were among women.
- Fall fatalities among older adults result in \$70.1 million medical and work loss costs in 2017.<sup>11</sup>

#### **How do we address the problem?**

##### *Policy*

- The Division of Aging was created as Indiana’s State Unit on Aging in accordance with the Older Americans Act (OAA) and is part of the Family and Social Services Administration. By Indiana statute IC 12-9.1-1-1, the division is granted the legal authority to establish and monitor programs that serve the needs of Indiana seniors. In addition, FSSA's Division of Aging proactively carries out a wide range of functions designed to enhance comprehensive and coordinated community-based systems serving areas throughout Indiana through the following methods: (1) Advocacy; (2) Brokering of services; (3) Coordination; (4) Information sharing; (5) Interagency linkages; (6) Monitoring and evaluation; (7) Planning; and (8) Protective services.
- The American College of Surgeons (ACS) Committee on Trauma supports efforts to promote, enact and sustain policies and legislation that
  - Encourage older adult care providers to implement comprehensive fall prevention programming to
  - Collaboration with statewide and regional fall prevention coalitions for local networking and resources.
  - Assess the risk and benefit of anti-platelet and anticoagulation therapies in older adult patients.
  - Assess the risk of falls in regular practice.<sup>17</sup>

#### *Data Collection*

- The ISDH Division of Trauma and Injury Prevention conducts statewide injury surveillance of older adult falls through death certificates, hospitalizations and ED visits. The Indiana Trauma Registry is a repository into which statewide trauma data has been brought together. Traumatic injuries due to falls are captured in the Indiana Trauma Registry.
- Statewide direction and focus for older adult falls prevention is one of the priority areas outlined in the Indiana Statewide Trauma System Injury Prevention Plan.

#### *Interventions*

- The Centers for Disease Control and Prevention (CDC) STEADI (Stopping Elderly Accidents, Deaths, and Injuries) tool kit was created with healthcare provider input and describes a physician-delegated approach to incorporating fall prevention in clinical settings. It provides a simple algorithm for screening, assessments, treatment, and follow-up based on the American Geriatric Society’s clinical practice guidelines.
- STEADI Phase One includes three steps a provider can complete in one visit
- The U.S. Preventive Services Task Force recommends exercise or physical therapy and vitamin D supplements to prevent falls among community-dwelling older adults who are at increased fall-risk.<sup>18</sup>
- The National Institute on Aging interventions for the prevention of falls include exercise for balance and strength, monitoring for home and environmental hazards, and regular medical services to ensure optimum vision and hearing and medication management.<sup>19</sup>
- CDC Compendium of Effective Fall Interventions: What works for Community-Dwelling Older Adults, third edition, provides public health organizations and aging services providers with the information to identify effective fall interventions that are most appropriate for their particular needs, resources, and population. This 3rd edition describes single interventions (15 exercise

interventions, four home modification interventions, and 10 clinical interventions) and 12 multifaceted interventions (which address multiple risk factors)

- CDC's Preventing Falls: How to Develop Community-based Fall Prevention Programs for Older Adults provides organizations with the building blocks to implement effective fall prevention programs. Website: [http://www.cdc.gov/HomeandRecreationalSafety/Falls/community\\_preventfalls.html](http://www.cdc.gov/HomeandRecreationalSafety/Falls/community_preventfalls.html)
- CICOA Aging & In-Home Solutions Solutions Guide: A Resource for Seniors, People with Disabilities and Family Caregivers 2015-2016 Edition. Website: <http://cicoa.org/solutions-guide/>
- Intervention to prevent falls at community-based clinics: <http://go.ncoa.org/e/48252/i-pdf-10-1177-0733464817721113/5kd2h8/276111135>.
- A Meta-analysis of Tai Chi for Risk of Falls: <http://onlinelibrary.wiley.com/doi/10.1111/jgs.15008/abstract>.
- Agency for Healthcare Research and Quality (AHRQ) developed the Fall Prevention in Hospitals Training Program to support the training of hospital staff on how to implement AHRQ's Preventing Falls in Hospitals Toolkit. Website: <https://www.ahrq.gov/professionals/systems/hospital/fallpxtraining/index.html>.

### *Collaborations*

- Outreach Services of Indiana is a project of the Family and Social Services Administration (FSSA). Outreach provides staff training, technical assistance, consultation and backup service provision throughout Indiana to improve the life and support individuals with developmental disabilities and their families, service providers, and case managers. Adults and children who live in Indiana and have an intellectual or developmental disability qualify for Outreach Services at no cost. Anyone including a family member can refer someone to Outreach Services.
- Indiana Fall Prevention Coalition is part of the Falls Free Initiative, a national collaborative effort led by the National Council on Aging, to educate the public and support and expand evidence-based programs and interventions that help communities, states, federal agencies, nonprofits, businesses, and older adults and their families prevent falls. Website: <http://infallprevention.org/>.

### *Programs*

- STEADI toolkit: The ISDH Division of Trauma and Injury Prevention has identified older adult fall prevention as a priority. Currently, we are working with two pilot counties to develop the STEADI toolkit in a useful and practical infrastructure; it is a CDC educational material that helps identify patients' level of fall risk, identify modifiable risk factors and offer effective interventions. Contact [IndianaTrauma@isdh.in.gov](mailto:IndianaTrauma@isdh.in.gov) for more information.
- Stepping On is an evidence-based program proven to reduce falls and build confidence in older adults. A community-based workshop, Stepping On was developed in Australia and tested in a randomized trial where it demonstrated a 31 percent reduction in falls. Wisconsin developed the American version, which showed a 50 percent reduction in falls. The ISDH Division of Trauma and Injury Prevention, University of Indianapolis Center for Aging and Community, Community Hospital Anderson, St. Vincent Anderson, Indiana University Health Bloomington and Memorial Hospital of South Bend received three-year licensures to be able to plan and host

successful workshops for older adults. Contact [IndianaTrauma@isdh.in.gov](mailto:IndianaTrauma@isdh.in.gov) for more information.

- The ISDH Health Care Quality Resource Center's Falls Prevention Resource Center is aimed towards preventing falls in health care facilities providing care for patients and residents. Website: <http://www.state.in.us/isdh/25376.htm>.
- The Indiana Family and Social Services Administration's Division of Disability and Rehabilitative Services (DDRS) works to provide continuous support and life-long commitment for citizens in need of disability and rehabilitative supports in the State of Indiana. The Bureau of Quality Improvement Services (BQIS) monitors services to individuals by organizations and providers. BQIS is funded by or funded under the authority of the DDRS and organizations/providers that have entered into a provider agreement under IC 12-15-11 to provide Medicaid in-home waiver services. Website: <http://www.in.gov/fssa/ddrs/3341.htm>.
- Title III-D Disease Prevention and Health Promotion services are provided through Indiana's 16 Area Agencies on Aging. Services provide information and support to older individuals with the intent to assist them in avoiding illness and improving health status. Services are provided at multipurpose senior community centers, congregate meal sites, home-delivered meals programs, senior high-rises, retirement communities or other appropriate sites. Injury Control services available under Title II-D include education materials, sessions, or activities aimed at helping clients prevent falls and injury. These can include fall prevention exercise classes and methods of "fall proofing" the client's home. Indiana's Area Agencies on Aging provide case management, information, and referrals to various services for persons who are aging or developmentally disabled. To apply for services, or to report suspected Medicare fraud or abuse, contact the AAA or call toll free 1-800-986-3505. Website: <http://www.in.gov/fssa/da/3478.htm>.
- The Indiana Healthcare Leadership Conference is an initiative of the ISDH and the March 2015 conference focused on Falls Prevention. The conferences are intended to bring together statewide healthcare leaders to promote important quality of care issues. This conference includes providers from long term care, state surveyors, healthcare organizations, and individuals with significant interests in health care.

#### *Measures: Healthy People 2020*

- Injury and Violence Prevention (IVP)-23: Prevent an increase in fall-related deaths.

#### **Additional Resources**

- A. FSSA Division of Aging
- B. Long Term Care State Ombudsman
- C. ISDH Trauma and Injury Prevention Division
- D. ISDH Falls Prevention Resource Center: <http://www.state.in.us/isdh/25376.htm>
- E. Indiana Family and Social Services Administration, Division of Disability and Rehabilitative Services (DDRS): <http://www.in.gov/fssa/ddrs/3341.htm>
- F. Indiana Family and Social Services Administration, Quality Improvement: <http://www.in.gov/fssa/ddrs/4247.htm>
- G. Indiana Adult Protective Services (APS): State Hotline Toll Free: 1-800-992-6978
- H. Indiana Fall Prevention Coalition: <http://infallprevention.org/>
- I. CICOA Aging & In-Home Solutions: <http://cicoa.org/>

- J. CDC Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older Adults, 3rd Edition:  
[http://www.cdc.gov/homeandrecreationalafety/pdf/CDC\\_Falls\\_Compndium-2015-a.pdf](http://www.cdc.gov/homeandrecreationalafety/pdf/CDC_Falls_Compndium-2015-a.pdf)
- K. CDC Preventing Falls Among Older Adults: <http://www.cdc.gov/Features/OlderAmericans/>
- L. CDC Preventing Falls: How to Develop Community-based Fall Prevention Programs for Older Adults [http://www.cdc.gov/HomeandRecreationalSafety/Falls/community\\_preventfalls.html](http://www.cdc.gov/HomeandRecreationalSafety/Falls/community_preventfalls.html)
- M. Fall Prevention Center of Excellence: <http://www.stopfalls.org>
- N. National Center for Injury Prevention and Control, CDC:  
<http://www.cdc.gov/HomeandRecreationalSafety/Falls/index.html>
- O. National Council on Aging: <http://www.ncoa.org/improve-health/falls-prevention/>
- P. National Institute on Aging: <http://www.nia.nih.gov/>
- Q. The State of Aging and Health in America 2013: <http://www.cdc.gov/aging/pdf/state-aging-health-in-america-2013.pdf>
- R. U.S. Department of Health and Human Services Administration on Aging:  
[http://www.aoa.gov/AoA\\_programs/](http://www.aoa.gov/AoA_programs/)
- S. U.S. Preventive Services Task Force Recommendations for Prevention of Falls in Community-Dwelling Older Adults: <http://annals.org/article.aspx?articleid=1305528>

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