

Executive Summary

Background

Falls are the leading cause of unintentional fatal and nonfatal injury among older adults in the United States. More than one-third of older adults fall each year, and many of these falls result in decreased or permanent loss of functioning and a loss of independence. Older adults also have one of the highest rates of death from house fires, compared to their younger counterparts. Older adults are more likely to suffer from reduced sensory abilities and mental health, which reduces reaction time and puts them at higher risk for causing a fire and dying. *Remembering When™: A Fire and Fall Prevention Program for Older Adults* was developed by the National Fire Protection Association (NFPA) and Centers for Disease Control and Prevention to increase knowledge about how older adults can reduce their risk of experiencing a fall and house fire. The program has 16 falls and fire prevention messages, primarily targeting residential hazard and safety behaviors, and can be delivered in both group presentation and home visit formats. In 2015, the University of Iowa partnered with the NFPA and five fire departments in Iowa to evaluate the effectiveness of the Remembering When™ program in: (1) Improving perceptions associated with falls and house fires, and (2) Changing falls prevention and fire safety behaviors.

Methods

The Remembering When™ Pilot Evaluation Study was conducted between February and November, 2015 in five communities across Iowa. The five study sites were selected based on local fire department completion of Remembering When™ training and interest in participating in the study. Within each community, the research team collaborated with up to two fire department officials comprising an Outreach Team, which was primarily responsible for delivering the Remembering When™ program and providing data on delivery activities. In addition, adults ages 65 and older were recruited in each community to participate in the study by the research staff. Older adults were primarily recruited from senior residential complexes (not including assisted living or nursing home complexes), home visiting and meal delivery organizations, congregate meal sites, and places of worship.

Eligible older adults were randomly assigned to one of two program delivery methods: (1) those receiving Remembering When™ through a home visit, and (2) those receiving Remembering When™ through both a group presentation and home visit. Each participant completed three telephone interviews and participated in the Remembering When™ program training provided by their fire departments. A total of 149 participants enrolled in the study and completed the first interview, of which 133 attended program training conducted in their homes and/or in a group presentation. At the end of the study, 130 of the 133 participants receiving the program completed the final interview to report whether their fire and falls prevention behaviors, and their perceptions associated with fires and falls, changed after participating in the Remembering When™ program.

Findings

- **Program Delivery:** Overall, the Outreach Teams delivered the Remembering When™ key messages with fidelity. There was variation in the extent to which Outreach Team members covered each of the key fall and fire safety messages and used supportive materials. However, some of this variation is likely to have been due to the different needs of the participants.

- **Older Adult Participant Characteristics:** More than half of the participants (66%) were at least 75 years of age, and the majority were female (76%) and White (98%). Sixty percent of the participants lived in an apartment or condominium, and approximately one-third (34%) lived in a house. More than two-thirds of the participants reported an annual income below \$50,000. Most of the participants were non-smokers and/or lived in a household without a smoker (95%). Just over half of the participants (55%) reported being in very good or excellent health, while another 35% reported being in good health.

- **Outreach Team Characteristics:** Ten individuals from five Iowa fire departments participated in the study. Most had been working with community service programs and with older adults for more than ten years. One fire department official had experience delivering the Remembering When™ program prior to the study.

- **Risk Factors for Falls and Fires:** Older adult participants exhibited risk factors for falls, including older age, female gender and overall multifactorial risk based on a validated fall risk self-assessment. They also exhibited risk factors for experiencing a house fire, including older age, lower household income, and rental residential tenure. We found no differences in fall and fire risks between participants in the home visit only study arm and participants in the home visit and group presentation study arm with respect to demographics and fall and fire risks.

- **Participation in Falls and Fire Safety Programs:** Ten percent of the participants reported ever having participated in a falls prevention program, and 18% reported ever having participated in a fire safety program prior to the Remembering When™ program.

- **Changes in Falls Prevention Behaviors:** Prior to receiving the program, most participants were engaged in program-recommended activities, including exercising regularly (86%), taking their time to get up from sitting or lying down (83%), keeping stairs and walking areas free of clutter (73%), and keeping a well-lit path between the bedroom and bathroom at night (73%). Following the Remembering When™ program, more participants cleared their paths of travel (baseline: n=104, 95%; follow-up: n=80, 73%), used non-slip mats (baseline: n=72, 66%; follow-up: n=86, 78%), turned on lights before using the stairs (baseline: n=54, 49%; follow-up: n=51, 46%), and installed grab bars on the walls next to the bathtub, shower and/or toilet (baseline: n=60, 55%; follow-up: n=78, 71%). We did not observe differences in the percentage of participants improving their falls prevention practices between the two study arms.

- **Changes in Fire Prevention Behaviors:** Most of the participants were engaged in fire safety practices prior to receiving the Remembering When™ program, including having a smoke alarm installed

outside each sleeping area (91%), staying in the kitchen when frying foods (85%), having a telephone near their beds (79%), having a smoke alarm on every level of their home (78%) and inside each bedroom (76%), and keeping space heaters at least 3 feet away from anything that can burn (75%). Following the Remembering When™ program, more participants understood how to use stop, drop and roll procedures (baseline: n=72, 66%; follow-up: n=93, 85%), and installed smoke alarms on every level of the home (baseline: n=86, 78%; follow-up: n=107, 97%) and inside each bedroom (baseline: n=83, 76%; follow-up: n=95, 86%). We did not observe differences in the percentage of participants improving their fire safety practices between the two study arms.

- **Perceptions about falls and fire prevention:** Perceptions about the participants' susceptibility to experience a house fire increased slightly, whereas perceptions about the severity of experiencing a house fire and fear decreased after the program. Participants' perceptions about having control over their fire prevention behaviors improved after program. They generally reported very low levels of perceived susceptibility to experiencing a fall, and felt that the outcome of a fall can be somewhat serious. These perceptions did not change after program participation. However, participants reported improved perceptions about their own ability to prevent falls, to engage in falls prevention behaviors, and felt they had control over their preventive behaviors after the program participation. At the end of the project, participants also reported an increase in the perceived availability of informational support about falls and fire prevention.

In addition to the aims of the study, we also conducted qualitative interviews with the older adult participants and Outreach Team members about their satisfaction with the program and suggestions for improvement. These findings are provided in the final report.