

**Health Priority: Intentional and Unintentional Injuries and Violence  
Objective 3: Fall-Related Injuries and Death (Template)**

**Long-term (2010) Subcommittee Outcome Objective:**

**3a:** By 2010, the age adjusted fall death rate will be 9.0/100,000 population.

**3b:** Between 2000 and 2010, reduce the age-adjusted rate of hospitalizations due to falls.  
Long-term outcome objective updated as of: Sept 2004

**Future Interim Goal:**

By 2005, there will be an increase in comprehensive falls prevention programs at the local/community level. Goal for 2010 is to look at comparative mortality and morbidity data from 2000 and 2010 (or the most recent year available) and show a decrease in overall falls death rates and hospitalizations.

<b>Wisconsin Baseline</b>	<b>Wisconsin Sources and Year</b>
In 2000, the Wisconsin's age adjusted fall death rate was 10.8 per 100,000 population.	Web-based Injury Statistics Query and Reporting System Injury Mortality Report, 2000
In 2000, 44 % of all injury hospitalizations were due to falls.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information Wisconsin Interactive Statistics on Health Query System, 2004
In 2000, 87% of all fall deaths were in the 65+ age groups.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information Wisconsin Interactive Statistics on Health Query System, 2004
In 2000, 73% of all fall-related injury hospitalizations were in the age groups 65+.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information Wisconsin Interactive Statistics on Health Query System, 2004
In 2000, 41% off all traumatic brain injury hospitalizations were due to falls.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information, 2000 Principal Diagnosis codes 800-801, 803-804, & 850-854.19.
In 2000, falls were the underlying cause of 37% of all spinal cord injuries.	Wisconsin Department of Health and Family Services, Division of Health Care Financing, Bureau of Health Information, 2000 Principal Diagnosis codes 806 and 952.

<b>Wisconsin Baseline</b>	<b>Wisconsin Sources and Year</b>
An average of 11 work-related fatalities per year (1992-2001) were due to falls from elevations. This is 10% of all work-related fatalities. An average of 2 fatalities per year were caused by slips and trips.	Wisconsin Department of Health and Family Services, Division of Public Health, Bureau of Occupational Health, Fatality Assessment Control Evaluation Program database.

<b>Federal/National Baseline</b>	<b>Federal/National Sources and Year</b>
In 1997, 75.5 per 100,000 populations hospitalizations for nonfatal head injuries related to falls	<i>Healthy People 2010</i> , November 2000, United States Department of Health and Human Services
In 1997, 4.8 per 100,000 population hospitalizations for nonfatal spinal cord injuries related to falls	<i>Healthy People 2010</i> , November 2000, United States Department of Health and Human Services
4.5 deaths per 100,000 population (age-adjusted) were caused by falls in 1998	<i>Healthy People 2010</i> , November 2000, United States Department of Health and Human Services
1,120.9 hip fractures in women 65+ years of age per 100,000 population and 563.1 hip fractures in men 65+ years of age per 100,000 population	<i>Healthy People 2010</i> , November 2000, United States Department of Health and Human Services
Falls to the surface of playgrounds was a contributing factor in 79% of injuries on playgrounds. On home equipment, 81% were associated with falls.	U.S. Consumer Product Safety Commission's National Electronic Surveillance System, 1998-2000. (Reported in Tinsworth, D. and McDonald, J. (April 2001). Special Study: Injuries and Deaths Associated with Children's Playground Equipment. Washington, D.C.: U.S. Consumer Product Safety Commission.)
Falls from elevations accounted for 10% of all work-related fatalities from 1980 through 1994, for an average annual fatality rate of .49 per 100,000 workers	Worker Deaths by Falls, November 2000, United States Department of Health and Human Services

<b>Related USDHHS Healthy People 2010 Objectives</b>			
<b>Chapter</b>	<b>Goal</b>	<b>Objective Number</b>	<b>Objective Statement</b>
15--Injury Prevention	Reduce injuries, disabilities, and deaths due to unintentional injuries and violence.	15-1	Reduce hospitalizations for nonfatal head injuries.
		15-2	Reduce hospitalizations for nonfatal spinal cord injuries.

Related USDHHS Healthy People 2010 Objectives			
Chapter	Goal	Objective Number	Objective Statement
		15-27	Reduce deaths from falls.
		15-28	Reduce hip fractures among older adults.

Definitions	
Term	Definition
Web-based query system	Internet site that allows user to make injury data requests or inquiries at a state and/or county level.
Falls Clinic	A specialized interdisciplinary clinic composed of nursing, physician, and social work, focusing on falls prevention and treatment of mobility disorders.

### Rationale:

Within the Department of Health and Family Services, the Bureaus of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources; Family and Community Health; Occupational Health; local public health departments; University of Wisconsin-Madison and Milwaukee; and other interested public and private partners have been motivated to initiate a statewide effort to address the disproportionate number of falls and falls related injuries and deaths in Wisconsin. (There is no statutory language mandating this responsibility.)

Falls are one of the leading causes of severe, disabling, and costly injuries in Wisconsin. Falls accounted for one quarter of all Wisconsin hospitalizations in 1998 and were the second most common reason for hospitalization in all age groups except 75+ where falls were the leading cause of hospitalizations. In 1998, hospital stays due to falls lasted an average of 5.3 days and charges averaged \$10,311 per patient. Altogether, fall-related hospitalizations cost more than \$213 million in 1998, or about 20% of all hospitalization charges. Falls caused 14% of the hospitalizations of people under 65 years of age, and 39% of older people's hospitalizations. Under the age of 14 years of age, 16% of hospitalizations were due to falls. Among those aged 0-4 years, falls account for 15% of hospitalizations. When hospitalizations in the aging population involved a hip fracture, they lasted slightly longer (6 days) and charges were somewhat higher (\$13,444) on average.

Most fall injuries to children occur on playgrounds in falls off swings, monkey bars, climbers, or slides. (Consumer Product Safety Commission. National Electronic Injury Surveillance System 1990-1994. Washington DC: CPSC.) Falls off of playground equipment to the ground account for more than 60% of all playground-related injuries. (Consumer Product Safety Commission. National Electronic Injury Surveillance System 1990-1994. Washington DC: CPSC.) The U. S. Consumer Product Safety Commission also reported a significant increase in injuries from falls with use of the popular lightweight scooters involving children.

Wisconsin's rate of accidental death from falls has increased steadily over the past 10 years. Wisconsin ranks very high nationally in numbers of deaths per 100,000. Men suffer fatal falls more often than women. Also, older people die from falls more often than do younger people (although in Wisconsin falls are also a leading cause of hospitalization among youths). In Wisconsin, 90% of those who die from falls are age 60 and older.

Studies of traumatic brain injuries and spinal cord injuries in Wisconsin identify falls as the leading cause of these unintentional injuries. Falls were the underlying cause of 38% of all spinal cord injuries, with males sustaining about 3 times as many injuries as females. The proportion of spinal cord injuries that are due to falls increases with age. Among those aged 65 and over, more than two-thirds of all spinal cord injuries are caused by falls.

In 1998, 39% of all traumatic brain injury hospitalizations were due to falls (surpassed only by motor vehicle crashes, which accounted for 45%). Fall-related traumatic brain injury hospitalizations cost a total of \$19,017,323 in 1998, or 30% of the cost of all traumatic brain injury hospitalizations. Compared to females, males have a greater number of traumatic brain injury hospitalizations due to falls. However, a larger share of women's traumatic brain injuries are caused by falls (almost half, compared to just over one-third of men's traumatic brain injuries). As with spinal cord injuries, the proportion of traumatic brain injuries attributed to falls increases with age.

For older adults, about 40% of nursing home admissions involve a fall or a tendency to fall due to physical instability. Even when a fall does not cause a specific injury, older adults who have fallen often become afraid of falling again. Fear of falling, declining quality of life, and ability to participate in community activities as well as decreased physical activity can result. Along with this consequent decrease in physical activity, there is a general loss of muscle tone, strength, flexibility, and balance. In this way even a moderately serious fall can set in motion a process of general physical decline leading to institutionalization.

An average of 11 Wisconsin workers die each year from falls from elevation (6 feet or over). Falls from ladders, scaffolds, buildings, trees, and silos were the most frequent causes. An average of 2 workers a year die as a result of slips and trips and falls to the same level. Over \$44,000,000 is paid each year by Wisconsin Workers' Compensation insurance carriers for claims due to non-fatal work-related falls.

## **Outcomes:**

### **Short-term Outcome Objectives (2002-2004)**

- The partners will provide education statewide to heighten awareness and increase knowledge on the impact of falls and falls prevention through a statewide media campaign developed by key partners and disseminated widely.
- Training by the partners will be provided for public health and health care professionals and volunteers in one third (25) of Wisconsin counties through improved communication and collaboration between professional associations with centers for higher learning and development of model curricula for health care professionals and allied healthcare providers

to be incorporated into trainings/education models at institutes of higher learning, training videos of clinical and in-home assessments at the local community level.

- Local partners will promote and develop community coalitions building partnerships to improve access to assessment, screening, and intervention materials and training opportunities, provide resources to carry out programs, and identify best practice models.
- A statewide falls prevention advisory group will be established to assist with the overall coordination of education, training, data collection and analysis and achievement of statewide goals and objectives of the plan.
- The access and reporting of falls related data will improve through the education, training and coalition building efforts identified.

**Inputs:** (*What we invest – staff, volunteers, time money, technology, equipment, etc.*)

- Department of Health and Family Services, the Bureaus of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources; Family and Community Health; Occupational Health, local public health departments and aging offices, University of Wisconsin-Madison and Milwaukee and other committed partners will develop and implement an educational campaign to raise awareness, educate, and influence the 3 P's—policymakers (local, county, state), direct care providers and general public on the impact of falls and need for falls prevention activities/programs. These same groups will develop and deliver training for professionals to educate them on impact of falls and falls prevention.
- Department of Health and Family Services, the Bureaus of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources; Family and Community Health; Occupational Health, and other interested parties will work to support community collaborations and provide falls prevention information to them and their policy/decision makers.
- Department of Health and Family Services, the Bureaus of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources; Family and Community Health; Occupational Health, University of Wisconsin Madison and Milwaukee, and other interested parties will work to improve falls-related reporting, availability and access to data for communities and decision/policymakers.
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**Outputs:** (*What we do – workshops, meetings, product development, training. Who we reach-community residents, agencies, organizations, elected officials, policy leaders, etc.*)

- The statewide initiative partners identified will develop and disseminate standardized presentation packages and educational materials on impact of falls, needs for fall prevention activities/programs, components and tools to be used in a comprehensive fall prevention program.
- The statewide falls prevention advisory workgroup will meet routinely to assist in coordination of falls prevention activities/programs and formation of local community and/or state coalitions.
- Technical support and promotion of data collection will be provided to communities and decision/policy makers.

### **Medium-term Outcome Objectives (2005-2007)**

- Additional resources such as Tribal, county, and locally--specific falls and falls prevention informational materials (such as in-home assessment and screening tools, curricula, and programs) are available and in use in one half (36) of Wisconsin counties, regions, and tribes.
- Emergency medical services and trauma registry data (inclusive of falls) is available by 2004.
- State falls advisory group (and/or injury coordinating group) provides input and assists in the development of a data-driven evaluation to evaluate effectiveness of programs and strategies.
- The injury web based query system is operational improving access to falls data by interested stakeholders.
- The Bureau Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources, will expand data surveillance to look at other noncaptured causes, location, etc.

#### **Inputs:** *(What we invest – staff, volunteers, time money, technology, equipment, etc.)*

- State Advisory and community falls prevention coalitions will identify and promote model comprehensive falls prevention programs, standardized materials, and model falls prevention curricula for health and allied health professionals schools of higher learning.
- The Bureau of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources, in partnership with Bureau of Health Information will enhance the web based query system to provide increased falls-related injury/death data.

#### **Outputs:** *(What we do – workshops, meetings, product development, training. Who we reach--community residents, agencies, organizations, elected officials, policy leaders, etc).*

- Approximately 25, or one third, of counties/communities will have received standardized and/or model materials and developed programs supporting the additional three falls clinics and comprehensive falls prevention program models--which include in-home assessments, follow up screenings, education of consumers, in home exercise, and home safety checks with improvements--in the state.
- Falls prevention curricula will begin to be introduced into schools of medicine, nursing, physical and occupational therapy, etc., in Wisconsin by key partners.
- Evaluation of falls prevention efforts will be enhanced due to improved access to falls data for partners and interested parties through the availability of falls data in the web-based query system, trauma registry, and emergency medical services data.

### **Long-term Outcome Objectives (2008-2010)**

- Wisconsin will “fall off” the Centers for Disease Control and Prevention’s “Top 10 list” of states with the most deaths related to falls.
- Interdisciplinary falls clinics will exist across the state with at least one per Department of Health and Family Services’ region.

- Most counties in Wisconsin will have a comprehensive falls prevention program in place. (Comprehensive falls prevention programs will include the following: in home assessments, follow up screenings, education of consumers, exercise programs, and home safety checks with modifications.)
- Model curricula of falls risk and prevention is initiated in five different centers/specialty education facilities for higher learning (Physical Therapy, Occupational Therapy, Nursing, Medical, Nutrition, and Vision) in Wisconsin.
- Balance and strengthening programs will be available to older adults in at least each Department of Health and Family Services' region of the state.
- Web based query system for falls data will be available to provide systematic and timely data and information.
- Wisconsin will see a reduction of injury and mortality from falls.

**Inputs:** (*What we invest – staff, volunteers, time money, technology, equipment, etc.*)

- Data is collected, analyzed, and accessible at the local, regional, and state levels as provided by the Bureau of Emergency Medical Services and Injury Prevention, Section on Aging, Long Term Care, and Resources, and Bureau of Health Information and other key partners.

**Outputs:** (*What we do – workshops, meetings, product development, training. Who we reach-community residents, agencies, organizations, elected officials, policy leaders, etc.*)

- Data indicates effectiveness of statewide falls prevention activities/programs in decreasing fall-related injuries and deaths by concentrating prevention efforts.

## **Evaluation and Measurement**

Success in achieving the 2010 outcome objectives will be determined by monitoring the progress of county, regional, and tribal programs and coalitions with the help of the advisory structure established and monitoring the performance based contracting process of the local public health departments and falls prevention funding of local aging offices. Evaluation and measurement will also require evaluating local community capacity, including training, implementation of the in-home assessments and screenings and ultimately the number of injuries and deaths related to falls identified in the data sources. The development of such resources as clearinghouses for falls prevention educational programs and contact lists of trained professionals, allied health professionals and institutes of higher learning who have incorporated model falls prevention curricula will also provide insight into the success of falls prevention in Wisconsin.

## **Crosswalk to Other Health and System Priorities in Healthiest Wisconsin 2010**

*Integrated Electronic Data and Information Systems:* There is a need to address technical and resource issues unable to be addressed by the injury surveillance system such as timeliness, accessibility, flexibility, and accuracy of the falls data.

*Community Health Improvement Processes and Plans:* Assessing need, developing priorities, and taking action by the community requires a comprehensive review. It will be important that community assessment and development efforts to reduce fall injuries and deaths are integrated

into the larger community health improvement efforts required of local health departments, boards of health, and their partners as set forth in Ch. 251, Wis. Stats.

*Coordination of State and Local Public Health System Partnerships:* For effective assessments, development of priorities and resources and implementation or taking the necessary action at a local, regional, or state levels, partnerships must be developed and coordinated to use our limited yet valuable resources wisely in order to prevent falls deaths and injuries.

*Sufficient, Competent Workforce:* For the promotion of comprehensive falls prevention and education in such locations as falls clinics or programs across the state, there must be competent and highly trained professionals with the knowledge and skill base to perform the assessments and screenings and intervene when necessary.

*Equitable, Adequate, and Stable Financing:* Currently there is no statutory mandate to provide falls prevention activities, yet Wisconsin is in the top five states in the country with its residents dying from falls at an alarming rate. Funding and support is necessary for the development of the resources required to education, train, intervene and treat, and evaluate the effectiveness of the programs we have implemented to reduce fall deaths and injuries.

*Access to Primary and Preventive Health Services:* Along with better trained professionals and volunteers, people need to have access to preventive health services such as falls prevention in-home assessments, modifications, and screenings.

*Adequate and Appropriate Nutrition:* Prevention of falls is multifactorial. Not only is home modification important, but also such things as review of medications, use of alcohol and other nonprescription drugs, and a person's nutritional status.

*Alcohol and Other Substance Use and Addiction:* There is documentation that identifies alcohol and/or other substance use as contributing factors to falls.

*Environmental and Occupational Health Hazards:* In-home assessments and environmental modifications are an important prevention strategy to reduce injuries and deaths from falls. They are not the end-all, but need to be part of a comprehensive falls prevention program. Fall prevention systems (e.g., guardrails, hole covers) and personal fall-arrest systems (full-body harness with lanyards and connection hardware) are effective in reducing injuries and fatalities from falls in occupational settings. Additionally, slip-resistant footwear and walking surfaces have proven to be effective in preventing slips.

### **Significant Linkages to Wisconsin's 12 Essential Public Health Services**

*Monitor health status to identify community health problems:* Falls have been identified as a leading cause of hospitalizations and deaths among the citizens of Wisconsin.

*Identify, investigate, control, and prevent health problems and environmental health hazards in the community:* In-home assessment and environmental modifications is an important prevention strategy to reduce fall injuries and deaths.

*Educate the public about current and emerging health issues:* By heightening the awareness and knowledge about the impact of falls and falls prevention opportunities, improvement in the identification of fall hazards and prevention of falls in our communities is more likely to occur which will lead to reducing fall injuries and deaths.

*Promote community partnerships to identify and solve health problems:* For effective assessments, identification of priorities and resources needed to take the necessary action at a local, regional, or state level, partnerships must be developed and coordinated to use our limited yet valuable resources wisely in order to prevent falls deaths and injuries.

*Create policies and plans that support individual and community health efforts:* Buy-in of partners and formation of local coalitions will improve access to information, training opportunities, and fall prevention services (e.g., in-home assessments and screenings, balance and strengthening programs, falls clinics).

*Link people to needed health services:* For those at risk of falling or who a history of falling in the past, it is imperative they be linked with resources to assist them in reducing the likelihood of falling in the future.

*Conduct research to seek new insights and innovative solutions to health problems:* Multifaceted approaches to fall prevention have been scientifically shown to reduce the incidence of falls; therefore there is a need for the medical/community model of comprehensive falls prevention programs in Wisconsin. These programs will not be possible without the development of state and local support focusing on falls prevention program development, implementation and evaluation through use of the data.

### **Connection to the Three Overarching Goals of Healthiest Wisconsin 2010**

*Promote and Protect Health for All:* Falls affect all people of Wisconsin.

*Eliminate health disparities:* Falls affect both the young and the aging population of Wisconsin. They rank in the top 5 leading causes of injuries and deaths in the state.

*Transform Wisconsin's public health system:* Fall injuries and deaths continue to increase in Wisconsin. A new comprehensive approach to fall prevention is needed.

### **Key Interventions and/or Strategies Planned:**

- Development of local and statewide falls prevention coalitions.
- Development and dissemination of a statewide media campaign.
- Implementation of an in-home assessment, screening, and follow-up training in at least every region of the state.
- Development and dissemination of a “Physician Tool Kit for Falls Prevention.”
- Standardized Home Safety Checklist with recommended modifications developed and implemented as part of a comprehensive falls prevention program.
- Model Curricula for Health and Allied Health Professionals developed and integrated into institutes of higher learning in Wisconsin; Model Playground Safety Curriculum is developed and introduced into day care settings and schools.
- Web-based Query Data System developed and accessible to counties in Wisconsin

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#### Internet Resources:

<http://www.cdc.gov/ncipc>

<http://www.nih.gov/nia>

<http://www.guideline.gov>

<http://www.nfpa.org>

<http://www.aarp.org>

[http://www.temple.edu/older\\_adult/fppmanual.html](http://www.temple.edu/older_adult/fppmanual.html)

<http://www.bu.edu/roybal>

<http://www.olderadultinjury.org>