INFORMATION MEMORANDUM

Number: 09-IM-03

Supersedes:

Expiration Date:

DATE: September 20, 2009

TO: Area Agency on Aging Directors

SUBJECT: Fall Prevention for Older New Yorkers

PURPOSE: The purpose of this Information Memorandum (IM) is to inform Area Agencies on Aging (AAA) directors and preventive health staff about the seriousness and extent of falls among older adults, provide summary information on fall prevention and suggest next steps for your consideration. County specific data and information are included about the rate of falls in your county compared to other counties in New York State (NYS). The IM also transmits two very helpful publications from the Centers for Disease Control and Prevention (CDC) on fall prevention. We hope these materials will assist your agency to continue working with key stakeholders and to implement fall prevention programs in your communities, or enhance those already provided, in order to identify older adults at risk for falls, link them to evidence-based interventions and reduce the risk and incidence of injury and death due to falls.

BACKGROUND: Falls in older adults is a leading cause of injuries, hospitalizations, decreased quality of life and decreased independence. Falls also increase the fear of falling causing further muscle atrophy, lack of balance and the likelihood of falling again, admission to nursing homes and deaths. Some of the serious injuries associated with falls include traumatic brain injury and hip fracture. Twenty percent of older adults who have a hip fracture die within a year.¹

There are specific risk factors that increase the chances of falling. The three primary risk factors for falling are: taking more than four prescription medications, having muscle weakness, and having poor balance. Those with vision problems and fear of falling are also at heightened risk.

Older people who live alone and have few social supports are also at greater risk for falling. Females age 85 and older have the highest risk of falling and being injured. Older men who fall are more likely to suffer fatal falls. See Table 1 (attached) for more detailed information on the characteristics of people who fall.

“More than one third of adults age 65 and older fall each year in the United States. In 2005 in the United States (U.S.), 15,800 people 65 and older died from injuries related to unintentional falls (CDC 2008). In 2000, direct medical costs totaled almost $0.2 billion ($179 million) for fatal falls and $19 billion for nonfatal fall injuries (Stevens et al. 2006).” By 2020, CDC projects the annual direct and indirect cost of fall injuries will reach $54.9 billion (in 2007 dollars). See the CDC fact sheet on falls at the following web site: [http://www.cdc.gov/ncipc/factsheets/adultfalls.htm](http://www.cdc.gov/ncipc/factsheets/adultfalls.htm) (CDC Fact Sheet)

New York State Compared to the United States

Table 2, below, shows the number of deaths, hospitalizations, and emergency room visits due to falls in New York State (NYS) and the U.S. for 2005. The U.S. figures are based on CDC data from 2005, and the NYS figures are based on NYS Department of Health (NYS DOH) data that are mean annual frequencies, or averages, for the three year period 2004-2006. In the United States, 1.2% of all people age 65 and older, or 433,000, were hospitalized through the emergency room (ER) due to a fall. In NYS, about 1.7% of people age 65 and older, or more than 42,000 people, were hospitalized through the ER because of a fall. Efforts to prevent falls to bring the NYS hospitalization rate to or below the national average are critically important to reduce the morbidity rate due to falls, improve quality of life for older New Yorkers, and reduce costs.

<table>
<thead>
<tr>
<th></th>
<th>US # of age 65+</th>
<th>% of Total US Population Age 65+ (36,696,780)</th>
<th>NYS # of age 65+</th>
<th>% of Total NYS Population Age 65+ (2,507,873)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Room (ER) Visits</td>
<td>1,309,722*</td>
<td>3.6%</td>
<td>77,670*</td>
<td>3.0%</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td>433,000**</td>
<td>1.2%</td>
<td>42,211**</td>
<td>1.7%</td>
</tr>
<tr>
<td>Deaths</td>
<td>15,800</td>
<td>.04%</td>
<td>877</td>
<td>.03%</td>
</tr>
</tbody>
</table>

* These figures are only for people who went to the ER because of a fall related injury and were then released.  
** These figures are only for people hospitalized due to a fall via the Emergency Room (ER) for the US and NYS.  

2 Hornbrook, MC; Stevens, VJ; Wingfield, DJ; Hollis, JF; Greenlick, MR; Ory, MG. Preventing falls among community–dwelling older persons: results from a randomized trial. The Gerontologist 1994;34(1):16–23.  
NYS had a lower proportion of emergency room (ER) admissions but a much higher rate of hospitalizations via the ER because of injuries due to falls. Deaths due to falls in NYS were similar to the U.S. In NYS there were 42,211 hospitalizations via the ER due to falls which is 9.7% of all U.S. hospitalizations due to falls (N= 433,000).

Table 3, below, compares the actual and expected percent of ER admissions, hospitalizations, and deaths for NYS. The expected percent is derived from the population rate, as a proportion of actual U.S. figures (included in Table 2). NYS had a slightly lower proportion (5.9%) of ER visits without admissions due to falls compared to the expected proportion of falls (e.g., 6.8%). This is a crude approximation of the “actual” versus “expected” proportion of fall-related consequences, since it does not compare or adjust for differences in risk factors, including the percent of NY residents in the highest age cohort. Regardless, with a higher rate of hospitalizations for New York State than the national average, interventions to reduce falls will result in a significant benefit.

<table>
<thead>
<tr>
<th></th>
<th>Actual NYS % as a Proportion of all U.S.</th>
<th>Expected NYS % as a Proportion of all U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Room (ER) Admissions</td>
<td>5.9%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Hospitalizations</td>
<td>9.7%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Deaths</td>
<td>5.6%</td>
<td>6.8%</td>
</tr>
</tbody>
</table>


New York State Data on Falls

About 60% of falls leading to hospitalization for New Yorkers age 65 and older occur at home. About 16% of falls leading to hospitalization occur in residential institutions such as nursing homes. Only 3% occur on the street and the highway (see Figure 1, attached).

Attachment 1 and Figures 2-6 and Tables 4-11 provide county level data and information on falls by older age groups for NYS. The rates vary greatly by county. For those ages 65-74, the rate per 10,000 hospital discharges due to unintentional falls ranged from 38.6 in Tioga County to 108.5 in Schenectady County, with 78.3 as the NYS average. It may be helpful to share this information with other organizations in your county to explore reasons for these rates. Working together, stakeholders can identify ways to reduce falls among older adults. In addition to these data reported related to hospital visits, many falls with injuries go unreported because people see their own physician for care and treatment, go to urgent care centers rather than hospital ERs or self-treat.
CURRENT FALLS PREVENTION ACTIVITIES: One of the New York State Office for the Aging’s (NYSOFA’s) preventive health goals is to expand the availability and use of Evidence-Based Interventions (EBIs). NYSOFA is working with the Center for Excellence in Aging Services at the State University in Albany to increase the number of master trainers and volunteer coaches in the Matter of Balance program in NYS. These efforts and those of the AAAs, along with the network of providers of aging services, complement the prevention agenda and activities of the NYS DOH. For more information about the Matter of Balance program see the link to Boston University's Health and Disability Institute.


In April 2008, Richard Daines, M.D., Commissioner, NYS DOH, launched a Prevention Agenda for the Healthiest State. One of the Prevention Agenda’s top ten priorities is reduction of unintentional injuries. According to data from 2004-2006, New York State fall-related hospitalizations for those in the age group 65+ years was 206.3 per 10,000. The Prevention Agenda 2013 goal is to reduce that number to 155.0 per 10,000, a reduction of 24.86% (~25%).

Additionally, the NYS DOH funds an exercise program for fall prevention called CareX. It is a multimedia program that uses a combination of staff and family training and a physical exercise program for long-term care (LTC) residents to prevent falls. CareX is especially designed for elderly individuals with cognitive impairment. It uses calming and relaxing exercise routines derived from Tai Chi and Qi Gong exercises, which are designed to improve physical strength and mental calmness.

http://www.health.state.ny.us/prevention/prevention_agenda/

HELPFUL MATERIALS AND INTERNET RESOURCES:

1- There are many EBIs already in practice that prevent and reduce the severity of falls, as well as provide tools to screen and identify who is most at risk. NYSOFA recommends two 2008 CDC publications for your use – Preventing Falls: What Works, A CDC Compendium on Effective Community-based Interventions from Around the World and Preventing Falls: How to Develop Community-based Fall Prevention Programs for Older Adults. These two CDC publications are included with this IM and can be downloaded at the following website: http://www.cdc.gov/ncipc/duip/fallsmaterial.htm CDC fall prevention brochures, posters, and booklets are also available at the website.

The CDC compendium includes only a few examples of fall prevention EBIs. There are other fall prevention EBIs, such as A Matter of Balance, that may work more effectively in your community based on what you want to achieve and the resources available. See item 6 for more information on A Matter of Balance.

2- Reviews of Interventions- The RAND study, Fall Prevention Interventions in the Medicare Population discusses in detail the results of various studies on fall prevention interventions.

http://www.health.state.ny.us/diseases/conditions/dementia/edge/interventions/beechwood/index.htm

(CareX program)

This was a five-year study done between 1998 and 2003 prepared under contract with the Centers for Medicare and Medicaid Services. The study is based on an extensive literature review of various randomized controlled trials and controlled clinical trials involving fall prevention interventions. Components of interventions were classified by the following categories: exercise, multi-factorial falls risk assessment and management program, education, assistive devices, medication/medication review, environmental modification and staff/organization related interventions. The study answers questions about the components that should be included in a successful fall prevention program, the settings in which programs should be delivered, targeting cost-effectiveness, and key issues in sustaining programs.

3- Cost Effectiveness- Stay on Your Feet was a community-based fall prevention program targeting older people at all levels of risk, that was undertaken during the period 1992 to 1996 in the North Coast region of New South Wales (NSW), Australia. There were 950 people in the program. The program saw a 20% reduction in falls-related hospitalizations of people 60 years and older by its completion.

A cost-benefit analysis of the fall prevention program Stay on Your Feet, indicated an overall net benefits range from $3.6 million for avoided hospitalizations alone to $11.2 million for all avoided direct and indirect costs (dollar figures converted from Australian dollars into US dollars).

4- Behavioral Model- The decision to participate in an evidence-based fall prevention program can be expressed through a behavioral model, based on the Health Belief Model. This model graphically represents individual perceptions, modifying factors and likelihood of action. The perceived risk of falling and the perceived benefits of participating in an evidence-based fall prevention program are some examples of important elements in the potential participant’s decision-making process. Behavioral models such as this one can be useful when planning an intervention. See Figure 7.

5- New York State AAA Practices- Some AAAs are implementing fall prevention interventions (See 08-IM-06 entitled A Summary of Good Practices on Health Promotion and Disease Prevention Programs: Results of a Statewide Survey on the AAARIN website). Examples of programs described in this summary include:

- **Reducing Fall Risks** – an intergenerational fall prevention program involving college students and seniors, delivered at congregate meal sites in Suffolk County.
- **Strong Women Stay Young** – a fall prevention program implemented in Dutchess County that includes a physical exercise component, mental strengthening exercises and opportunities for socialization.
- An Orleans County AAA health promotion initiative which among other things includes a free home safety inspection and a County Senior Support Volunteer program that will install items such as grab bars for free.

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Erie County sponsors its *Stay Fit Dining Program* and *Club 99*. The *Stay Fit Dining Program* includes congregate meals that are approved by registered dieticians, and resistance and fitness training. *Club 99* members must also be registered in the *Stay Fit Dining Program*. Members of *Club 99* receive free fitness training, nutrition education, wellness education and nutrition counseling.  

**6-Maine Partnership**- Maine’s Health Partnership for Healthy Aging sponsors *A Matter of Balance: Managing Concerns about Falls*. This program has been adapted to use a volunteer lay-leader model. Master trainers train volunteer coaches to lead exercise classes for older adults in the community. The program’s goals are to reduce the fear of falling, increase physical activity, make environmental modifications in order to reduce falls, and to promote exercise to increase balance and strength.

See website, below, for the Maine Health Partnership for Healthy Aging which has detailed information on the fall prevention program *A Matter of Balance*:  
http://www.mainehealth.org/mh_body.cfm?id=449

**SUGGESTED NEXT STEPS:** NYSOFA is currently working with the Center for Excellence in Aging, School of Social Work, SUNY at Albany; the SUNY at Albany School of Public Health; the National Council on Aging (NCOA); the NYS Department of Health; and other organizations to identify ways to expand evidence-based interventions in fall prevention in New York State.

08-IM-07, entitled *Planning Guidance on Public Health Priorities for Local Health Departments*, provides background information that AAA staff may wish to use to coordinate with local health departments. AAAs are also encouraged to work collaboratively with subcontractors and others within the aging network to address published public health targets to reduce falls among older adults that result in injuries and hospitalizations and, in general, to implement EBIs in community settings. Potential target groups and settings may include senior centers and congregate meal sites, people receiving home-delivered meals and community based LTC services such as Expanded In-home services for the Elderly Program (EISEP). Colleges and universities with health and human service curricula may be willing to help with the planning and implementation of these efforts.

Communities and employers can be encouraged to act to prevent falls. For example, workplaces can make environmental modifications such as increased lighting and offer exercise classes that help to improve strength and balance through their Employee Assistance Programs. Access to fall prevention interventions could be expanded through health wellness programs offered by some employers, health insurers, and community organizations.

Individual older adults and their caregivers can be encouraged to prevent falls by becoming more aware of risks and actively working to reduce these risks. They can take action to remain independent and prevent and reduce falls by:

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8 Erie County Department of Senior Services. *Stay Fit Dining Program for Seniors in Erie County.* Brochure.  
• Exercising regularly – programs like Tai Chi that increase strength and improve balance are especially helpful.
• Asking physicians and pharmacists to review medicines, both prescription and over-the-counter, to reduce side effects and interactions.
• Having vision checked at least once a year.
• Improving lighting and reducing hazards (e.g., throw rugs) in your home.”

NYSOFA urges you to review the resources in this IM as well as the additional resources provided below. Both the CDC and NCOA websites provide useful information on evidence based interventions.

ADDITIONAL RESOURCES:
Fall prevention toolkits:
• [http://www.cdc.gov/ncipc/duip/preventadultfalls.htm](http://www.cdc.gov/ncipc/duip/preventadultfalls.htm) is the CDC’s toolkit on falls. It includes fact sheets on falls among older adults, the cost of falls, hip fractures, falls in nursing homes and CDC prevention activities. It also includes brochures, posters, figures and maps.
• [http://www.health.qld.gov.au/stayonyourfeet/toolkit/default.asp](http://www.health.qld.gov.au/stayonyourfeet/toolkit/default.asp) is a detailed toolkit based on the Stay on Your Feet® fall prevention program in Queensland, Australia. It includes the four phases of investigation, planning, implementation and review. For each phase there are associated materials.
• [http://www.va.gov/ncps/SafetyTopics/fallstoolkit/index.html](http://www.va.gov/ncps/SafetyTopics/fallstoolkit/index.html) This toolkit, presented by the U.S. Dept. of Veterans Affairs, includes: designing a fall prevention and management program, effective interventions for high-risk fall patients, using hip protectors for high-risk fall patients, and educating patients, families and staff on falls and fall injury prevention.

Additional websites:
• [http://www.stopfalls.org/](http://www.stopfalls.org/) This is the official website for the Fall Prevention Center of Excellence. Their mission is to identify best practices in fall prevention and to help communities offer fall prevention programs to older people who are at risk of falling.
• [http://www.healthyagingprograms.org/content.asp?sectionid=69](http://www.healthyagingprograms.org/content.asp?sectionid=69) is the website of the National Council on Aging, Center for Healthy Aging, provides a wealth of resources including checklists, questionnaires and tests, legislation, manuals and guides, media releases, presentation slides and reports.

Acknowledgement: A special thanks to Jane Zagami, student intern, SUNY at Albany, School of Public Health, whose work was instrumental in developing this IM, including identifying and analyzing data, conducting research and data reviews and the writing of this brief.

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PROGRAMS AFFECTED:  ☑ Title III-B  ☑ Title III-C-1  ☑ Title III-C-2  
☑ Title III-D  ☐ Title III-E  ☑ CSE  ☐ SNAP  ☐ Energy  
☐ EISEP  ☐ NSIP  ☐ Title V  ☐ HIICAP  ☐ LTCOP  
☑ Other: NORCs and Community Empowerment Grantees

Contact Person: Gary F. Malys  
Telephone: (518) 473-5705
ALL OF THE FOLLOWING ATTACHMENTS MAY BE FOUND ON AAARIN.

**Attachments to 09-IM-03**

Table 1 – Specific Fall Risk Factors

Table 2 – Deaths, Hospitalizations and ER Admissions (appears in the body of the IM)

Table 3 – Actual vs. Expected ER Admissions, Hospitalizations (appears in the body of the IM)

Figure 1 – Fall Injuries, Place of Occurrence, Ages 65+

Figure 2 - Unintentional Falls (Age 65-74)

Figure 3 - Unintentional Falls (Age 75-84)

Figure 4 – Unintentional Falls (Age 85+)

Figure 5 – NYS Map--Emergency Department Visits, Treated and Released Due to Unintentional Falls, Age 65+

Figure 6 – NYS Map--Hospitalizations Due to Unintentional Falls, Age 65+

Attachment 1- Description of Fall Injury and Hospitalization Data

Table 4 – Unintentional Falls (Age 65-74)

Table 5 – Unintentional Falls (Age 75-84)

Table 6 – Unintentional Falls (Age 85+)

Table 7 – Initial Emergency Department Visits, Treated and Released, Due to Unintentional Falls, Age 65+

Table 8 – County ER Visits, Rates and Quartiles Due to Unintentional Falls

Table 9 – Hospitalizations Due to Unintentional Falls, Age 65+

Table 10 – County Hospitalizations Rates and Quartiles Due to Unintentional Falls

Table 11 – Deaths Due to Unintentional Falls, Ages 65+

Figure 7 – The Health Belief Model