PROJECT SUMMARY

Review of Impact of Medications on Older Adult Fall and Fire Risk
15 April 2021

**Background:** Fifty-two million Americans aged 65 or older make up 16% of the total US population. Yet they experience disproportionate injuries and deaths from fires and falls – more than one-third of fire victims between 20014-2018 were at least 65 years old. Falls are the leading cause of death from unintentional injuries for older adults, with nearly 1 in 3 seniors – that’s 17 million people – suffering a fall each year.

Falls send an average of one in every 16 people age 65 or older to the emergency department per year. Fire and EMS now see more fall victims than fire victims, often being called to the same homes repeatedly for minor falls. NFIRS and NFPA Survey data reveal a 35% increase in “assist invalid” incidents from 2014 to 2017. In 2016 and 2017, local fire departments went to more “assist invalid” incidents than structure fires, placing an enormous strain on fire service resources. Falling once doubles the chance that a person will fall again.

The risk factors associated with aging populations are similar for fires and falls, making it critical to educate older adults on adopting prevention and response behaviors. The aging process alone creates limitations such as decreased mobility, vision, hearing and cognitive functioning. Combined with aging homes and appliances, increased clutter and hoarding behaviors, and an increase in the use of medications for chronic conditions, the older adult population is consistently vulnerable to the effects of falls and fires. According to a 2017 RAND Corporation study, 81% of people 65 or older had at least two chronic health conditions. US Census Bureau estimates from 2014-2018 report that 15% of people aged 65-74 and 32% of those 75 and over live with some form of ambulatory difficulty, contributing both to their risk of falling and to their ability to escape a home fire.

Fire service, elder care, and public health professionals have a unique opportunity to reduce the growing incidence of injuries and deaths from fires and falls among older adults. NFPA’s Remembering When™ Older Adult Fire & Fall Prevention Program (RW) joins the fire service with public health agencies to support healthy behaviors among older adults. There is as effort underway to increase RW’s reach and scale by making updated digital training and resources available to program delivery partners. Objectives include developing new standardized messaging on the role of medications in fire and fall risk, creating a database of trained personnel to support local program implementation, and creation of digital training to provide increased access to those who deliver the RW program. This effort is funded by DHS/FEMA Assistance to Firefighters Grant (AFG) Program (Award No. EMW2019-FP-00740).
As part of this effort, the Fire Protection Research Foundation is leading a project to identify the role of medications in the risk of falls, mobility, and risk factors related to fires for people aged 50-64 and 65+. The involves conducting a literature search and healthcare landscape analysis related to older adults, medications, and falls. Results will be used to develop appropriate messaging to be incorporated into NFPA’s Older Adult Fall and Fire Prevention program and related assets. This RFP specifically addresses the Foundation-led project and the scope of the Contractor.

**Research Goal:** Identify the relationship between medication use and fall/fire risk of older adults and generalize findings to inform message development.

**Project Tasks:**

**Task 1: Literature Review.** Conduct a literature review on medication use in age groups 50-64 and 65+ and the role of medications related to risk factors for falls/fires. The review should include, but not be limited to, available information on the following topics:

- Burden of fires/falls across geographic, ethnic, socio-economic status, and other key demographic indicators
- Medication use in adults 50-64 years and 65+ years
- Interactions/Impacts of medication use on fall/fire risk factors
- Common medications (specific or classes of meds) associated with fall/fire risks
- Data connecting medication use/interactions with fall/fire risks

**Task 2: Healthcare Landscape Analysis.** Characterize the healthcare payer landscape related to older adults (65+), medications, and falls by reviewing and analyzing available information that includes, but is not limited to the following topics:

- Centers for Medicare and Medicaid Services (CMS) coverage of fall / fire prevention/intervention programs
- CMS quality indicators (e.g. Five-Star Quality Rating System) for health plans related to falls and injuries among older adults
- Commercial quality indicators (e.g. Healthcare Effectiveness Data and Information Set (HEDIS)) for health plans related to falls, fires, and related injuries for 65+ years population
- Emergency Department data related to fall/fire injuries in older adults
- Potential years of life lost to fires/falls
- Medical costs associated with fires/falls

**Task 3: Interim Report.** Summarize the information found for Task 1 and Task 2 in an interim report for review by the Technical Panel. This report should summarize all relevant literature, the key points, and any gaps in knowledge.

**Task 4: Case Studies.** Document three general case studies related to medications and risk factors for falls/fires. These can be specific to a medication or a class of medications.
Task 5: Current fall & fire prevention programs & organizations. Document current fall and fire prevention/intervention programs and organizations. This should include objectives of each program, who the target audience is, impact/results documented, and any other relevant information.

Task 6: Final Report. The final report should include the results of all tasks and document findings that can be generalized to adults from 50-64 and the older adult (65+) population in terms of the relationship between medication use and fall/fire risk. Results should include specific call outs for disparate populations. A draft final report will be reviewed with the Panel and then finalized based on the Panel feedback and comments.

Implementation: This research program will be conducted under the auspices of the Research Foundation in accordance with Foundation Policies and will be guided by a Project Technical Panel who will provide input to the project, recommend contractor selection, review periodic reports of progress and research results, and review the final project report.

Schedule: The final report will be available in November 2021.

About us:

About the Fire Protection Research Foundation
The Fire Protection Research Foundation plans, manages, and communicates research on a broad range of fire safety issues in collaboration with scientists and laboratories around the world. The Foundation is an affiliate of NFPA.

About the National Fire Protection Association (NFPA)
Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission. All NFPA codes and standards can be viewed online for free. NFPA’s membership totals more than 65,000 individuals around the world.