FALLS AMONG OLDER ADULTS RESEARCH PRIORITIES

Problem Description

Falls are a leading cause of both fatal and nonfatal injuries among adults ages 65 or older in the U.S. These falls pose a substantial economic burden resulting in billions in medical costs annually. Injuries can be moderate to severe, including hip fractures and traumatic brain injuries (TBIs). Older adults falls and fall death rates have steadily increased over time. Fortunately, many of these falls can be prevented.

CDC's Stopping Elderly Accidents, Deaths & Injuries (STEADI) Initiative (STEADI - Older Adult Fall Prevention | CDC) gives healthcare providers the tools and resources they need to identify patients at risk for a fall; identify modifiable risk factors; and offer effective interventions. Effective interventions include medication review and management, home modification, and referral to community-based exercise or fall prevention programs. CDC has initiated studies to evaluate the implementation of STEADI and related health and economic benefits in outpatient clinics, hospitals, and pharmacies. These studies have examined the roles of physicians, nurses, and pharmacists in fall prevention. Effective fall prevention requires a diverse range of specialists and can be initiated in different settings. Further research is needed to understand how to modify STEADI for these other settings and to understand the most effective prevention strategies for other types of healthcare specialties to use.

Healthcare provider referral to evidence-based intervention is necessary but not sufficient to prevent falls. Successful fall prevention requires that the older adults adopt the recommended interventions. Older adults may think that falls are an inevitable part of aging and may not know the most effective fall prevention interventions. Research on the best strategies for educating older adults and their caregivers on the effectiveness of evidence-based interventions is needed to increase their willingness to adopt recommended effective interventions.

Public health departments are well-positioned to link clinical care and community resources to create a holistic approach to fall prevention for older adults. These departments can use data systems to identify areas of high need for fall prevention; educate older adults, caregivers and community organizations about causes and prevention; and facilitate and strengthen partnerships among community and clinical organizations to provide coordinated fall prevention. There are examples of successful clinical-community linkages in some local settings, such as community paramedicine programs which send paramedics to the homes of older adults who frequently fall to assess risk factors and make referrals for care. However, there are currently no widespread strategies or tools for public health departments to use to facilitate such linkages. The development and dissemination of resources that public health departments can use to facilitate clinical-community linkages to prevent falls are needed.

Research Gaps and Priorities

Describe the **risk and protective factors** associated with changing trends in falls and fall-related injury rates among older adults with an emphasis on groups most affected.

The National Vital Statistics System, National Electronic Injury Surveillance System-All Injury Program, Healthcare Cost and Utilization Project, and the Behavioral Risk Factor Surveillance System provide rich sources of data to understand the patterns and trends in fatal and non-fatal injury in older adults. There are limitations as far as the timeliness of these data. Additionally, these data do not provide information on risk and protective factors, and most do not have usable information on race and ethnicity. Data sources, such as syndromic surveillance data, can provide timely and actionable data, leading to a better understanding of why some groups of older adults may be more affected by falls. Finally, innovative techniques, such as machine learning and data linkage, may provide data on risk and protective factors that can be used to understand their impact on fall severity.

Research questions under this priority include:

- What novel data sources and innovative data analysis techniques can be used to determine risk and protective factors associated with fall deaths and injury?
- What risk and protective factors explain the differences in fall, fall injury and death rates, type of injury (e.g., TBI), and injury severity within and among high risk groups of older adults (e.g., American Indian and Alaska Native elders, rural older adults)?
- What accounts for increases in fall death rates over the past decade (e.g., changes in coding, chronic conditions, disability status and severity, physical activity, strength, bone mass, social and environmental circumstances)?

Etiologic research is critical for understanding why some older adults are high risk, changing trends, and increasing the impact of future prevention strategies that target the unique risks of the aging population.

Improve the likelihood that older adults receive **clinical fall prevention care** (e.g., screening, assessment, and intervention) at least once a year.

Some healthcare providers do not routinely perform fall prevention screening and assessment with their older patients during outpatient visits due to a lack of knowledge of fall prevention, limited time during the patient visit, and lack of financial incentives for doing this work. STEADI provides an algorithm for older adult fall prevention along with training and tools to facilitate providers incorporating fall prevention into clinical practice. This initiative has been expanded to include information on how STEADI-based fall prevention can be used in hospitals to reduce post-discharge falls, and how pharmacists can screen and assess older adults for fall risk in community pharmacy settings. There are opportunities to expand into other specialties, such as physical and occupational therapists. Expanding the types of healthcare specialists who do fall prevention will increase the likelihood of an older adult being screened, assessed, and given interventions. Although we know that certain groups of people are at high risk for falls—including American Indian and Alaska Native people and people residing in rural areas. Fall prevention has not been implemented and evaluated to determine what is most effective with these populations. Finally, evaluating different incentivization strategies and implementing the most effective is important to scale up clinical fall prevention.

Research questions under this priority include:

- How can STEADI (i.e., falls screening, assessment, and intervention) be more broadly adopted in different healthcare settings (e.g., outpatient, inpatient, and occupational and physical therapy)?
- What are the most cost-effective methods of implementing STEADI in healthcare settings?
- What are the most effective clinical strategies for preventing falls and reducing fall risk?
- What are the best strategies for increasing clinical fall prevention efforts with emphases on older adults who are at risk (e.g., American Indian and Alaska Native elders, rural older adults)?

This research will inform CDC, federal partners, states, and health systems about how to cost effectively implement fall prevention into clinical practice. Researching how STEADI can be implemented into clinical settings can help healthcare providers and health systems reduce falls and injuries and increase return on their investment. It will also inform policies that could encourage providers and health systems to adopt and maintain clinical fall prevention strategies over time.

Implement and evaluate **effective strategies** for linking clinical and community-based fall prevention.

State, tribal, local, and territorial public health departments have the potential to play an important role in older adult fall prevention. Public health departments have expertise in population-level screening for disease and injury, maintaining and reporting surveillance data, providing health education to the public, and developing and evaluating effective programs. Public health departments can leverage this expertise to work with clinical partners to provide a comprehensive approach to older adult fall prevention.

Research questions under this priority include:

- How can community organizations best partner with health systems (e.g., pharmacists, primary care clinics, physical therapy practices) to implement the core components of STEADI (i.e., screening, assessment, and intervention) in a cost-effective manner?
- What are the most effective methods to motivate community organizations to link with clinical systems for older adult fall prevention?
- What are the best ways to allocate resources across community-clinical linkages to both ensure broad reach and achieve optimal impact?
- What payment models (e.g., CMS Alternative Payment Models) motivate the integration of clinical and community-based fall prevention in different clinical settings?

This research will inform CDC, federal partners, states, and health systems about how to implement comprehensive fall prevention strategies across clinical and community practice in a cost effective way that has a return on investment. It will also inform policies that could encourage providers and health systems to adopt and maintain clinical and community linked fall prevention strategies over time.

Understand the **knowledge, attitudes, and behaviors** that motivate older adults to adopt evidence-based strategies for fall prevention.

Effective fall prevention requires older adults to be willing to openly discuss their concerns about falling with their healthcare providers and to implement fall prevention strategies recommended by their healthcare providers. Many older adults see falls as a natural part of aging and are not familiar with the most effective strategies to reduce fall risk. Caregivers also need to understand fall risks and help implement fall prevention strategies for the older adults they care for. Older adults are at risk of other injuries (e.g., motor vehicle crashes, TBI), and there are common risk and protective factors across falls and these other injuries. Consolidating communication campaigns across these topics can simplify messages and increase the impact of changing health behavior by addressing more than one injury.

Research questions under this priority include:

- What individual, relationship, community, and societal factors serve as barriers and facilitators to older adults' willingness to adopt their healthcare provider's recommended fall prevention plan of care?
- How can community-clinical linkages for fall prevention best be structured to reduce older adults' barriers to participating in fall prevention strategies?
- What is the most effective science (e.g., behavioral and communications science) and theory-based tools (e.g., promotional messages) for educating and encouraging older adults and caregivers to prevent multiple types of injuries as they age?

This research will inform CDC, federal partners, states, and health systems about how to motivate older adults to adopt evidence-based fall prevention strategies. This research will inform CDC, federal partners, states, and health systems about how to give older adults and their caregivers the information, tools, and support they need to adopt fall prevention strategies.

CDC's National Center for Injury Prevention and Control (the Injury Center) advances research to prevent injuries and violence and reduce their consequences. Research includes identification of factors that increase or decrease risk and rigorous evaluation of innovative prevention strategies. The Injury Center translates science into effective policies and programs and guides how to adapt evidence-based strategies to community needs to increase widespread use. The research priorities strategically focus action on gaps to achieving public health impact and are updated as research and public health needs evolve.

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